

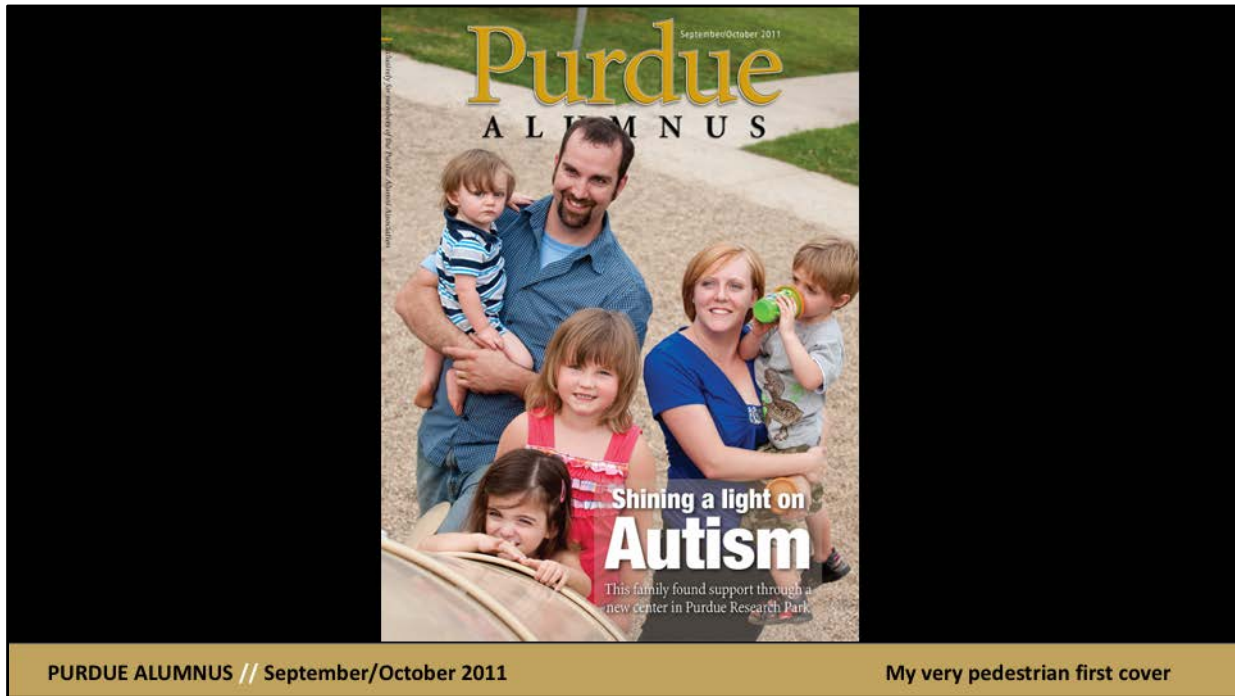
RESOURCEFUL ART DIRECTION

Welcome!

My name is Kat Braz, I am the senior director, creative communications for the Purdue Alumni Association, a fiscally independent nonprofit organization. We are separate from the university, separate from the research foundation, separate from advancement.

I am editor of the Purdue Alumnus magazine. However I have not always been editor, I started off as art director. Which is a strange jump for most people, but I started out in journalism as a copy editor/paginator. So I've always stoked a dual skill set. No. 1 tip for a lean staff, is don't allow people to be shoehorned by their job descriptions. If you have an art director who can write, let them. If you have an editor who can take photos, do it! Be symbiotic, flow together. You're all working to make it the best damn magazine you can.

Joined Purdue Alumni in July 2011 and here is my very pedestrian first cover.

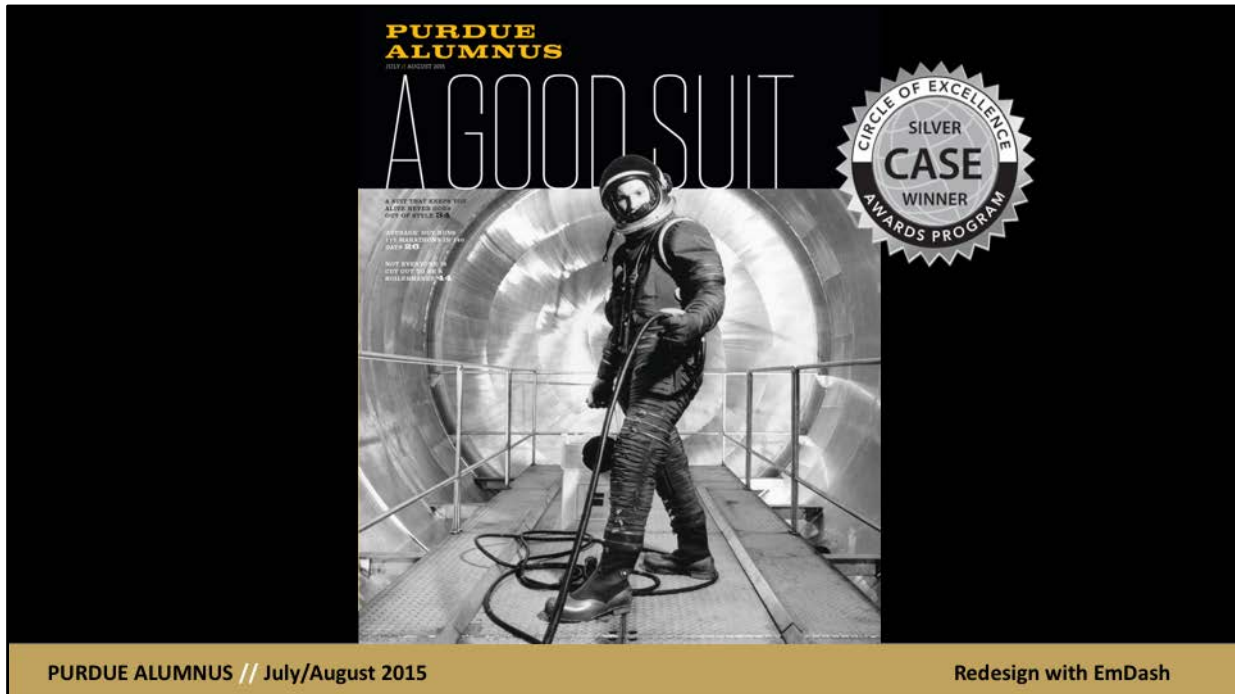


When I joined the alumni association staff in July 2011 as art director ...

Six times annually, 64–72 pages; four features; \$7,000 freelance budget for all writing and art, pretty much none of which we produced ourselves. We were pulling a lot of content from university news sources.

Two in-house staff people putting together magazine, editor and art director, neither was exclusively devoted to the magazine, and about ¼ of our time was spent working on the magazine.

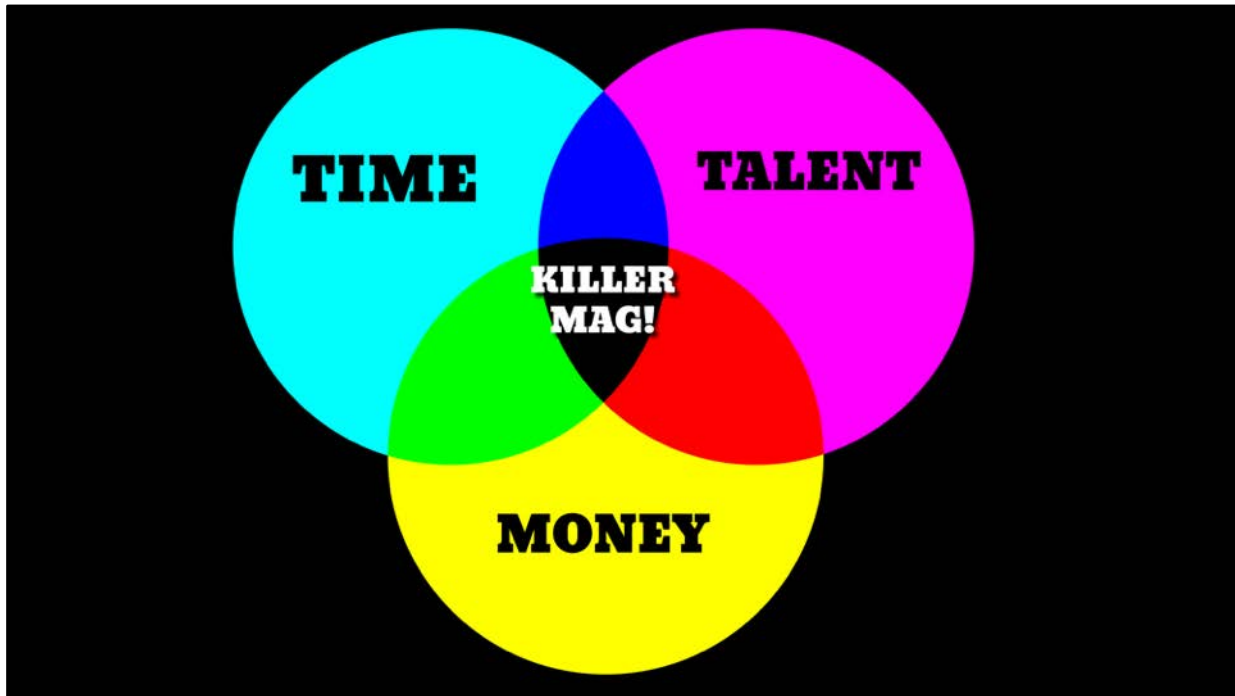
And it showed.



Underwent a content and art redesign with EmDash in July/August 2015. Won 2016 Silver Case Award for magazine publishing improvement. Still only two people in-house, ¼ of our time devoted to magazine, but freelance budget increased from \$7k to \$11k, and page count increased from 64 to 80.

I was made editor in October 2016. Now publish quarterly at 96 pages w \$14k freelance budget. Four features. Spring 2017 I did all content but the back of the book and bulk of design (68 pages) everything but feature well. Now have an assistant editor who does the back of the book, two graphic designers who will be taking over the bulk of design duties for next issue. I still do art direction. No employees exclusively devoted to the magazine.

In day-to-day operations we serve as the in-house communications department for our entire organization. I supervise a staff of five, overseeing communications (content, design, social media, e-mail, video, web) for all of Purdue Alumni's programs (membership, events, ~80 clubs, ~60 international networks, five affinity groups (and growing!), student group, young alumni, engagement and outreach, travel.) So I've had to learn how to maximize my resources. And I hope that some of what I've learned will be useful to you, too.



If you have lots of time, loads of talent, and tons of money, you will have a killer magazine. I do believe you need to have at least two of these things to have a good magazine. If you have none of these things, there is nothing I can say to help you. If you are working with no staff, no time, no funding, and no control, it will be reflected in your publication.

There is no magic wand. The key is to find balance, skimping and saving with smart decisions where you can, so that you have more to devote to epic projects. Part of your job is leveraging the resources you have for where you want to be. And selling the higher ups on what it takes to get there. Maybe there's no more money, but is there more help available to you? Maybe you can't afford fulltime designers with healthcare benefits, but could you get some student interns to pick up the slack? Can you start planning ahead so you have more time to do awesome things and aren't just playing catch up all the time?

And where should you spend your money? Cover and features. You can get away with less in other areas, but if the anchor of your book doesn't reflect an investment of some kind, no one is going to flip through it.

MONEY FOR NOTHING? GET YOUR PICS FOR FREE

There are lots of ways to get free art. And photo stories are a great way to maximize your budget for big impact. They can carry through 10 to 12 pages with awesome pics, and there's not a lot of copy so you can write it yourself and save on a freelance writer.

One way to get awesome art is to find alums who are professional photogs and do stories about their work.



A professional photographer alum who takes amazing pics and they weave it into a story about the conservation of Florida's wetlands.



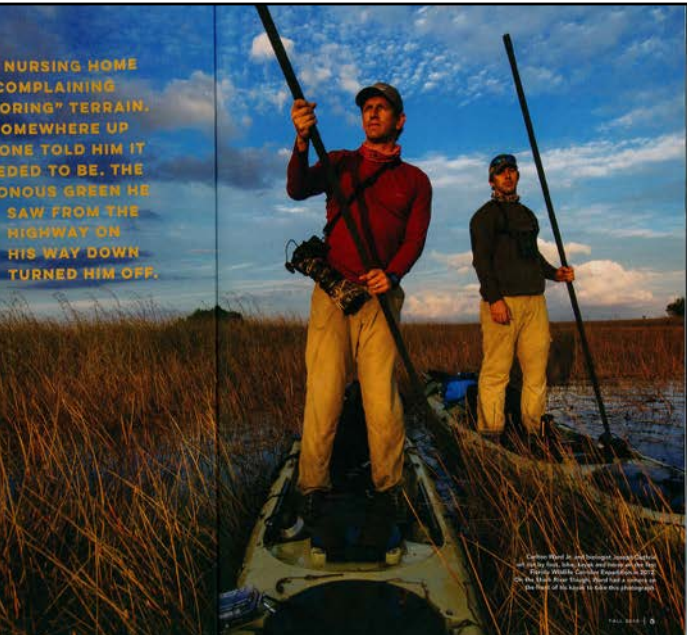
I MET A MAN ONCE IN A NURSING HOME IN FLORIDA WHO WAS COMPLAINING ABOUT THE STATE'S "BORING" TERRAIN. HE HAD MOVED FROM SOMEWHERE UP NORTH BECAUSE SOMEONE TOLD HIM IT WAS THE PLACE HE NEEDED TO BE. THE FLATNESS AND MONOTONOUS GREEN HE SAW FROM THE HIGHWAY ON HIS WAY DOWN TURNED HIM OFF.

THROUGH MOBILE AND HEALTHY, he hadn't been out much since. He just across the road from that missing house was a postcard-perfect, cypress-lined haven called Turkey Creek. A baby manatee once swam up to my kayak while I was paddling there with my son.

No, he told me, he hadn't been there — too much trouble and too many bugs. I couldn't persuade him otherwise. I needed a way to show him what he was missing, because Florida, where I was born and raised, is far more than what you see from highways. One of the state's handicaps, in a sense, is its lack of altitude. Wide views are rare, so you see Florida's beauty in pieces, but sometimes you have to do a little work. I walked away and came the next again.

Carlton Ward Jr. ('88), a conservation photographer helping to define the profession, has met plenty of people like that man. But he's not willing to walk away. For almost a decade now he has been hiking, biking, kayaking, swimming and horseback riding throughout the state in an effort to help preserve what's sometimes referred to as the Real Florida — something far removed from the wild human behavior for which the state has, of late, become famous.

Ward, along with colleagues, recently finished the second of two 1,000-mile expeditions by land and water up and across the state, the latest in a lifetime of adventures. His ongoing goal is to capture images and stories that reveal Florida's wilderness to the masses in hopes of encouraging protection and inspiring conservation to the land where seven previous generations of his family grew up exploring and working.



Carlton Ward Jr. (left) and his son, Carlton Ward III (right), are on the boat. Ward III is a professional photographer. Photo by Carlton Ward Jr. for WFLA-TV, 2012. On the back cover: Carlton Ward III is a professional photographer.

4 | WAKE FOREST MAGAZINE • FEATURES

Ward's efforts have taken on new significance, as current political and public battles will determine the fate of large swaths of Florida land that researchers say are critical to wildlife and waterway protection. "I'm really trying to showcase and celebrate the Florida that's hiding in plain sight to the 20 million people living here," says Ward. "You don't know it's there unless you get out of the car, or out in the water."

Suburbs to woods and back

Ward grew up in Clearwater, a heavily populated area on the state's west coast. His great-grandfather, Dudley Carlton, was born 60 miles away in the still-tiny town of Wausatch. That was in 1885, and he went on to become governor

during the Great Depression. As governor he set his own salary, turned down bribes and stood up to oil tycoons, who had just moved to the Miami area. But everything he after all that, he was ready to return to a quieter life in Wausatch, where he bought up land for \$2 an acre. Ward's great uncle would later expand the family's ranch to what's known as the Peace River Valley.

Growing up, Ward visited the historic ranch multiple times a year to celebrate holidays, ride horses, grab oranges and lemons. Every year his dad and uncle hosted a five-foot campout on the land — fond memories from Ward's path to becoming an eagle biologist and an administrator.

Today, the land has been split between different families. Several of Ward's cousins ranch their great-grandfather's



Left: Working P Ranch, northwest of Ocala. Top left: A young man fishes for blue crabs where the St. Johns River flows into the Gulf of Mexico.

Top right: With no fangled poles, the historic Clearwater's Dorsey Stillman Preserve, near Clearwater, serves as a gateway to the Northern Everglades.



Ward's family history and his quest, there was a time when expeditions and conservation efforts would have seemed an unlikely career choice for Ward. When he arrived at Wake Forest in 1984, he planned to study physics and then move on to graduate school in engineering, or possibly law.

and Ward owns his own small section. "I grew up in the suburbs, but I had one foot in the woods," he says. "I think that really influenced my appreciation of rural and natural lands and also heightened my sense of agency for how fast it can disappear."

Most Floridians don't get to see the state in the ways that have so inspired Ward. This is in part because most of Florida's wetlands, like the ones in the mangrove basin, have come from somewhere else. The population can be especially concerned about sustainability and really questioning some of my built-in notions of progress and all that."

Physics or the law?

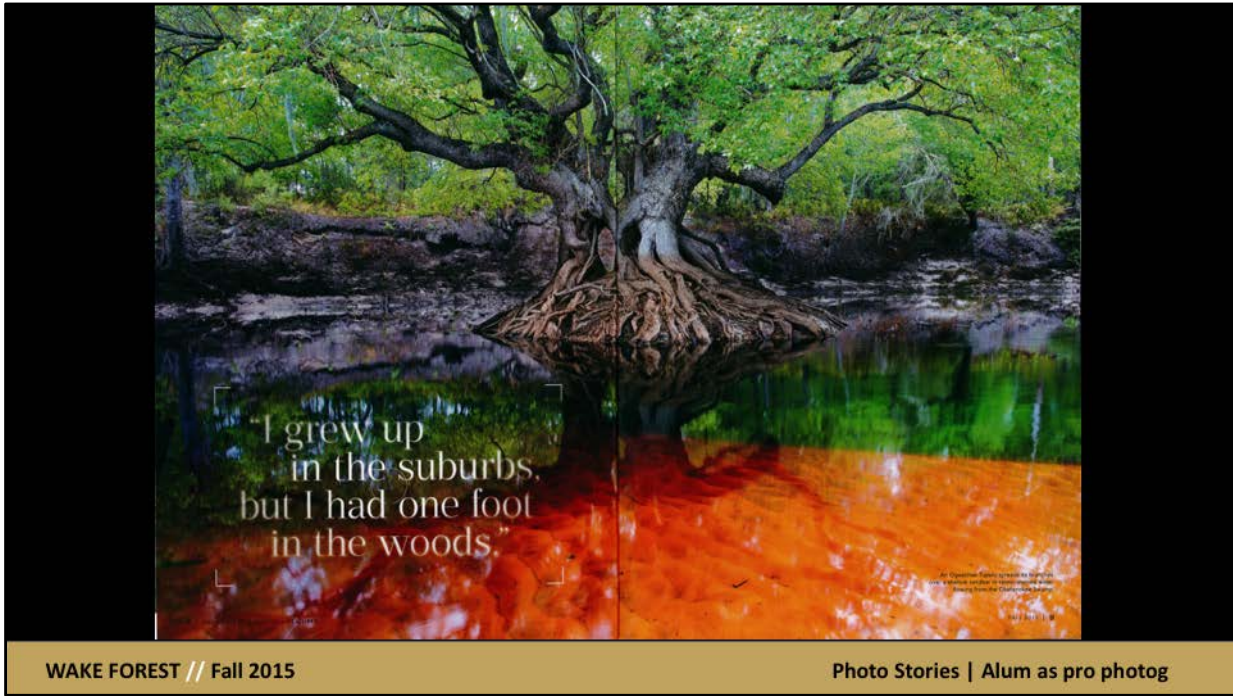
Despite his family history and his quest, there was a time when expeditions and conservation efforts would have seemed an unlikely career choice for Ward. When he arrived at Wake Forest in 1984, he planned to study physics and then move on to graduate school in engineering, or possibly law.

But liberal arts requirements pushed him into a biology class, which he loved. Later, in an anthropology course with Professor J. Paul Woodall (F'90), he learned a lesson that he says more than anything else has toward conservation as a profession. "I remember in that class really for the first time understanding the story of people and the places," says Ward, "and in doing so really becoming concerned about sustainability and really questioning some of my built-in notions of progress and all that."

He ended up with a biology degree, and minors in anthropology and environmental studies. As importantly, he was becoming an accomplished photographer, working for the Old Gold & Black and The Thonator. Photography also played heavily into a semester he spent working in Keyes with the School for Field Studies. Based on that trip, he got a grant from the president's office to show his first exhibition in the Z. Smith Reynolds Library — a sign of things to come.

After graduating Ward took an internship with the photo department at the Smithsonian's National Museum of Natural History. Later, through an internship at his hometown newspaper, an Amazon expedition with a mammal

FALL 2015 | 9



Straight up National Geographic quality. What a lucky find!



30° 32'
87.0'

biologist and other work, he built a portfolio that convinced a Smithsonian team of his readiness to join them on a series of expeditions to Gabon in central West Africa. "The Gabon project is what really got me going professionally," says Ward. "I came to understand the power of photography and visual communications for conservation."

By late 2003, he had a Smithsonian cover story, published his first book, "The Edge of Africa," and placed photos from Gabon on exhibit at the United Nations in New York. He was ready for the next stage in his career and to head back to Florida.

Branding the Florida Wildlife Corridor

At home in Florida in 2006, Ward had something of a revelation. The state's large interior ranches had become a major focus. While photographing one in northeast

Florida, Ward got to know some scientists. They were advising protection of wildlife corridors for Florida animals like black bears and panthers that need long stretches to roam — stretches that can easily be blocked by development. Such lands play other critical roles. They can be the only places where species like the grasshopper sparrow — the rarer, most endangered bird in Florida and possibly the country — can survive. And they are essential in supporting a clean water supply for an ever-growing population.

Efforts to protect critical lands, and related research, have been underway for decades. But Ward saw an unmet need to package such work in a form the public could more easily digest. He proposed branding these collective places as the Florida Wildlife Corridor, and, eventually, a nonprofit he had founded to organize photographers to support land protection — the Legacy Institute for Nature + Culture — took on the name.

"THE VOTER SUPPORT FOR AMENDMENT 1 GIVES ME A LOT OF HOPE THAT THE FLORIDA WILDLIFE CORRIDOR IS STILL POSSIBLE."

One of the researchers he met was Joseph Getchic, at the time a graduate student. They discussed launching a list of its kind expedition all the way from the bottom to the top of the state. "It was immediately apparent to me that he was an 'up for anything' type of person who was really adventurous and just interesting to be around," says Carbone. But he admits a bit of skepticism regarding whether Ward could pull off such a grand undertaking.

"We had no idea the scale of the task we were getting ourselves into," says Ward. It was three programs at first. Then, in 2008, Carbone's mentor and one of Ward's inspirations, biologist David Madole, died in a small plane crash. "I remember the night of the accident Carbone calling me and saying, 'We've got to make sure we tell this story, we're going to do these expeditions so people know about this stuff,'" says Getchic. And so they did.



PUZZLE PIECES

Jill Knight has launched a promising career in photojournalism—one in which she takes thousands of images to construct the stories of her subjects' lives.



AN OFFICER IN TRAINING



34 THE PENN STATER November/December 2013

FOR JILL KNIGHT, ONE PHOTO ISN'T ENOUGH. It's not that she doesn't appreciate the impact and beauty of a single, well-composed photo; it's that she usually sees stories not as individual images, but as series of images. Just months after finishing her journalism degree, Knight '93 Cam is beginning to establish herself as a documentary-style photographer. Two of her essays, reported as undergraduate independent-study projects, got national attention this year: "Officer in Training" won fourth place in the William Randolph Hearst Foundation Award, considered the Pulitzer Prize of college journalism, and "Special Delivery" was featured by the Lens photography blog of The New York Times. For each of the stories, she took between 4,000 and 5,000 photos. "It's frustrating," she says. "You want to take an instantly gratifying picture, but the equation doesn't work until you have all the pieces of the puzzle. Then it tells the story." We've reprinted highlights from each of those photo essays on the following pages. For the full versions, visit her website, jillsknight.com. —LS



SPECIAL DELIVERY



November/December 2013 THE PENN STATER 35

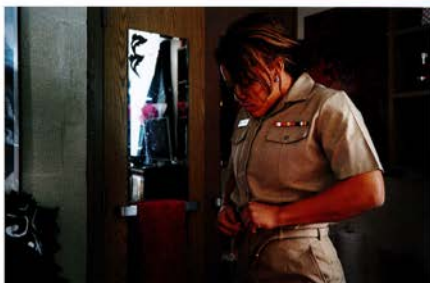
PENN STATER // Nov/Dec 2013
Photo Stories | Alum as pro photog

Penn State had an alum who's a photojournalist, so they showcased two different topics she'd shot.



AN OFFICER IN TRAINING

Knight spent nearly a year and a half following Lauren Chapman who combined two disparate interests: Head ROTC cadet and cheerleader. Looking back on it, she says, "There is nothing not promising about what Lauren is doing." Knight jokes that she got tired just watching Chapman in HEARD, who was also a member of Kappa Alpha Theta. Her energy and served as a Lion Ambassador, although those activities weren't featured in Knight's photo essay. Knight stays in touch with Chapman, who is now deployed in the Middle East.





SPECIAL DELIVERY

Janie Purley of Charlotte, N.C., was 16 weeks pregnant when she nearly died of a ruptured uterus in 2005. Doctors had to remove her uterus, and her baby died. Purley (left in the photos) and husband Jason accepted the offer of her second uterus, Kristin Bloomer, to carry their biological child. The woman wanted to publicize fertility issues and allowed Wright to follow them for the first six months of the pregnancy, from doctor appointments to leaving the hospital—both in wheelchairs, as Purley needed to leave the hospital the way other new moms do. “I knew they were both countin’ on me,” Wright says, “and it reached the point where I had to step back so they could be their own story.”



38 THE PENN STATER November/December 2013

November/December 2013 THE PENN STATER 39



Raw Beauty **Shirley Cai, BU grad, Missi**
RACHEL ERENGOVIĆ, Graduate, United States

"I spent a portion of my summer traveling to remote villages doing missions work. Everywhere I went, the children were fascinated with my camera. This image captures the innocence and wonder that was so natural in their eyes."

Best in show



Collette
ANTHONY CRAFFIOL, grad, France

"Collette is 85 years old. She is my aunt's grandmother, and she is beautiful."

Second place, People

Around the world

The faces of the children that Rachel Erengovic met in Africa touched her. In a paragraph from another subject, she said, "I lowered my camera to my waist and shot France after France."

Erengovic's empathy paid off. One of her photos, "Raw Beauty," was named best in show in Ohio State's 2012 International Photography Competition. The annual festival is international indeed. Last year, more than a hundred members of the university community—students, staff, faculty, and visiting scholars—submitted several hundred photos taken in 20 countries. From Ohio, 44 were selected to be exhibited at the Ohio Union in November and December.

In addition to Erengovic's winner, the first, second, and third place photos in the three categories—people, places, and transportation—are included here, along with several selected for honorable mention.

The Office of International Affairs sponsors the competition. For a slide show of the 2012 winners at oia.osu.edu/photo-contest.



Girls of Pakistan **Heather Liu, MSU**
PAUL BERGER, MSU grad, United States

"On a walk about Mount Abu, I encountered these multi-colored girls on the way to a market stall. Each one had a different reaction to my lens."

Honorable mention, People



La Manga-Fun Has No Bedtime
RICARDO IBARRADO LAMBEA, student, United States

"Three big dogs were playing with a group of children on the beach. They reminded me of what it means to be a child. Caught up in the game, with few concerns regarding the end of the world."

Third place, People



Both Time
Mehmet, MSU grad
WARENZIE, student, United States

"That the opportunity to arrive and spend time with the amazing people of Mumbai. That simplicity of life has forever changed the perspective of my mind."

First place, People

MARCH APRIL 13 www.ohio.edu/ohio

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OHIO STATE // Mar/Apr 2013

Photo Stories | University run photo competition

Easy art! A photo competition, so all the images selected will be winners. This is a mix of student and faculty photogs.

AROUND THE WORLD

Julian Pavilion
 Hangzhou, China
ZHENG SU, student, China



"This lake is being used to try and plan for meditation. The Julian Pavilion was a popular attraction located beside the West Lake scenic area. Unfortunately it collapsed after heavy thunderstorms last September."
Worshiper meditation.
Place



Afternoon Nap
 Varanasi, India
ANDREW MCINTOSH, student, United States



"I looked down from the roof of my parent's house in Varanasi, a holy city along the Ganges River, and saw this man resting along the colorful bank. The boatmen usually play music and dance along the river early in the morning to bathe and watch the sunrise."
Worshiper meditation, Transportation



Mother's Shelter
 Huzhou, China
RAPHAEL WARD, staff, United States

"Women with newborn pregnancies can stay at the shelter until the baby arrives. The mothers lay the cloth mats over an open fire. The women provide their own food, cookware, and bedding, and gather their own firewood."
First place, Places

MARCH/APRIL 13 www.ohiostatealumni.org



Sacrifices
 Chongqing, China
ZHEN LI, student, China

"People from Tibet who believe in Tibetan Buddhism came there, bringing up stones or animal skulls. They walk thousands of miles to this place to put them down."
Second place, Places



To London and Beyond
 London, England
ELISE BULLOCK, student, United States

"To find to cross Tower Bridge, the pedestrian gate closed. The Olympic rings faded up and the road began to open up to the sky. It looked as though the sky was the road, which was. Only because London was holding the world's biggest event in a few weeks."
Third place, Transportation

Antonio the Boatman
 Cartagena River, Peru
ANTONIO PEREZ-CASTRO, staff, Spain

"No mechanically powered boats are allowed in this natural reserve."
First place, Transportation

See a slide show of the 2012 winners at ohiostate.edu/photo-contest

facebook.com/OSUAA @OSUPhotoContest MARCH/APRIL 13

All Together Now :

EVERY TWO YEARS, DENISON HOSTS THE TUTTI ORIGINAL Works Festival, a three-day extravaganza of arts that takes its name from the Italian term meaning "all together." The festival debuts new music, compositions, performances, and art from students, faculty, alumni, and a pool of submissions from around the world.

The festival, founded by Professor of Music Qingchi Hu in 2004, fosters collaboration across disciplines, and that was evident in Mulberry Lab and in the lobby of Burke Hall in March when the walls were adorned with prints from students in two printmaking courses taught by Ren Abram, associate professor of studio art. Their assignment? Take a piece of original music from a TUTTI composer and reflect upon it through art. "Symbiosis and First Listen are exhibitions that speak not only to the intertwined relationship between music and visual art, but also to the central context of studying and creating here at Denison," says Abram.

Denison Magazine wanted to take that creative process a bit further. Just as the students were asked to listen, reflect, and create, we asked the composers to look back at the art their music brought to life.

This is an interactive exhibition best viewed in the company of a computer, so you, too, may hear the music that inspired the prints. You can find that music at denisonmagazine.com/TUTTI.

PHOTOGRAPHS BY JINYUN KIM '16

COMPOSER
Lemonade Toccata
by Jordan Kuspa

FROM THE ARTIST:
"Prior to the completion of this piece, I had become attached to a character-like image in a magazine of a woman who had her jaw face in her hands. The idea of what grew on beneath the skin stuck with me. I started to play with the juxtaposition of about four and three 'lemons.' Faces, in the description of an anatomical piece with elements, combined by Kuspa, the composer said, 'How did you make a history out of a lemon?' The idea of anatomical objects and lemons, having been known, were paired easily with the aforementioned theme of 'what's beneath the surface.' The final image recognized the darker parts of the song, while the lemon skin reflected to 'playful energy.'"

—BECCA PLANE '16, a printmaking major from Amherst, Mass.

FROM THE COMPOSER:
"Many of my pieces have been inspired by visual arts, so it was a treat to see the response of a visual artist to my music. When I saw Becca's work, I was reminded of Andy Warhol's technicolor silk-screen prints, so often presented in quadruplicate. However, I was surprised by the imagery of skulls, as I never thought of my piece as similar in any way. After some thought, I realized that the tone of the music can sound dry or brittle, and it isn't hard to imagine skeletons dancing to the music."

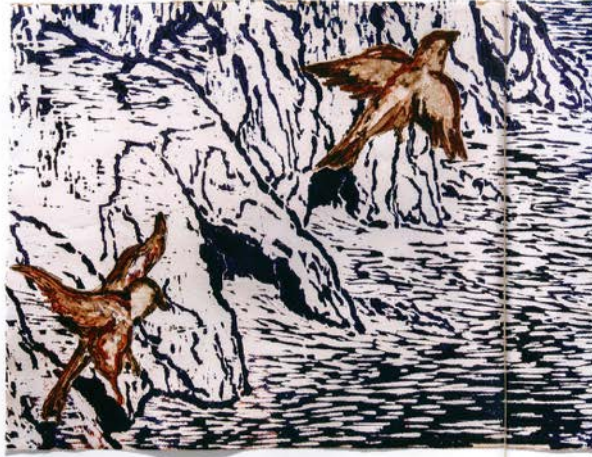
JORDAN KUSPA, a musical student of music arts at Denison and a faculty member at Amherst College in Amherst, Mass.

DENISON MAGAZINE

DENISON MAGAZINE // Spring 2015

Photo Stories | University art class

Easy art! An art competition. Love the little shadows added to give the images life on the page. These pieces were inspired by music. And if you view online, you can listen, too.



COMPOSITION:
The Swash of Water and Red
 by Ching-chu Hu

FROM THE ARTIST:
 "My print is inspired by the first part of the Swash of Water and Red 'Swash I in the South Part'. The first time I listened to the piece, I was tremendously struck by the similarities between it and my own 1970s ink wash habits. I was struck off of the loneliness that my favorite ink wash always brought to mind. The same thing I thought to mind images of empty, sweeping hills and wide, open skies. As the piece progressed into Chinese instrumental sounds, I felt liberated from the vast solitude of the beginning of the piece as the sounds began to rise above it."

—ARBE FULL '16, a writer and painter, studies major from Minneapolis, Minn.

FROM THE COMPOSER:
 "What I really appreciate seeing in Arbe's work is the sense of colorless. In this movement, I try to capture a sense of loneliness in a vast landscape, in wind, and in the motion of the sounds—and she has represented that beautifully."

—CHING-CHU HU, composer and assistant professor of music

COMPOSITION:
Long Distance
 by Steven Snowden

FROM THE ARTIST:
 "The electronic music and clicks within the piece show me to it. When I later learned that these sounds were actually the sounds of nuclear gas pressure from various isotopes. Throughout the U.S., I was intrigued further. It was interesting to learn about the phone pressing community in the 1970s, and I made the link of the music we live with computer hacking in the 21st century. The various software applications that come into play for home communication practices can now easily be hacked through advanced technology. In addition, information can now be pulled easily across oceans, which I have tried to convey through my piece."

—SHANE HIRSHBAUM '16, a studio art major from Houston, Texas

FROM THE COMPOSER:
 "The concept for the music has to do with analog telephone systems in the 1970s, and I think Shane has highlighted an aspect of this that is intrinsic to this subject, even though I had not initially considered it when composing the piece. Her work reveals the kind of recursive and redundant nature of long-distance communication that was true then and still is today. Patterns emerge from mass amounts of seemingly random data to reveal a world in which physical distance is largely overcome by virtual interconnectivity."

—STEVEN SNOWDEN, a composer who recently returned to Austin, Texas, after a year at the Tokyo-based University of Science and Technology, where he was a visiting professor and ensemble leader



COMPOSITOR:
Mnemosyne
by Joseph Rebrnan

FROM THE ARTIST:
"Mnemosyne carries an image of nature and splendor and evokes a sense of serenity, curiosity, and nostalgia, all of which I tried to capture in my work. The song is titled after the Greek goddess Mnemosyne, who is the goddess of memory and the mother of the Muses. With that in mind, I tried to incorporate elements of Greek art in my maps, such as the woman's structured facial features and her head veiling."
The song resonated with me because I studied classical music throughout my high school career and played the violin in my school's chamber orchestra. Although there is no violin present in the piece, the classical chords and musical progression are reminiscent of the types of pieces I captured in a sketch. The song itself evoked my own feelings of nostalgia for my days as a musician."
—KELSEY MCCORMICK '12, an economics major

FROM THE COMPOSER:
"I had a wonderful time visiting Denison University and getting to meet Kelsey McCormick was a wonderful surprise! Her artwork response to my piece *Mnemosyne* is a wonderful work, beautifully capturing the ancient Greek air I was trying to elicit when writing my piece."

—JOSEPH REBRNAN, a composer and harpist currently pursuing a master's degree in composition at the University of Oklahoma



4

COMPOSITOR:
The Capacity of Calm Endurance
by Mary Ellen Childs

FROM THE ARTIST:
"I've created a woodcut/etching that doesn't express calm endurance. Similar to the girl in this print, I often experience the emotion and physical sensation of being pulled down by an undercurrent weight. But beyond this fact and drawing experience, there is a certain peace that comes with letting oneself sink and look upward to the surface of the sea."
—JILL ROSENBERG '17, a cinema and studio art double major from Pleasant Dale

FROM THE COMPOSER:
"*The Capacity of Calm Endurance*, like much of my music, grapples with fascinating paradoxes, and I love the way this etching captures the compatibility of seeming opposites. Looking at this artwork, I see both motion and stillness, weightiness and floating, and the gradations of blues are at once cool and soothingly warm."

—MARY ELLEN CHILDS
NYU's general coordinator



DENISON MAGAZINE



COMPOSITION:
Amor
 by Scott Anthony Shell

FROM THE ARTIST:
 Amor's hyperbolic case is juxtaposed with a bit of humor. The music-dotted a center of movement aims to meander gently through an intricate space. At intervals, a pause offers time to stop and gaze in wonderment as an unfamiliar setting before continuing on with rapturous excitement and escorted by the duobus and the web of the unknown. The musical composition was inspired by a Spanish poem of the same name, to the 19th-century forerunner to the present, Dámaso Alonso. Inspired by Alonso's personal story, and by the sentiments evoked in the musical version of Amor, the artist deals with the ideas of mystery, ambiguity, and movement in an impressionistic way. It could be learned to my 28-day 500-mile walk of discovery along the Camino Francés de Santiago de Compostela, where feelings of wonder and apprehension were the underlying current of each day. The experience continues to be a well of profound emotions from which draw my ongoing studies of the universal, its richness and uncertainty, are a more recent inspiration.

—DEBRA JOYCE RAWSON, Community Scholar, Pittsburg, Ohio

FROM THE COMPOSER:
 "I really feel Chopin's work captures the dream references around which the poem Amor revolves, as well as the dreaminess of the music. There is an ethereal, ghostlike quality to the portrait of the poet, who died tragically young. The swirling mass above her head, to me, represents her dreams."

—BRETT ANDREWS HILL, classical music composer

SPRING 2015



COMPOSITION:
Sanctuary to Sea
 by Andrew Cole

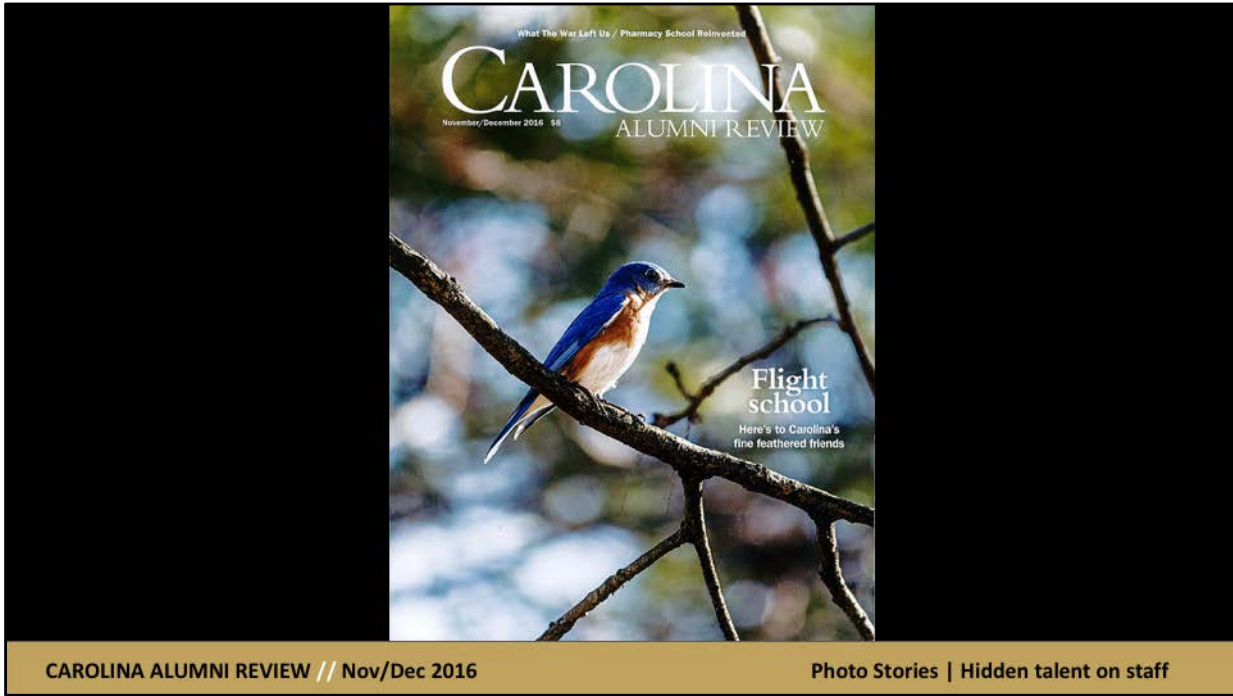
FROM THE ARTIST:
 I was inspired by the juxtaposition of natural sounds—birdcalls and waves—the heavily synthesized sounds within Sanctuary to Sea. It reminded me of the struggle found between the natural and man-made, and my internal struggle between who we are and who we think we are. I tried to recreate this conflict through the juxtaposition of the bird wings and the abstract sound. As I approach graduation this spring and move away from Denison, I'm working to find my identity and my sense of self."

—BETHAN BUCKLE '18, a journalism major from Holland, Ohio

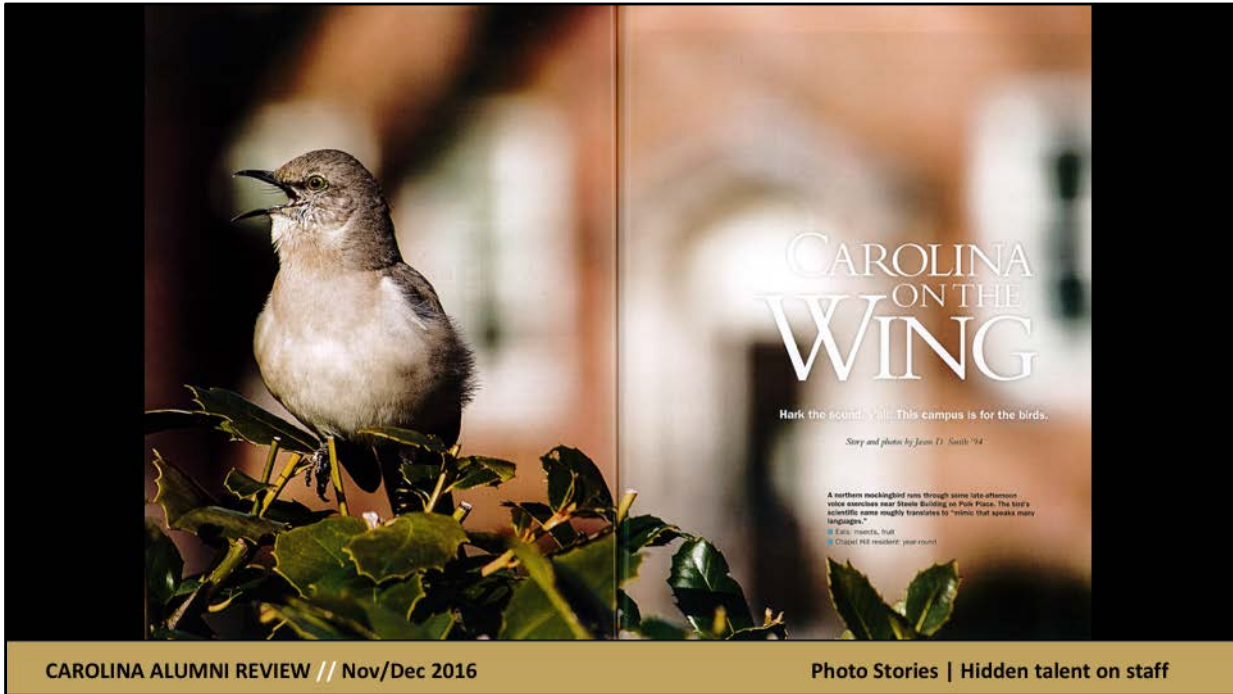
FROM THE COMPOSER:
 "Sanctuary to Sea is a very personal work, really, about my experiences hiking in Wellington, New Zealand, and the unique landscapes and birds there. Brittany definitely got it and responded better than I could have myself. What I find most interesting about her work is that it brings to mind birds both as otherworldly creatures of song and flight and as fragile creatures that often depend on oceans and coastal ecosystems to survive."

—ANDREW COLE, a rising professor of music at the University of Central Missouri

7



Hidden talents! The design director for North Carolina is a hobby photog, who takes pictures of birds.



FOURTEEN PAGES OF BIRDS!!!! Know your audience. I could not get away with fourteen pages of birds at Purdue. But I could run fourteen pages of space. I could run fourteen pages of trains. I could probably run fourteen pages of squirrels. Honestly.



34 November/December 2016

I DIDN'T REALLY SET OUT TO SHOOT ANY BIRDS. In July 2013, on my first day of work at the GAA, a co-worker left a bag of southwest seeds in my office. He misgazed I have come on my window sill. Not long after that, I looked up from my desk to see a tiny brown bird — I'd soon come to know it as a white-throated sparrow — perched not three feet away and chattering down on seeds. My camera was close at hand. Would it speak and take off?

It didn't. Later, when I looked at the picture, I realized that I'd never seen a wild bird in quite that way. Here was something fragile and beautiful, an ancient life-form with long wheels of fringed feathers, grotesque feet, a dirty beak and innocuous side whiskers. I decided to keep a camera at hand all the time.

Since then I've kept a list of the different species that have landed at my window: 27 so far, including everything from the American goldfinch to the yellow-rumped warbler, Downy woodpecker, Cedar waxwings, Sayornis. I'd never have guessed that George Wain HALL's late patch of grey seeds would have come for so many. I've watched them cry in stay warm in the winter, try to grow back feathers after molting in the summer, try not to become overpriced with old enough-to-know-better offspring that follow them to my window demanding to be fed.

Now, whenever I sit out and about on the USC campus, I'm much more aware of the many birds that call these 22 acres home. Naturally, the Admissions is dogged with them, as are the quads. But they also come to nearly every green and brown and black patch of this place, lighting it up with their chirps and songs. House sparrows live in Lemery's ventilation ducts, Chickadees in South Building's cracks. Whether perched in McCook's Place or the parking lot of the Dean South Center, you're never very far from a bird.



Above, this aptly named Carolina chickadee has a Palis Place view that money can't buy: It made a home in some less-than-perfect mortar high on a wall of South Building.

■ Eats: insects, spiders, seeds (taken singly from the window sill and eaten elsewhere)
 ■ Chapel Hill resident: year-round

Left, a mourning dove at the author's office window. Mourning doves tend to feed voraciously, swallowing whole dozens of seeds to fill their crop before leaving in search of a quiet spot to digest them.

■ Eats: seeds (practically inhales them), fruit, insects
 ■ Chapel Hill resident: year-round

CAROLINA ALUMNI REVIEW 35

FLEET SCHOOL



A male northern cardinal and a backdrop of November leaves outside the George Watts Hill Alumni Center.
 ■ **Eats:** seeds (which it spits) and expertly shells, insects ■ **Chapel Hill resident:** year-round

36 November/December 2016

BIRDS OF THE GAA

Ranked by the number they visit the garden's window at the George Watts Hill Alumni Center

- FREQUENT VISITORS**
1. House finch (page 41)
 2. White-breasted nuthatch (page 53)
 3. Brown-headed nuthatch
 4. Northern cardinal (this)
 5. Red-bellied woodpecker (page 48)
 6. Carolina chickadee (page 35)
 7. Tufted titmouse
 8. White-throated sparrow (page 42)
 9. Mourning dove (page 34)
 10. Dark-eyed junco
 11. Downy woodpecker (page 44)

- OCCASIONAL VISITORS**
12. Pine warbler (page 52)
 13. Eastern towhee (page 50)
 14. American goldfinch
 15. Common grackle
 16. Brown-headed cowbird (page 47)
 17. Chipping sparrow (page 40)
 18. Yellow-rumped warbler

- INFREQUENT VISITORS**
19. Gray catbird
 20. Brown thrasher
 21. Carolina wren (pages 43 and 44)
 22. Eastern bluebird (this cover, page 46)
 23. Yellow-bellied sapsucker
 24. House sparrow
 25. Pine siskin
 26. Oriole warbler
 27. European starling
 28. Eastern grey squirrel



UNEXPECTED

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CAROLINA ALUMNI REVIEW 37

FLIGHT SCHOOL



40 November/December 2016



Opposite, at 2:30 on a March afternoon, an American robin in the Old Chapel Hill Cemetery behind Conover drove demonstrates that you don't have to be particularly early.

■ Eats: insects, earthworms, fruit
■ Chapel Hill resident; year-round

Left, a male house finch. These birds are native to Mexico and the western United States. The millions of house finches that now live in the eastern part of the country they are descended from a few pairs that someone released in 1930 on Long Island, N.Y., after a failed attempt to sell them as pets.

■ Eats: seeds, fruits. Tends to visit the feeder in small groups.
■ Chapel Hill resident; year-round

KNITTING GETS A BAD RAP.

Mainly from folks who are jealous that they don't have time to knit. At The Cedars of Chapel Hill, we take care of everything from clearing the gutters to preparing delicious meals to planning regular outings, so you can truly enjoy your free time. Knit all you want. Go to the theater. Have a lunch date with friends. Plan a trip to Italy. That's what life at The Cedars is all about—doing more, your way. Having more control by owning your own home, having more to do by living in the vibrant, right/first community of Measowmont and having more peace of mind about your health care plan in the future.

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www.cedarsofchapelhill.com

THE CEDARS OF CHAPEL HILL

CAROLINA ALUMNI REVIEW 41

As an aside, ads in the feature well make me very sad.

FLIGHT SCHOOL



Top, Eastern Bluebirds don't tend to visit feeders unless mealworms are on offer. This male landed for a moment one cold January day to contemplate some suet. ■ Eats: insects, frog, berries ■ Chapel Hill resident: year-round

Above, coolest thing about being a bird? Has to be flight. What's not so cool? Well, as this American robin found out the hard way, some days your tail lies up. ■ Eats: insects, earthworms, fruit ■ Chapel Hill resident: year-round

Far right, a male brown-headed cowbird. Female cowbirds lay their eggs in other birds' nests. Most bird species will raise the cowbird as if it were their own. (Here on campus, the surrogate parents mainly seem to be house finches.) Some birds will puncture the cowbird's egg or push it out of the nest. ■ Eats: seeds, insects ■ Chapel Hill resident: year-round

46 November/December 2016



FLIGHT SCHOOL

Right, a chipping sparrow. These small birds tend to live evergreen trees and are fairly tolerant of close human proximity.

|| Eat: seeds, insects

|| Chapel Hill resident: summer only

Opposite, when a red-bellied woodpecker swoops in for seeds, every other bird scatters. That long bill may be intimidating, but it isn't good for cracking sunflower seeds. So red-bellied woodpeckers often wedge a single seed down into a tiny crevice on the trunk where it will hammer on it until it opens.

|| Eat: Almonds. One seed at a time, either eaten at the window or taken away.

|| Chapel Hill resident: year-round





CAROLINA ALUMNI REVIEW 49

CAROLINA ALUMNI REVIEW // Nov/Dec 2016
Photo Stories | Hidden talent on staff

Look how gross that ad is! Don't do this to your readers. The feature well is sacred space. Advertisers had better be paying you a BOATLOAD of money to take over your primo content.

FLIGHT SCHOOLS

Below, a white-breasted nuthatch with a hole created by the glare from the bumper of a car parked on Skaneateles Drive. Nuthatches cache seeds in tree bark to eat later.
 ■ Late insects, seeds ■ Chapel Hill resident; year-round

Oposkle, a male pine warbler. Pine warblers spend most of their time in pine trees, but they occasionally visit bird feeders for suet.
 ■ Late insects, pine seeds, suet ■ Chapel Hill resident; summer or year-round



WINGSPAN, WEIGHT AND FOOD PREFERENCE

of the birds pictured in this article (ordered by wingspan; shortest of one quarter inch)

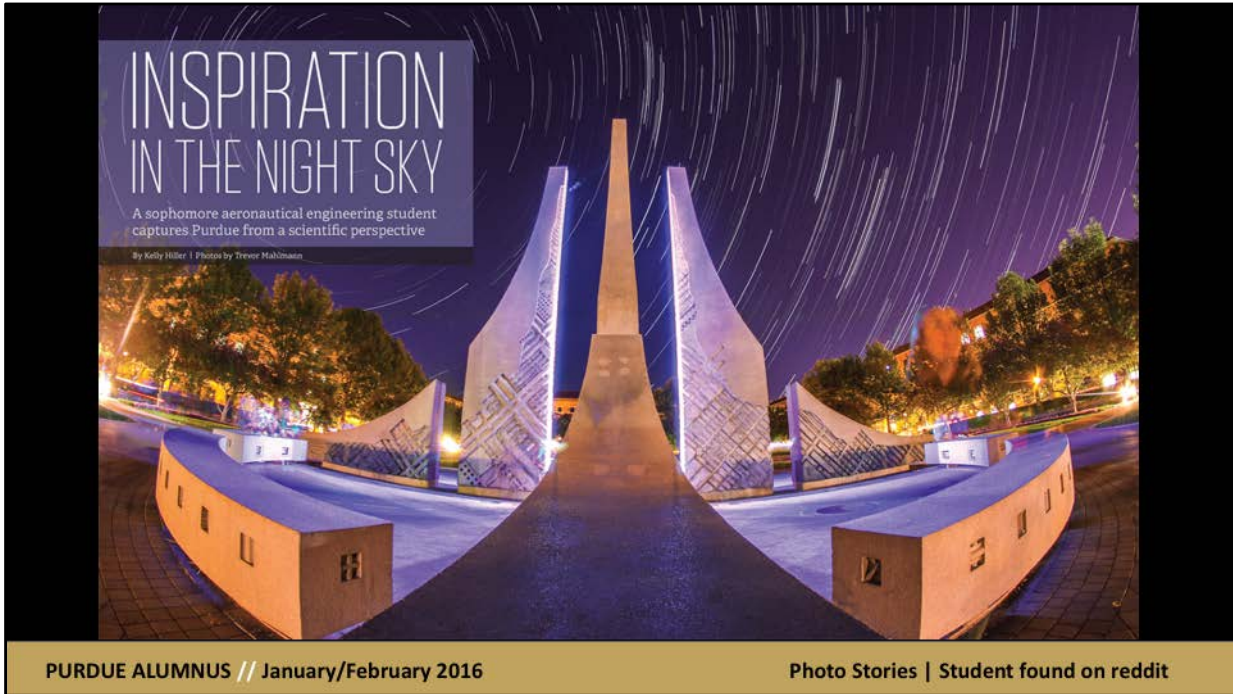
Always listed under: ■ Insects ■ Seeds ■ Worms ■ Earthworms ■ Leafy material

| | | |
|--|--------------------|--|
| Blue-winged teal (page 42) | 14.5 in. / 368 mm | (Wingspan: length of a white oak) |
| Carolina chickadee (page 32) | 11.5 in. / 293 mm | (Flight: roughly four minutes) |
| Pine warbler (page 40) | 8.5 in. / 216 mm | |
| Chipping sparrow (page 40) | 8.5 in. / 216 mm | (Flight: in empty side-on) |
| White-throated sparrow (page 42) | 8.5 in. / 216 mm | (Wingspan: width of a standard sheet of paper) |
| House finch (page 40) | 8.4 in. / 213 mm | |
| White-breasted nuthatch (above) | 8.2 in. / 208 mm | |
| Carolina tanager (page 38) | 8.1 in. / 206 mm | |
| Northern cardinal (page 38) | 8.1 in. / 206 mm | |
| Carolina chickadee (short cover and page 40) | 7.2 in. / 183 mm | (Flight: one side of house) |
| Carolina wren (pages 42 and 40) | 7.6 in. / 193 mm | |
| Scarlet tanager (page 32) | 7.0 in. / 178 mm | |
| American robin (pages 40 and 40) | 7.0 in. / 178 mm | |
| Brown-headed nuthatch (page 42) | 6.7 in. / 170 mm | |
| Red-tailed woodpecker (page 40) | 6.7 in. / 170 mm | |
| Hummingbird (page 30) | 5.7 in. / 145 mm | |
| Red-tailed hawk (page 40) | 48.0 in. / 1219 mm | |

90 November/December 2016 ©2016 Carolina Academy of Ornithology



CAROLINA ALUMNI REVIEW 51



Students take great photos, too! We found this kid on reddit. I troll all sorts of social media feeds to see if there are students taking awesome pics we might be able to use. They are just excited to be published.



40 PURDUE ALUMNUS

PURDUEALUMNS.ORG

JANUARY | FEBRUARY 2016 41

WHEN THOMAS MAHLMANN HEARD A VOICE THROUGH THE sky he doesn't wish upon a star — because it's not his opportunity that he's looking up. He knows the star is not a shooting star or other object soaring through space, he is standing at the right place at the right night time to see the International Space Station (ISS) pass by. The star in the air serves as a reminder of Mahlmann's dream to become an astronaut. And maybe even to become one of the select few to have the opportunity to live and work on the ISS.

Just over a year ago, Mahlmann was among a group of people selected to attend a NASA Social event for the SpaceCRU (a group roughly akin to the ISS) in exchange for social media coverage. He borrowed a friend's camera to take along on the trip and his return coincided with the annual winter eclipse. He decided to hold on to the camera and possibly capture the eclipse.

"The eclipse was very early in the morning and I was debating whether or not I wanted to get up and shoot it the night before. I'm glad I did because I discovered a how the photographer I never knew I had. That experience definitely gave me the bug."

Soon after he purchased his first DSLR camera and began capturing the ISS as it flew by the night sky, he tracks the orbit of the station via horizon-alignment and receives push notifications a few minutes before it will be passing by.

"My favorite thing to shoot in the space station is its plane because although it looks like a dot in the sky, it is actually the temporary home of those to six astronauts. It's neat. That is, it appears in different parts of the sky depending on the orbit."

Mahlmann has shot the space station from various spots on campus and really enjoys the challenge of picking out the subject to put in the foreground of each photo. However, the favorite shot was taken from the seat of an airplane. While returning back from New York in June 2015, Mahlmann tracked the orbit of the station using the flight Wi-Fi, and discovered that the ISS was going to pass by while he was seated in the air.

"I used a GoPro and administered it to the window and then held my hands over the camera to avoid glare from the cabin lights. My fellow passengers thought it was a little strange but then realized before the shot I captured once I showed it to them."

The shot impressed others as well. It was posted by the ISS Facebook and Twitter accounts and retweeted by a few astronauts. Just the mention of an astronaut being impressed by his photo makes Mahlmann smile.

"My hobby is so close I can get to space for now."

1007

HEAVENS ABOVE

During the summer before his freshman year, Thomas Mahlmann (photo) taught Air Force to fly in Canada and he purchased the camera which was the primary tool used for the majority of the photos. He tracks the orbit of the station using the flight Wi-Fi, and discovered that the ISS was going to pass by while he was seated in the air.

PHOTOGRAPH BY

STARRY NIGHT

Mahlmann often has dreams about photographing specifically and fully. The photo captures the ISS in the foreground, and the background is a beautiful starry night sky. The photo was taken from the seat of an airplane while returning back from New York in June 2015. Mahlmann tracked the orbit of the station using the flight Wi-Fi, and discovered that the ISS was going to pass by while he was seated in the air.



ARND BRONKHORST

EXTRA SPECIAL

The Indianapolis Colts' first home game is never captured as photograph. It's the moment when the Colts' first home game is captured as photograph. It's the moment when the Colts' first home game is captured as photograph. It's the moment when the Colts' first home game is captured as photograph.

ARND BRONKHORST

NATURE STRIKES

On September 10, 2014, Indianapolis experienced one of its most severe storms. From the midnight hour until dawn, the city was hit by a series of powerful storms. The storm season is well under way. It's the moment when the Colts' first home game is captured as photograph.

ARND BRONKHORST

FOUNDING FATHER

Although John Purdue never got to experience the wonder of human great things, he is responsible for the foundation of the great Purdue University. It's the moment when the Colts' first home game is captured as photograph.

40 PURDUE ALUMNUS





2012

FROM 45,000 FT.


The shot that Malhotra took was of the eruption window during a Redwood Photo Studio New Year Eve Challenge in June 2012, also shared by 2012's 100 winners. The photo is a composite of 10 separate exposures taken over a period of 45 minutes to capture the 100-second eruption in a single frame within the Redwood.

2011

MOONRISE

For the first few weeks of school, Malhotra searched for a location where he could watch the moon rise over the tall tower and capture it in a single exposure. After many attempts, he finally found the spot at the end of the tower. The photo was the result. He took it from the roof of the Third Floor parking garage just across the street from the Lorenson Computer Science Building.

JANUARY | FEBRUARY 2016 45



LENS FLAIR

By PAUL BARNWELL, JR.

Through its unplanned and everyday moments, traveling has the peculiar ability to unlock our potential to see the world anew. That's one reason why nearly two-thirds of our 2015 graduating class studied abroad. When I talk with Spiders who didn't, they often say it's their biggest regret.

These photos — all submissions to the Office of International Education's 2015 photographic photo contest — inspire wonder and amazement. They invite us to see the world through new eyes, to rethink how we understand our own humanity. Most importantly, they remind us to keep watch whenever we set for those single, fleeting moments when the opportunities for meaningful human connections and stories in time. ■

24 UNIVERSITY OF RICHMOND MAGAZINE

The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.
— Marcel Proust

UNIVERSITY OF RICHMOND // Autumn 2015

Photo Stories | Student study abroad

These are all student Study Abroad photos. Incredible!



Edin Boran Castle, SCOTLAND
Jon Dickinson '17

I really like this photo because it was one of the trips I took only with my dad. I have three siblings, and normally we have a tight time with each other.

I didn't know a whole lot about Scotland, and I'd never been to Europe before. So my dad and I went over a week before the program and tried a lot to explore the country. Whenever I see this photo, I can remember us fighting over aluminum foil, crawling into stuff and drinking on the wrong side of the road. The deliciously wicked is a couple of people's work. We were chaotic and very messy, but I think we had a great time.

One of the places we went was the Isle of Skye, which is known to Europe as one of the most beautiful places around. Somehow my dad figured out about the castle, so we decided to go. This one was just so pretty, and it took us such a long time to get there. I wasn't even sure it was going to be worth it. The weather was like it was in Scotland. Some of the days are cloudy and rainy, but we just had a perfect day.

We had said it was one of the best trips we'd probably ever take just because of how much time we spent together and how much fun we had.



Look, INDIA
Merve Mueserem '16

The context of this photo was uplifting, but the reality is heartbreaking.

We were in the city, waiting to take the train. I was for a moment, I was trying to remember the little girl. I asked if I could take her picture, and she was the first girl I met. I showed her afterwards, and she gave me a look. I was an impressionable kid. I had a lot of things to do, and even some of the adults. We all seemed to be enjoying the moment again.

As we drove away from the village, I felt awful that my privilege allowed me to leave their lives as quickly as I had entered them. I was unable to provide much in the way of health or resources when I was here, but this experience allowed my desire to study and work in public health. The more determined to continue exploring my abilities and the world at the same time, so that one day somebody might meet the other.

UNIVERSITY OF RICHMOND // Autumn 2015

Photo Stories | Student study abroad

Gorgeous and provocative. Totally free.



Stray Cats, MALTA
Lee Corson, '14

I took this photo while we were walking down the street and exploring Valletta, a city on the eastern coast of Malta. There were more cats everywhere, and I'm a cat lover.

At the time, I was studying for my Master of Science in environmental biology at the University of Kent in Canterbury, England. For one of our classes, we took a working trip to Malta. I had never heard of the country before, and it was a great experience to be somewhere new. The Maltese language and people are very different from the United States, and this experience really taught me to appreciate and respect people of different cultures and places. I hope to go back.

Resque de Dina, SPAIN
Whitney Green, '16

This was Dina, a dog I took when my mom came to visit me. It was about a two-mile hike up a mountain, through the woods and forest. We weren't sure where we were going. After a while, we came across this plateau area of cedars. It was just so beautiful -- so simple, but it left your jaw open the entire time. It just reminds me about the earth we live on -- the many places that are so beautiful and breathtaking to see. There are so many hidden gems, and this just happened to be one for me.



DINA OCTOBER '16



Great Barrier Reef, AUSTRALIA
Kevin Karamanov, '14

It was a long day, but it was great. Before the semester started, we had spring break which I was studying in Australia. A group of us and we were excited to take a one-day trip up the coast to explore the country on our own time. We were amazed in our own time. We were amazed in our own time. We were amazed in our own time.

This time it took a day trip we took to see the Great Barrier Reef. It's such an incredible, beautiful place. It was just having the time of my life. The views were beautiful and thrilling. It was life-changing.

28 UNIVERSITY of RICHMOND MAGAZINE

GLOBE TROTTERS

HAVE CAMERA, WILL TRAVEL:
A SHOWCASE OF IMAGES TAKEN BY
STUDENTS TRAVELING ABROAD.

The world has opened its gates to a new generation of travelers. Last year 574 students participated in 57 off-campus academic programs, including foreign study programs (FSPs), independent research (IARs) and Dartmouth exchange options. Worldwide nature is a new frontier, being mentioned only 10 times in the original course syllabus. Our first and digital cameras—phones, iPads, etc.—have made it easier for students to document their unique experiences and capture the moments. The opportunities were not only for students to reflect on their wanderlust and out-of-classroom experiences, says executive director John Toney. “It’s an affordable and important way to add a glimpse of the variety of memorable experiences available.” For the 2016 competition, we received submissions for photos of their experiences and photos of landscapes, people and moments, whether in a classroom and when they are abroad. The photos were displayed for a week at Center Common Chapel, where faculty members and staff could vote for their favorites. Here’s a small selection.

← HANNAH
“I was walking near the back of the group and felt a million eyes on capturing the incredible, floating sandbars of this moment. While the picture is almost perfect and still the sand was shifting under my feet. I had never done anything like this before. I like to think that all of us on the FSP still have sand in our shoes from walking and hiking up these beautiful dunes. I hope I’ll carry that sand, that knowledge of a world so different from my own, with me for a long time to come.”

← ALAN WILLY ’17
Environmental Studies and Business Administration major and member of the Dartmouth Outdoors Club

DARTMOUTH // January/February 2017

Photo Stories | Student study abroad

More free pics from students studying abroad



44 DARTMOUTH ALBERT MAGAZINE



4
SPAIN
 "While on the
 PEP I received an
 invite for the first
 time. Walking into
 Barcelona's Sagrada
 Família was truly
 eye-opening. The
 first hour was
 the bright light
 streaming through
 the windows,
 illuminating the
 cathedral's intricate
 columns and struc-
 ture. It was the
 light that gave
 me the sense of
 entering the final
 of Gaudí's journey. I
 felt going up as if
 climbing a ladder. My
 breath was literally
 taken away. I had
 never seen it from
 an interior before."
 —Anna D'Amico '16
 Graduate of Dartmouth
 College

A
CHINA
 "While I was
 studying abroad
 Beijing Normal
 University, that
 building caught
 my eye because the
 modern style stood
 out from the dark
 concrete build-
 ings on campus.
 What interested
 me the most was
 that despite the
 anonymity, the
 residents would
 line the walls
 traditional Chinese
 patterns and light
 their family out to
 dry instead of using
 a drying machine."
 —Alexander Chen '16
 Undergraduate at
 Dartmouth College

45 DARTMOUTH ALBERT MAGAZINE

SCOTLAND
"In the fall I took a canoe up the Philosophy of Time." I learned that despite our best attempts to understand time, we are forever bound by it. This short Edinburgh album is a testament to the fact that while walking through time, we can sometimes learn from it."

—*Joshua Young '09*
 "Theology of Time"
 Philosophy '12



88 DARTMOUTH ALUMNI MAGAZINE

POLAND
"The class had Polish language classes during our first year and so the group took the subway to the center, but a couple of us decided to walk one day morning. To get there we had to walk through a small park, which the fig had transformed into an urban scene. The sun was shining brightly and it was a beautiful scene. The pictures were all from our group and everyone had found a unique and beautiful scene in every small detail of the beautiful country."

—*Kevin Robinson '08*
 "Theology of Time"
 Philosophy '12



JANUARY/FEBRUARY 2017 47



COSTA RICA

"This strange
fig stretched out
across the forest
like a hundred
years old. Symbols
of the fair commerce
of organic resources
in temperate
countries,
strange figs
are saplings in the
country and slowly
grow their roots
around the trees,
erecting and
spraying them of
light. The ever-
impending power
of these trees
is as a power
of significance in the
global landscape."

—Paul Hester '17
Spring '17

DARTMOUTH ALUMNI MAGAZINE

NEW ZEALAND

"It was amazed
by how well the
history of this
beautiful area
near the Taranaki
volcano connected
to the topic of our
FSP submission.
The volcano had
great spiritual
significance in
Maori culture and
has recently been
renamed Tararua,
after decades of
being referred to by
its colonial name,
Mount Egmont."

—Kristen Chalmers '17
Autumn '17
Spring '17



JANUARY/FEBRUARY 2017

COLLAGE

**IS NOT A FOUR
LETTER WORD**



Embrace the craft-made revolution. This retro intentionally bad collage look is back in. This is just a lot of time with photoshop.

RITES of SPRING

MARCH COMES IN LIKE A LION.

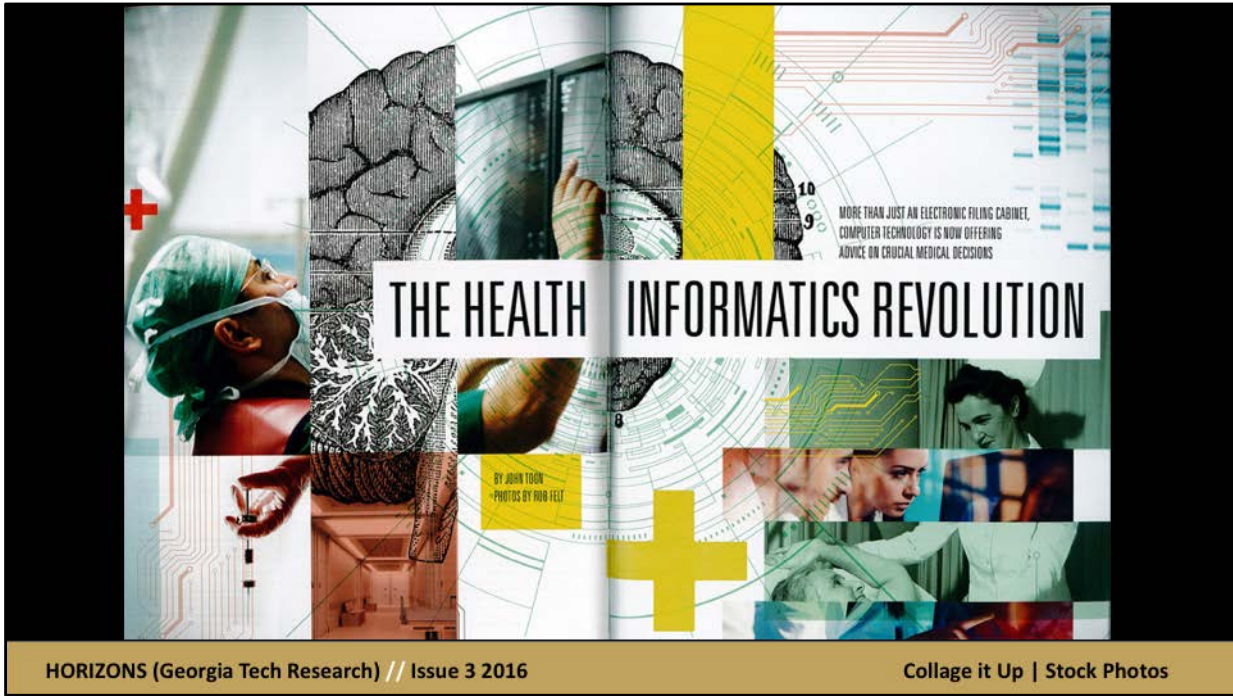
But by April and May, spring has sprung and students are able to treasure some warm-weather fun from music festivals to Blue White weekend, here are a few of Penn State's biggest spring traditions, both then and now.

BY AMY STRAUSS-DOWNEY IN LA • ILLUSTRATION BY JAMES TAYLOR

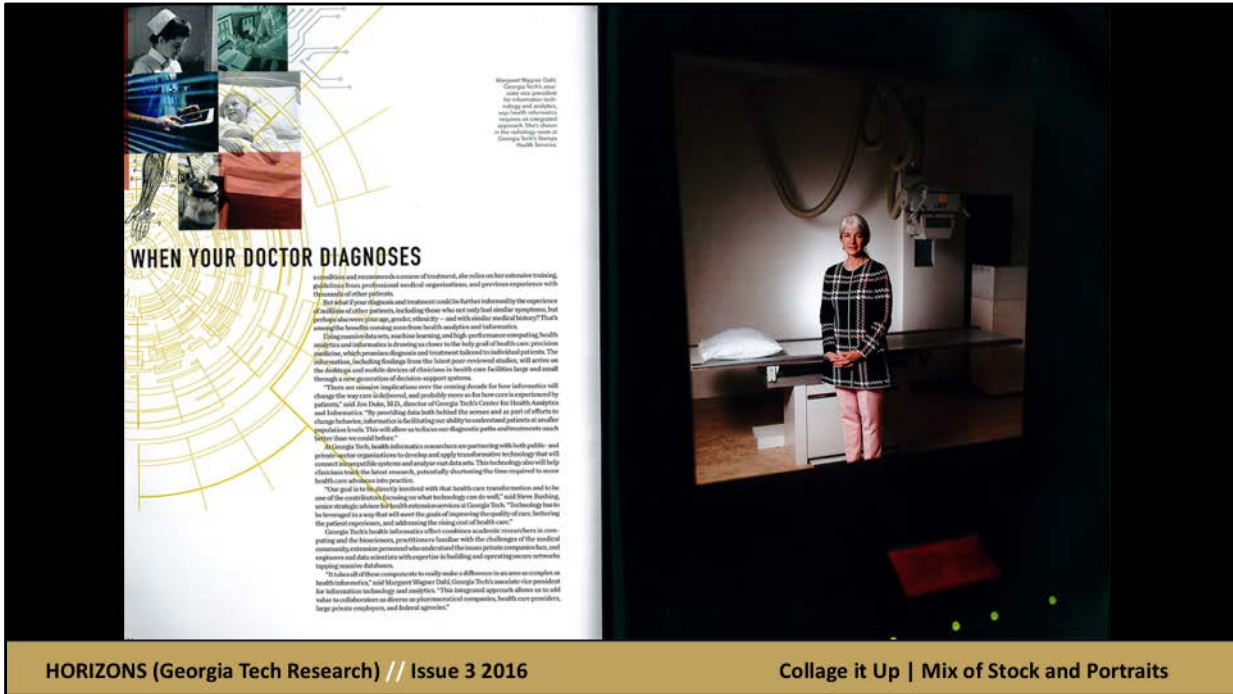


22 THE PENN STATER March/April 2015

March/April 2015 THE PENN STATER 23



Many elements available on stock websites for cheap. Great way to illustrate conceptually challenging topics.



Collage carries through to next spread, with the expected faculty photos following.

Love Letters

Tributes to relationships
born at IU

Remember falling in love?

The scent of Indiana spring is in the air. The taste of July 2009 sugar some study breaks. The current of energy between palms, spooning hands one last time before splitting for class. Taking a chance on a beach and a better. What a rush.

Love is part of the college experience. The place and time—a coming of age, hopeful and youthful—send themselves to passion.

Often, students leave IU in pairs. For these couples, IU is even more special. It's the outpouring of a lifetime relationship. Over time, the shared experience, the common bond of college, gives way to something more enduring than passion—commitment.

Dozens of readers sent us tributes to relationships born at IU. Here, we share five stories that bear testament to the life-changing, inspiring, unbridled affection IU alumni feel for one another and their university.

See snippets of other stories along the bottom of pages 20 to 21. And find the complete version of all the readers' love stories online at alumni.indiana.edu/magazine/love.

Stories written by CJ Lutz. B&W: Illustrations by Larry Buchanan. B&W: photos from IU Archives.

MATHILDA and OTTO KLOPSCH

THE TALE of the SUNDIAL

MATHILDA ZWICKER AND
OTTO PAUL KLOPSCH FOUND
EACH OTHER AROUND THE SUNDIAL,
AND THE MEMORY OF THEIR LOVE
LIVES THERE FOREVER.

Just inside the Sample Gates, a sundial keeps time in a quiet remembrance. The face is weathered, pieces of moss and rain and wind swirling away its stone. Beneath its marble pedestal, among the shadows of the old campus, a romance played out.

Mathilda Zwicker Klopsch
Otto Paul Klopsch
Class of 1908
They met at the sundial
when classmates
Their ashes rest here
together with eternity.

Mathilda Zwicker and Otto Paul Klopsch met at the sundial sometime in 1908. The sundial was a gift to IU from the graduating class of 1908, whose students donated \$2 cents apiece for its purchase. The year that Mathilda and Otto fell very much in love was in its 70th year. The library just began staying open until 10 p.m., Lovens didn't live at the Rose Villa

He cherished his parents' stories about the Bloomington campus and wanted to scatter their ashes where the couple met and fell in love.

House or exchange was at Rock Chapel— neither had been built. It was a different time in IU's history to say the least. The college sweethearts married that year. They shared a life for 27 years and were cherished by their friends and three children, Otto, Elva, and Otto Jr. In 1935, Mathilda passed away. Otto followed five years later.

In July of 1935, Otto was Otto Klopsch Jr., met with IU President William Lewis Bryan to discuss something very important to him. Klopsch cherished his parents' stories about the Bloomington campus and wanted to scatter their ashes where the couple met and fell in love—the sundial.

Bryan honored the request. Otto Jr. laid his parents to rest and commemorated their love with the plaque. The son Otto Jr. used to frequent his parents' table now belongs to the IU Archives.

There, students finally just the sundial as made to classes, meetings, meals and dates. Hearty stands the iconic Rose Villa House, with a romantic history well known and remembered by lovers who kiss there at midnight. The lovers' love story is timeless.

too—remembrance of so many students of lifelong friendship and love born at Indiana University.

—written by CJ Lutz, based on research by IU archivist Eliza Kellison. B&W, B&W.

INDIANA UNIVERSITY ALUMNI MAGAZINE // Spring 2013

Collage it Up | Mix of Stock and Archive

Such sweet little illustrations. Images compiled from stock and archive cost you nearly nothing.

TERRY and MARK FISH

A DRIVE FROM THE PARK

A SINGLE MOTHER FALLS FOR A MAN AND HIS COLLEGE TOWN — THEN MAKES BOTH HER OWN.



He was washing dishes in the back of Niles Bennett's Pizzeria. Standing tall over the stack with dark messy hair covering his forehead, he reached out his hand and said to me the words "Hi, Terry Fish."

Shed. My new manager was cute. My new manager was two years younger than me, and he was cute. My new manager Mark Fish, 2019, had just graduated from the business school at Indiana University, and he was cute. I was a single mother of two, struggling to get by in Columbus, Ind. And the manager of the pizza joint where I washed dishes was cute to boot's pleased for that.

I knew it was crossing a line to go to a date with this new manager, so I kept my distance. A few times with mutual friends, I thought of a date night to see Mark when I had a moment to spare and I was planning to go to Boone County State Park. When he showed up, it was just me.

Over sandwiches, we talked stories. It was a cold spring afternoon, and he asked me if I wanted to go on a date and see where he went to college. I had heard of IU but IU never been to a university. No one in my family had ever been to college.

We drove west on Hwy. 46 and ended up in Bloomington. I didn't know where we were or where we were going. I just knew I was with someone I wanted to be with. I kept looking for the college. It would be a big building, right?

The ground was "WELCOME Quid." "Is that the college?" I asked. He laughed and admitted I was wrong to see that one big building. He said he had shown me how a college is a whole campus of buildings and people. And he

showed me that college is a state-of-the-art library filled with books and it's libraries and professors and students pouring to them to what were the hundreds of buildings. He drove Mark and the business school and library near and old buildings and new construction and back parks.

We walked all the way to the Little 500 track. The track ended there again, our parking as Mark looked at the rolling. I watched him standing there. I saw all his hands holding that. That moment is like a song whose words come to me when I'm thinking about nothing.

He's standing there and it's cold and he's telling about the race—certain leaving him to work and getting there the straight. His descriptive bladders full of people organized by colored T-shirts, a chorus of chants and screams. I wanted to see it myself.

I wanted to be a collaborator, to be part of this place. And I didn't know why I felt it so strongly but right then, I wanted Mark. I wanted Mark to be the next term in my life. Mark and I started dating. In 2003, we were married.

We couldn't have the children by themselves for too long, so our honeymoon was a weekend in Bloomington at the Homestead Inn. Walking in Bloomington, sitting in the booth at Mark's English that was eating cheap during happy hour at Bennett's restaurant, I could see myself coming back to study. My new husband supported my dreams.

After our honeymoon, Mark helped me put together my dream, to be my own and work off my own terms. We had moved to Bloomington, Ind., and I committed up to Columbus to take my general education classes at IUPUI.

After two years, I transferred to Bloomington. I was one of just a handful of non-traditional students at the time. It didn't bother me that I was almost a decade older than the undergrad-

uates sitting around me. I was just excited to be an IU student.

I experienced as much as I could of campus life before driving home to a part-time job and my family each day. I looked at the business school in Woodlawn Hall. I ate lunch in the Union and then stopped among the incoming undergrads on campus. I walked through Dean Mendenhall and studied in the White Library. I bought second-hand basketball tickets, and Mark and I watched the game in Betty Knight's lounge. I made IU my home.

I graduated from the School of Business in 2007 and took an internship that led to a job in public accounting. Not only did IU prepare me to work and help support my new husband and our two children, it made me financially stable for the challenge ahead.

And three years after I graduated, Mark had a financial stroke. He was only 33 years old. At the time, he was CEO of a large privately held company. But after his stroke, the financial responsibility fell to me.

I have been his caregiver and he has been my loving husband for more than 17 years. We make time every year to visit the Bloomington campus, where I still live with a supportive and understanding network. These rolling hills aren't the easiest for pushing around Mark's wheelchair, but we still visit our favorite spots—Sungate Gates, Dean Mendenhall, and the Auditorium to see shows.

Mark and I have four beautiful grandchildren. Recently, we took our 11-year-old grandson on a visit to Bloomington. The grandchild's love story only began in a pizza parlor. IU is our real story.

Remember, when he's older, I'll tell him all about it.

—Terry Ann Fish, RN, as told to CJ Lee

I have attending Indiana University was a great decision, but after meeting Caitlin, it became the best decision of my life! **ANNE BAUER, B.S.**

Who would have thought that my daughter would get married at the same location where we went on our first date over 20 years ago? **JOHN H. BUN, B.S.**

IU saved us—105 loved IU—105 loved each other. Thank you IU! **MARY "MADDER" PARSONS BORN, B.S.**

They made music together and married in 2005 while Paul was attending in Germany. **MARLENE BERGMAN FISHER, Ph.D., M.S., M.F.T.**

KEVIN NEWKIRK and MARGUERITE HUBER

LITTLE 5 SWEETHEARTS

KEVIN AND MARGUERITE SUPPORTED EACH OTHER THROUGH THE BUSY WEEKS, SORE MUSCLES, AND NEAR-CRASHES TO TRAIN FOR IU'S MOST FAMOUS SPORTING EVENT.

Marguerite says the first time we met was our senior year, but I know it was two years earlier.

Our Greek houses were paired for Little 5 events, and I remember seeing the athlete Marguerite, BSW'13, with her long brown hair and cycling gear in her house's parking lot when I was entering recruitment.

It wasn't until our senior year at IU Bloomington that Marguerite remembers meeting me.

Our roommates were dating, and a few of our friends got together for a party. Marguerite and I talked.

There were things coincidental—we both love MacIsaac, and we're from the Chicago suburbs. But more important IU bonds really stretched us together. We were both in a Greek house, we had mutual friends, and we were both getting in long hours training to ride in our final Little 5.

We saw Love King 3-D for our first date. Before it or not, Light had driving on the way to the movie theater. She was cute in her 3-D glasses. And I made up for my recognition face you with Cyclones from Jilly Truss. We shared all the classic our senior year—we ate heart-shaped Mather Beer's pizza on Valentine's Day and used my cousin basketball tickets to see our boys go all the way in the Sweet Sixteen.

But only did we always have something to talk about, we understood each other's long training weeks and rebounded together on our off-days. It helped that we both lived on Green Street that year, only a few blocks apart.

When Little 5's weekend rolled, we were there to support each other. Even in the freezing rain. Marg was nervous to have an actual race but got up, pushed, and showed from the cold winded bleachers. I saw her catch up with the pack and help Alpha Omicron Delta place enough. Every time there was a wreck on the track during the men's race. Marg told me her heart jumped. I never went there, and our team, Theta Chi, had its strongest finish at 8th place.

We both graduated and have managed to stay in Bloomington's big league. I took a job at Butler Pharmaceuticals, and she's thinking up a master of public affairs program at IUPUI. Even though we meet places of life is creeping up on us, I'm thankful for how we've found each other here. I can't imagine my time in Bloomington without Marguerite.

—Kevin Newkirk, BS'12, as told to CJ Lutz



My roommate (Robert Miller), BS'12, was convinced "There's a nice girl, let's go out next to her." ALAN CARROLL, BS'13

IU played a role in our love story even though it began thousands of miles from Bloomington. NATHAN FINKBACH, MWSO, BS'10

In 2011, we decided to sleep and snuggle in Bloomington like marrieds in South Chapel. FIVE YODK, BS'13, MS&A

Party like your guys, and we still are in here and still love IU. MIKE TUCKER, BS'10

INDIANA UNIVERSITY ALUMNI MAGAZINE

JANICE and VICTOR MALINOVSKY

BOOKS, BRAINS, and BRAUN



On a Saturday night in the spring of 2000, my Alpha Chi Omega sorority sisters were dining in The Terrapines and Theta Phi, and Mary Understrahl lights at a Phi Delta Theta party. This was the time of Victoria. We guests in Delta Omicron, both homes in Delta, and Bob Dylan. Our hair was beachy high, and we were wearing miniskirts and flaring jeans. We passed love from the leg to the cover.

It was 11 p.m., and I wasn't expecting to see a clean-cut, tall, athletic guy with an arch of blonde hair through the door of this well-under party.

I was a serious student myself, but my initial thought about Victor Malinovsky, BS'11, ODTL, was, "What a nerd?"

I couldn't imagine someone studying so late on a Saturday night. Even though I was a math education major, I had the books late into the weekends was not in my house plan.

I wouldn't help her be serious. When our eyes met, he walked across the room, took his hand to introduce himself. I learned that he had been studying in the library and then walked a long night together at the Gamma with his football teammates. He was in a football scholarship to study anatomy. I was impressed. He felt the same way and told me he was attracted to my big brown eyes and easy dancing, but not hard when he found out I was a doctor's best mathematics major!

Victor got up and the next day we met because we'd met, called over phone and asked me on a double date with our roommates. We spent the rest of that spring semester together, getting to know one another in the dorms and at Delta's Dances in Bloomington. We danced over the same fall.

I usually sat in the wooden bleachers with my sorority sisters during all the football games, but I was sitting with my father during Delta's Thanksgiving and we loved a loud crowd. We got blacked out and totally blew out his hair. With his crown and crimson number 27 letter jacket, my dad seemed to be in our section field to take care of him. Just a few months later, he would ask for my father's blessing and propose to me.

That August, between our junior and senior years at IU, I said "I do" to a lifetime of marriage with that athletic, steady guy. I couldn't have created a better home plan, he our fan.

—Janice (Bloomington) Malinovsky, BS'12, MS&E, as told to CJ Lutz

JANICE COULDN'T IMAGINE WHY SOMEONE WOULD STUDY ON A SATURDAY NIGHT, AND THEN SHE MET THE HANDSOME, STUDIOUS ATHLETE VICTOR.

Who gets set up by their mother? MARY FUCHSBERGER, BS'10

All that you could hear was plain ol'blatting. I was here, too. DAN CARROLL, BS'10

Our guys at IU were amazing, and it was a magical time to be at IU. DANIEL LYNN, BS'10

We got to love each other and with IU. We got to love each other and with IU. DANIEL LYNN, BS'10

INDIANA UNIVERSITY ALUMNI MAGAZINE 29

JENNIFER and JAMIE MARKUS

WEDDING ROYALE

WHAT STARTS IN BLOOMINGTON CONTINUES IN VEGAS

Jamie and I usually missed each other's lives by the space of a thin envelope. He originally wanted to go to Illinois for graduate school and then thought when he never heard back about his application. After consulting IU, he found his chance application under the front seat of his car, hidden from sight. Had that application been mailed on time, he might have never attended IU.

I've mailed that envelope slipped under his door seat. Had he mailed it, we never would have hatched our plan. We were two graduate students in my childhood apartment in Evanston in Bloomington. And we were ready. Together, we'd fly to Las Vegas. To Vegas.

Jamie Markus, M.Ed.'05, and I had been dating for three months when we hatched a flight on afternoon, flew from Indianapolis to Vegas, and got married.

How I could marry this man I'd only known for a year.

In 2005, we were both graduate stu-

dents in the School of Library and Information Science, and I was in charge of the Agnes Brown Library in Bloomington's Central View neighborhood. He started as my assistant and was soon promoted to director of Porter Library.

One early fall afternoon, I needed to check stacks and stacks of books after up of the boxes towering above my head, wondering when to start. Jamie knocked on the door just then. "Need a hand?" he asked. I smiled and mentioned the cardboard mountains.

After a few hours of sitting through boxes, we were hungry. Steak 'n Shake's chicken noodle soup wasn't the reason we sat in a red vinyl booth the following day. It was so easy to talk to him.

We started dating soon after that.

I was surprised by how quickly our lives came together—but then, Jamie was always surprising me. I remember when he asked for leave off from his

library job so he could go see the Dalai Lama speak. I respected his curiosity and kindness. I will do.

After we engaged, we moved in to a small married housing apartment in Hesston. As newlyweds, we had our classes together and studied at home. Then first year of marriage might have resembled other IU dating romances—we walked to get ice cream at Cold Stone Creamery on Kirkwood, practiced speeches together, and took road trips to Indianapolis. We swapped pictures with arms draped around the Hennessey B. Whitley statue. When I was sick, he wrote down my assignments and brought me soup. And we went on back to Steak 'n Shake from time to time.

Now we live in Wyoming with our 5-year-old daughter.

—Jennifer Markus, B.S.W. M.Ed.'05, as told to CJ Lane

Had he mailed that envelope, we never would have hatched our plan.

All I can say is "Thank you, Julie, for picking me up!"
RICHARD BURTON, B.S.'70

Although the wedding took place on campus, the reception was adapted until the entrance of the game was certain.
CHERYL BONNE HARRIS, B.S.'80

As we danced I passed 20 dollars on the dance floor and there this would be a good long time.
BRAD TAYLOR, B.S.'77

This summer will be our 20th anniversary!
FRANK A. BENOUC, M.Ed.'72

After our midnight kiss in the Wolf Swamp, he got down on one knee and asked me to be his wife.
LARA BELL, B.S.'77

We would walk across the street about 15 minutes before kick-off to watch the football games.
CAROL LATHAM PEACOCK, B.S.'78

It lasted 65 years and 12 months. Our kids called it a miracle. She died in 2008.
WILL BRADY, B.S.'77

Our wedding reception came full circle with the playing of the IU fight song.
BARRY GUNSHAW LARSON, B.S.'77



Choosing a **BIGGER LIFE**

Life is made up of an infinite number of choices. Many are routine, but the more difficult decisions have the power to transform us, helping us live into a bigger life. Particles like those the real-life travelers' make these big decisions—the turning points in our lives—seem simple and obvious as to just go for it. After all, what do we have to lose?

But the decisions that lead us down paths that are potentially life-changing can be overwhelming and sometimes paralyzing. We often want to play it safe — and we rarely make those decisions easily. Ultimately, though, making a choice that may lead to a more fulfilling life allows us to be the master force in our own experience.

In the following pages, trailblazers share the moments when they chose a bigger life, including the sacrifices or challenges they faced along the way.

BY MARLA BOLD
Illustration by Emily Reynolds (C'16)

48 PURDUE ALUMNUS

I REFUSED TO LISTEN TO "GIRLS AREN'T ALLOWED TO DO THAT."

Faith (Wynne) Powers (C'41) is 86 years old and lives in Newington, Connecticut.

Starting over: My dad taught me that I could do anything I wanted to be an engineer but that path was frowned upon for women, so I enrolled in a new program at Purdue called "The Special Science Course for College Women," which included physics and abstract math, and allowed us to study engineering on the side. Oh a day from my older brother, I applied and got one of two trainee spots for girls at Purdue Civil Aeronautics Association flight training program, which also included to make airplanes. My brother was rejected because he didn't have jet/or vision.

Persistence pays off: I piloted after seven hours of training and passed my pilot's license test with 26 hours in the air a year record at the time. Because I wanted to own a plane and know how to fix it, I cleaned parts and passed the mechanic's with questions.

When impossible isn't: I wasn't "allowed" to do a lot of things in my lifetime, but I did them anyway. I bought a house, built a better home, my male boss after my divorce, and I worked as an engineer designing airplane blades at Hamilton Standard Propellers. I had to leave the job in 1944 before my first son was born because women weren't allowed to work and be pregnant at the same time.

Because shellshocked is for men: In 1945 after family life and a varied career including starting my own management information systems company I returned to Purdue to renew my pilot's license when I was 60 years old. I bought a Piper Cherokee 200 and started flying again.

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SUMMER 2018 49

Purdue Alumnus // Summer 2018
Collage it Up | All Stock All the Time

And here's our version of collage a la' stock art.



I MOVED ACROSS THE COUNTRY TO EARN AN MBA.

Ronald Inovel (AACSB) is president and CEO of the Catalina Island Co. in southern California.

When your best isn't enough: My first job after college was as an electrical engineer at Lockheed Douglas. We designed a DC fan that was highly fuel-efficient and thereby better than our competitor's, but Eastern Airlines bought their plane instead of ours. I didn't understand — why buy an inferior product? My supervisor told me that our competitor gave Eastern a favorable lease agreement even though we had a better-performing plane.

Turned vision: I realized my view of how the world works was too narrow. I'd never considered all aspects of a business. Finance and marketing. My vision at that point had been about engineering the best airplane.

California, here we come: That eye-opening DCI Eastern Airlines incident awakened a desire to broaden my understanding of the big picture. I was accepted to Stanford University's MBA program, so my wife and I piled everything into our car and moved to Palo Alto, California, leaving behind everyone and everything we knew. It was with mixed emotions — excitement and fear — that we landed west.

A new way to think: The combination of engineering and business degrees trained me to think outside of the box. Looking at the total picture of a company — from design to operations — has become second nature. As a CEO, being responsible for improving an entire company's performance has been fulfilling and rewarding. In choosing a larger life, my best chance for success was earning engineering and MBA degrees.

50 PURDUE ALUMNI

STOP RACIAL DISCRIMINATION NOW!



I CROSSED RACIAL BARRIERS.

James Invelod Cook (MS, Ph.D., PhD, M'Ph) is a professor emeritus and former senior associate dean of the Purdue University Graduate School of Business.

Breaking the color line: I grew up in a segregated community in East Northport, Texas. In 1961, I became the first Black player to accept a basketball scholarship to the NCAA Division I Conference at Texas Christian University. I was ready to handle the challenges and contribute to the rapid social evolution of the time — the civil rights movement. I knew the position came with responsibility and the need for track skills. Consequently, I needed public events to raise and raise awareness. Before we could change things we had to get out of the game. I never let racial slurs and discrimination performance any further — it wasn't in my nature to let that affect me.

Life beyond basketball: I had developed a valuable but narrow and shallow perspective growing up in a segregated environment. TCU taught me about other people and places including religious, ethnic, and racial groups that I previously didn't know existed. My college education led to a job at historically Black Langston University. Then, to higher degrees at Purdue, then to becoming the first Black assistant professor at Harvard Business School.

Relief system: Research is a process that we should apply to our tribulations, as every path has a purpose that, though we may not understand it in the moment, will be revealed later. "You cannot discover new lands unless you have the courage to lose sight of the shore" is a quote that I've connected to by self-appointing team lines on how long I'll live and work in a single place.

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SUMMER 2018 51

I SAW OPPORTUNITY BEYOND MY HOMETOWN.

Nicholas Birmingham-Rydel (17) is president of Duke Energy's Indiana operations, the state's largest electric utility.

Home is where the heart is: I grew up in Chicago, the youngest of seven children in a Christian and supportive home. I knew that I could be success in that world, but I also knew there was life beyond Chicago, and I wanted to pursue that life. I grew up in a family that had a strong work ethic, and I anticipated that Purdue would be challenging as I branched down on academics and the jobs that helped me pay my way through college. My mother was a great example and I wanted to make her proud. I played on soccer in accounting at last.

Cultured to lead: I soon discovered that my passion was in leadership. My first experience was as treasurer board president in my dorm and then later as the manager of a temporary employment agency—all while still attending Purdue full time. I began appreciating the importance of effective leadership after growing up hearing my mother discuss the shortcomings of management in her master's teaching certificate. Her experience led to her to pursue a degree in organizational leadership and supervision, which provided me tools to become a more effective leader.

Leading by example: Since leaving home for college, my career has required me to move away from family and friends numerous times to pursue my professional goals. Leadership has come with other challenges and responsibility. As a young African American female who has had some of the toughest responsibilities, I've held myself to a higher standard in hopes that my track record could help build a bridge for others to cross.



52 PURDUE ALUMNUS



I LEFT A GREAT JOB TO START A NEW BUSINESS.

Stephen Cox (MBA) is a Blackstone senior managing director and cohead of Strategic Partners Fund Solutions.

When life is good: I worked at IBM for six years. Near the end of my time there, I was communicating — with a great partner and mentor — a \$1 billion private equity purchase for the company. I loved the job. As I was selecting private equity funds for IBM to invest in, I was learning from people probably really smart ideas for great returns at low risk. I wanted to work from our home in Stamford, Connecticut. I reached success. There were great courses nearby, but had great friends.

Opportunity knocks: When the Wall Street firm of Drexel, Cutler, and Bessert approached me about starting a specialty private markets business in secondary trans-

actions, saying you were risky by wife, then, said you don't want to later realize, "What if?" so we put every dollar we had and more into this morning. I committed to this. We worked at high stress most of the time, it's happened about a year later, and then the dot-com bubble burst.

The payoff: It's turned out much better than I ever imagined. Today we're a Blackstone-affiliated business with 100+ completed transactions. We've raised \$1 billion in capital. But more importantly we've built a team of people who are really smart and have talented. I can focus on giving back by forming relationships for students at the community college I attended.

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SUMMER 2018 53

I FOUND WAYS TO IMPROVE PRISONERS' LIVES AFTER MY BROTHER'S INCARCERATION.

Alvin Mitchell (PhD), the founder of CheckIt Publications, is a PhD candidate in sociology at Cornell University.

Behind bars My brother was sentenced to 20 years in prison in 2004. He has access to information because we have a very nice mother who sends him whatever he wants. But he noticed that other prisoners don't have people on the outside working what they like to read. We started talking about how to give inmates educational, customized content.

The idea that stuck I was learning about new technologies and big data at a programming job while considering potential career ideas. Enhancing my mother's services for other prisoners made the most sense, so I quit my job and took one year off to develop CheckIt Publications.

Paper products It's cheaper to send magazines of selected papers to prisons than it is to send books, which are

limited to five sheets of paper. I built algorithms to reader and print up 40-to-50-page personalized editions of interest to prisoners, including Wikipedia articles, literature, photographs, puzzles, and flashcards. I have about 20 subscribers, and it takes three to 20 months. Getting customers is tough because my target audience is in jail and prisoners don't like to put up a bar. I'm working on attracting benefactors to pay for subscriptions, but I may have to take a break from growing the business to concentrate on school for a while.

Learning curve My views about incarceration and rehabilitation have evolved. I believe inmates should have access to the internet. I also discovered I can be self-motivated without the need for external approval or stimulation.



54 PURDUE ALUMNUS



I LEARNED TO FLY.

Capt. Dennis (Denny) Bering (FAA) flew the Airbus 320/320X for United Airlines.

Raised on Star Trek That show sparked the dream of flying for me. I remember watching a supersonic bomber lead at Wright Patterson Air Force Base from atop my dad's shoulders in 1975. It looked like a seven flying through the air. It was white, loud, and beautiful. I thought, "I've gotta do that."

The truth hurts My first job after earning an aviation technology degree was as a flight instructor at the Purdue airport. It felt like I was working there for two years when a good friend pointed out that I was complacent and going nowhere. When I quit my job, my dad said, "I was left with two unattractive truths: He was right, and I was the only person who could do something about it."

Full steam ahead The next day I drove three hours to Dayton, Ohio, and applied for a pilot's job with a small airline.

Jetstream Piedmont Connector I was hired on the spot. The days later my career started. All I had to do was knock on the door to front of the mother ship waiting for an opportunity to fuel me.

Up in the air Taking action on my own behalf that day quickly led to becoming a pilot for United Airlines, which joined me only a month after I began flying for Piedmont. The focus dramatically for United for nearly 30 years now. Since my first flight, I've never been out of the Mississippi River on flying has opened the world to me. That being said, I made the decision to retire voluntarily and control my schedule for my family's sake. I chose to be the pilot of a smaller airplane to have holidays off, as well as regular weekends at home. That's been important to me. ■

Mark Hobb is a freelance writer based in Mississippi.

Tell us about your own "tiger" story. Email us at alumnus@purdue.edu, and we'll share some of your responses in a future issue.

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SUMMER 2018 55

SAVEAS

LEAD SCHOLAR TRACKS NEW WORD PROCESSORS
CHANGED WRITING
BY CHRIS CARROLL



THE CROWN JEWEL OF MATTHEW KIRSCHENBAUM'S COLLECTION, OR MAYBE JUST THE MOST HULKING PIECE OF IT, OCCUPIES A CORNER IN THE BASEMENT OF HORNBAKE LIBRARY. IT'S A FEW HUNDRED POUNDS OF BEIGE COLD WAR-ERA MACHINERY, WITH CRYPTIC BUTTONS AND KNOBS AND A VAGUELY MENACING AIR, LIKE SOMETHING FOR DIALING IN BALLISTIC MISSILE TARGET COORDINATES.

THE FIRST DEDICATED device ever marketed for a then-revolutionary activity called "word processing," IBM's Magnetic Tape/Selective Typewriter, or M/ST, was designed for mass destruction. Instead, its arrival in 1964—meeting with the kind of fanfare reserved today for new iPhones—would transform the landscape for writers around the world.

In Kirschenbaum's recent book, "Track Changes: A Literary History of Word Processing," the associate professor of English and director of Iowa's graduate certificate in digital studies uncovers how the M/ST and its successors captured—and even changed—the imagination of authors, spread modern offices, tweaked stereotypical gender roles and digitally altered the fundamentals of writing.

"Writing by hand or sitting at a typewriter, we're always in the present moment, going character by character, line by line," he says. "Word processing allowed writers to grasp a manuscript as a whole, a gestalt. Everything was instantly available via search functions. Whole passages could be moved at will, and chapters or sections reordered. The textual field became fluid and malleable."

These new powers depended on the machines— from Olivettos to Brothers to Apples—many of which Kirschenbaum has up and running in the Hornbake Library office of the Maryland Institute for Technology in the Humanities. "It's not about nostalgia," he says, but so he and colleagues can access and preserve manuscripts or old interactive fiction written on forgotten operating systems and dead technologies. What not so long ago seemed futuristic was in danger of being lost to history, so Kirschenbaum set out to document it.

...early machines were designed for offices, not individual users. One of the few who could afford his own was popular British novelist Len Deighton, who used the M/ST for his 1970 book, "Bomber." But Deighton still relied on a typewriter, hauling off pages to his assistant to retype into the unwieldy machine's magnetic tape storage. She then added Deighton's revisions without erasing whole sections, maintaining the process.

The first novel written on a word processor in the modern sense—with the author herself composing and rewriting entirely on a computer screen—might have been Gay Charter's 1981 historical bestseller, "The Mists." She used a 1977 Core Systems 4 that she and her husband had bought for their documentary film company.

finding snippets of time and work and family responsibilities to write fiction. Her writing method wouldn't have been possible without the efficiency of the machine, she told Kirschenbaum. When she turned in her manuscript, "the agent was fascinated with the cleanliness of the type, the justified type... Part of the in-house buzz was because of the word-processed text."

PIONEERS BEYOND PENS
was written on a word processor? The question helped fuel Kirschenbaum's research, and the answer depends on what you consider a word processor and how you define "write." As a piece of science in fiction.

1970

1974

1964

"the textual field became fluid and malleable."

TERP (University of Maryland) // Winter 2017

Collage it Up | Mix of Stock and Archive

Pre-redesign, Maryland definitely had a bolder style than many alumni mags, but they do an incredible job mixing together content, archival, and provided imagery to make interesting collage based layouts.

DELETING DRUGGERY

over time it's not so easy to forget how much tedious word processing freed us from in the late 20th century. Office workers rejoiced, as did popular fiction writers who discovered that the new technology facilitated the high level of productivity they needed to earn a living. While many "serious" authors of literary fiction initially turned up their noses...

Glenn Feld declared the machines were "saving literature". Those who continued word processing left behind a trail of corrections filed, dead typewriter ribbons, jumbles of pages and endless retyping of revisions. "Boy, has this thing made it easier to write serious fiction," author Jerry Pournelle wrote in a computing magazine in 1979. "It was highly ironic," cyberpunk pioneer William Gibson told Kirshenbaum. "Typographical errors were one of his inputs, and text became literally plastic with cut-and-paste."

Think the earliest word processors left behind messy corrections filed, dead typewriter ribbons, jumbles of pages and endless retyping of revisions.



1921

REDEFINING ROLES

THE TERM "WORD PROCESSOR" like "typewriter" before it, originally referred not to a machine or a computer program, but to a person—typically a female office worker trained to operate the machines, Kirshenbaum says. Because gender has always loomed large in modern technology, it's a key element in the history of word processing as well.

The New York Times observed at the advent of the writer, "The International Business Machines Corporation introduced yesterday a typewriter that it believes will eliminate a lot of the drudgery of a secretary's job. It will also eliminate a lot of secretaries." But a feature-based ad for an early competitor in the debut issue of *Chris Business* M, magazine was *grudgingly* rathenous about "The Death of the Dead and Secretary: It's been long overdue." Word

The system has encountered an error. Because gender has always loomed large in modern workplaces, it's a key element in the history of word processing.

Technical information: ***STOP: SUBMMO7A

processing, the ad promised, would allow women to move out of typing pools into positions of greater authority. Whether word processing actually helped as more women moved into management is an open question, but it did end the association of typing with "women's work." As Kirshenbaum says, "It was never so easy, even guys could do it."

PROCESS COMPLETE

Word processing was so effective at easing many of the demands of the writing process that it finally established itself in homes and businesses throughout the world over the course of a few decades. But paradoxically—while the early days of the IBM writer—the text is hardly used anymore. Instead we type, touch, swipe and even talk to our devices, while "text" has become a verb, Kirshenbaum says.

"Word processing is something we once did, in the same way we once used dial-up modems and manually inputted the title alternative of the World Wide Web," he writes. "Nowadays we rarely just write, here, there and everywhere, across ever increasing multitudes of platforms, services and networks."

Word processing's triumph was that it allowed writers, more than ever before, to focus not on the process or on tools, but on the text. [READ](#)

BUBBLE MACHINE



1977

THE WRITER'S BRAIN

WORD PROCESSING AND WORDS often change the physical processes of writing: it gave writers new ways to think about their words in progress, even taking on some of the mental load they'd had to carry themselves in the days of typewriters. Nowhere Stanley Ekht and the Lectern VT (1981) that he dubbed the "bubble machine" released him of having to remember exactly what he'd devised

300 pages earlier. As a result, "the word processor has facilitated not just the mechanics of writing but has actually facilitated plot... (It) occurs to you, you, watch there some kind of reference to that earlier one? Do you put the machine in search mode, and you find what the reference was earlier, and you can begin to use those things as tools, or trails, in putting the plot together." After waiting for years, Salinas Beahler finally began using word processing software in the 1990s and immediately understood why others had found it so useful. "That at the level of writing, this is the best piece of writing I've ever done... I've been able to write much more."



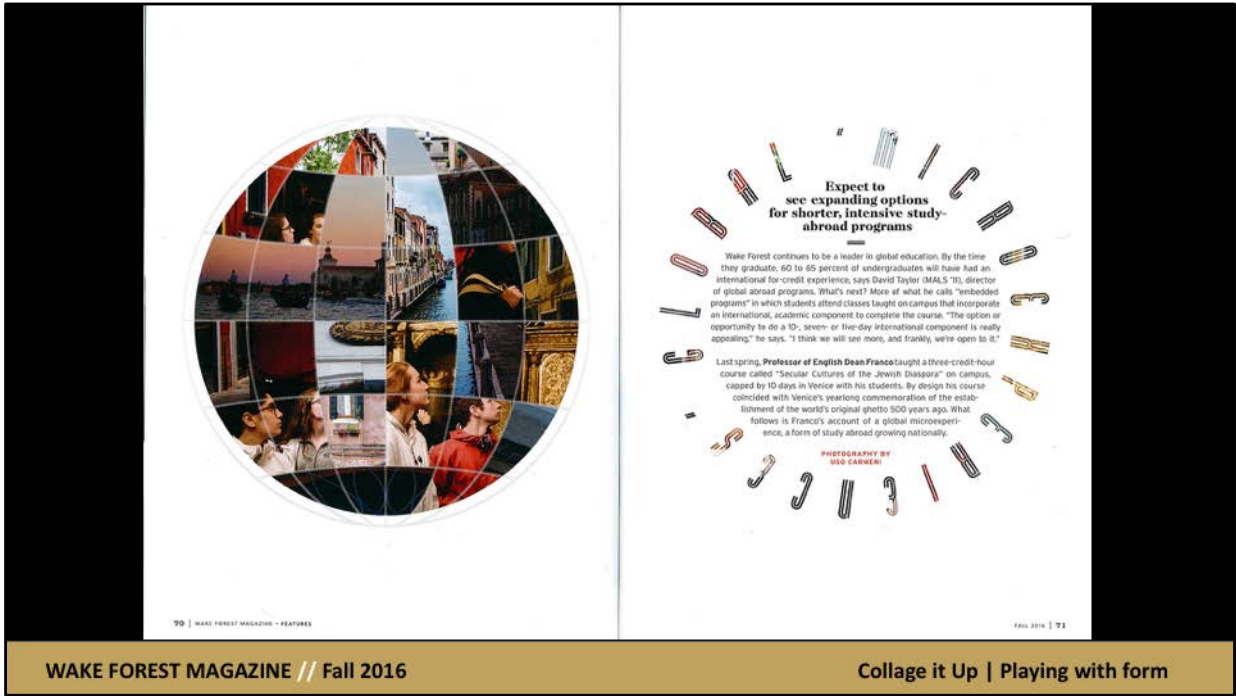
2017

The word processor has facilitated not just the mechanics of writing but has actually facilitated plot.

58 THE NEW YORK TIMES WINTER 2017 YEAR 89



Layers are in. You could do this at home.



Altering how the images are presented. Mix of stock and students. Whole is greater than the sum of its parts. I won't say anything about the typography, though ...

**YE OL' ARCHIVE
IN A WHOLE
NEW LIGHT**

**THE NO.1
THAT GOT
AWAY**

It's been 20 years since top-ranked Indiana came to town and the biggest win in Penn State basketball history never happened.

By Ryan Jones '95 Com

PENN STATER // Jan/Feb 2012

Archive | Film

What a great idea to pull apart a historical moment/milestone from the film. I want to do this!

It was a game that had everything. A David vs. Goliath storyline. A national TV audience. A dingy old gym, packed with screaming fans. A ready-made villain, courtesy of Bobby Knight. And then there was the game itself, a compelling, competitive battle from start to finish—and oh, that finish, a cruel twist that helped No. 1 Indiana escape Rec Hall with an 88-84, double-overtime win. Two decades after the most memorable game in Nittany Lion hoops history, we reached out to the players, coaches, and fans who were in the building on Feb. 9, 1993. (We even got the Nittany Lion on the phone.) What follows is an oral history of that unforgettable night. It's only too bad the referees never called us back.

The Nittany Lions earned their first Big Ten campaign on a run of four straight 20-win seasons. The last of those came as an independent in 2002-03, a year of Big Ten regional finals that severely hampered recruiting. Doubtful and injuries left the Lions undermanned in '02-'03, just as they were set to open play in what was arguably the toughest conference in the country.

■ **BRUCE PARKHILL:** We were kind of lousy in the Big Ten. The league didn't integrate as right away, and we didn't know how many years we were going to be an independent—remember, we had that awful...

■ **DERON HAYES:** The Big Ten was a great conference. We know what we were getting into.

■ **MICHAEL BIRNINGS:** The league was tough. Rich. Prior to going to the Big Ten, we were a legitimate top-50 team in the country. And then, for some reason, they...

The Lions opened Big Ten play in early January with a narrow home loss to Ohio State. Four days later, they made their first conference road trip—to Bloomington, Ind. Final season Indiana 103, Penn State 92.

■ **HAYES:** I think we were in awe.

■ **GREG BARTKAM:** At the time, it didn't really feel like we were in awe. But a lot of evidence suggests that we may have been. (laughs)

■ **BIRNINGS:** It was one of those games that made you think, 'Should I be playing basketball? Or should I just be studying what my brother? It wasn't that we weren't prepared, because Coach Parkhill was really good about that. They had a bunch of former NBA players, and they were very hot that night. It was by far the most lopsided loss I've ever been a part of.

■ **BARTKAM:** The fact that it was so lopsided, I think it was actually easier to get it behind us.

■ **PARKHILL:** Fortunately, the kind of guys we had on the team, it wasn't, 'Oh, God, we've got to play them again.' It was, 'Hey, we're better than we showed out there, and we'll have a chance to redeem ourselves.'

That chance arrived exactly one month later, on Feb. 9, when Indiana came to Rec Hall for the rematch. Attention was hardly lacking. The Hoosiers were now ranked No. 1 in the nation. ESPN would broadcast the game, and there were a million of us in the stands.

■ **PARKHILL:** At Big Ten media day, Coach Knight came up to me and said, 'Hey, how'd they take my comment?' He was smiling. I said, 'I think you achieved what you wanted to.'

■ **TIM DURANT:** When I was the mascot, I had pretty much five min. So I

made this makeshift camera. I had this fake camera going at midcourt with sticks and mechanicals. And had a chain. When Indiana came out, Bobby Knight saw me, and I gestured for him to sit in the chair. He kind of smiled. Then I threw the chair out at him, of course. I saw him afterward, and he was laughing about it. He said it was a good idea.

■ **BARTKAM:** It was one of only two ESPN games we had that season. It's a shame like that, you just create things to play for. We had a lot to play for that night.

100 THOUSAND fans had been anticipated for the game, but a snowstorm prevented more than 10,000 from showing up.

■ **LOREN CHIFFELLI:** I was born and raised in State College, and growing up, games at Rec Hall were events. In-house coming to town was something that everybody had anticipated from the moment we joined the Big Ten.

■ **RAMSAY CARLTON:** We were definitely ready to go that night.

So was the crowd. Packed to the juggling track with more than 22,000 people, Rec Hall for big games in those days was raucous, rowdy, and incredibly loud. For sipping down, its most intimidating feature was the proximity of the students to the court.

■ **PARKHILL:** Rec Hall became a great home court for us when we started getting good in the Atlantic 10. Students started standing the whole game. I got letters from the people who sat behind them, complaining. I was being that. (laughs) It became one of the better venues in the country.

■ **STEVE WIDMANN:** Players from other teams would come in and they're like, 'Dude, the students are right in your back.' And that was Indiana's first time there.

■ **CARBY CHENEY:** One thing I remember—on the sideline, kids were standing right there, just right up on top of us. We played at a lot of places, but that year, the environment there was probably the best—in the worst—as far as the atmosphere. It was unreal to come.

■ **CARLTON:** They didn't realize what they were getting into when

they came to Rec Hall.

■ **GREG BIRNINGS:** It made 3,000 people feel like 20,000.

But the Hoosiers weren't nearly intimidated. Led by Chenevy, the consensus national player of the game, Indiana finished a career-filled with high school All-Americans and future pros. For the Lions, it took three big men, Allen Armstrong gave Penn State its only timely scoring advantage. Hayes, a seventh shooter, was the Lions' leading scorer. The rest of the roster was a patchwork of undrafted recruits, former walk-ons, and players playing out of position.

■ **PARKHILL:** We didn't have a point guard, so Michael, who wasn't a point guard, had to play point.

■ **BIRNINGS:** What was in my mind was trying to get the ball up the court against this horrendous defense. I had none of a "shoot" mindset—I'd come you over, I'll knock you down off the dribble, but bringing the ball up the

The Players

- **ARMSTRONG ALLEN:** Penn State head coach
- **ARMSTRONG ALLEN:** Penn State sophomore guard
- **ARMSTRONG ALLEN:** Penn State freshman forward
- **ARMSTRONG ALLEN:** Penn State senior forward
- **ARMSTRONG ALLEN:** Penn State senior guard
- **ARMSTRONG ALLEN:** Penn State senior guard
- **ARMSTRONG ALLEN:** Indiana senior forward
- **ARMSTRONG ALLEN:** Indiana senior guard

THE DUBLINER: Nittany Lion mascot
LOREN CHIFFELLI: State College native



Blowing up this old images and leaving em grainy, actually plays into the nostalgia of the historic story.

court all night is a whole different ballgame. You've got a defender harrying you and turning you, and you've got to call a play. I really give kudos to Coach Parkhill for teaching me how to bring the ball upcourt.

■ **WYDMAN:** I don't think Parkhill ever got enough praise for how well he did with that cast of characters.

■ **PARKHILL:** From an offensive standpoint, we were really concerned about using patience to get open shots. Definitely our focus was not going up several shots. That would be death.

■ **BARTRAM:** We had a lot of confidence going into that game—not necessarily that we were going to win, but we knew we were going to play well.

■ **CHEANEY:** We didn't think it was going to be a cakewalk by any means.

We know after we beat them up pretty good, it was going to be a tough game.

■ **HAYES:** We knew we could beat them.

Indiana won the opening tip and Cheaney scored almost immediately on a backdoor layup. But Penn State never blinked. The Lions led by five early, then trailed by as many as seven late in the first half but a flurry from Jennings and Bartram—capped by a three pointer by Jennings just before

the buzzer—made it 34-32 Indiana at the break. At ESPN's play-by-play man Tim Donahue put it, "Don't have a pretty good first half against Calicut."

■ **PARKHILL:** With Michael, you just kind of hold your breath. A lot of times something great would happen. That night, he rose to the occasion.

■ **CHEANEY:** That Penn State team fought back admirably. I think it was the thought of, "We're not going to get

blown out the way we did last time."

■ **DURANT:** I used to change in the wrestling room, which was right next to the waiting locker room. I was in there at halftime, and I got a full-on sense of what Bobby Knight sounded like. Every other word was a run.

Handled by the Lions' 2-3 zone defense and seemingly dominated by the crowd, Indiana struggled to score after the half. The Indiana big men got desperate and finally in a heroic effort to show momentum, Carlson scored 20 points off the bench. Indiana staged a comeback, helped by timely shots and a trio of cuts to Indiana's favor as Johnson that. It was a sign of things to come.

■ **BARTRAM:** When they started tightening up offensively, the fans and the atmosphere compensated the pressure on them. It really did have an effect.

■ **CHEANEY:** Once Penn State went to that 2-3 zone, they really gave us some problems. When teams did that against us, we got open threes. Normally, we didn't miss those.

■ **CARBON:** We stuck with a lot of teams for half or three quarters of the game, but then it got away from us. That night, we were knocking down shots. Bruce did a great job motivating us. You always felt like you had a shot.

■ **PARKHILL:** When I coached—this was second week—I couldn't wait until the last five minutes. That's when you were going to find out whether you were going to win or not. The rest of the game to me was a pain in the butt.

After a timeout, Indiana's Graham pulled the lead with a driving layup, giving Penn State the ball with 24.7 seconds left. The Lions in-handled from under their own basket, Elgert getting the ball to Jennings, who had it tipped away by Graham. Penn State set up another inbound play, this time from the sideline in front of the student section, with 19 on the clock.

■ **PARKHILL:** In the meeting the day of the game, I said, "We're going to put in another sideline inbound." That's the play we ran to knock Bartram.

■ **BARTRAM:** Our coaching staff had noticed that on sideline plays, Indiana didn't put a man deep. We had been told to pay extra close attention to that. If they had nobody back, I was



1984 NCAA Tourney playing out of Penn State, Jennings led the team game of the year—1989 Great Lakes.

"I WOULD NOT HAVE TRADED OUR HOME GAMES AT REC HALL FOR ANY PLACE IN THE COUNTRY."

— GREG BARTRAM



THE VILLAIN: You've seen him every time you go to a game. Knight, whose nickname is "The Villain," was the mascot of the Penn State Nittany Lion.

going to break. That was my read. I was supposed to look and see if there was anybody toward the basket.

There wasn't. Penn State set up its new sideline play, with big man Eric Crev entering and Roger Jennings, Barrett, and Anselmi facing him in a "stack." At the top of the stack, Crev the ball. Jennings found toward the Penn State basket while Barrett finished toward the backcourt. And then they switched, Jennings drifting toward the backcourt and Barrett drifting toward the rim. Reynolds, Indiana's backup point guard, twisted a half step behind a stack of Barrett's jersey in his left hand. Crev threw a perfect pass. Barrett—his jersey still in Reynolds' grasp—contested it, dribbled once, and laid the ball in. A whistle blew—nearly a foul on Indiana. Reynolds spoke for everyone watching. "That there's a shot—yep!" Within a minute—Bruce Parkhill next before it! Chris Reynolds laid his jersey. "It's incredible, perfect, still

Reynolds, filled in the pivotal detail: "They got the wrong guy... they called the push-off on Greg Barrett."

■ **PARKHILL:** Greg was a great kid, just a huge heart. Greg didn't get rattled.

■ **BARTRAM:** When I made the basket, I know my shot was getting pulled.

■ **REYNOLDS:** Growing up playing on the playground, if someone was headed to for a easy layup, we used to pull their jersey just for fun. I just reacted. The referee didn't see it. He just saw Barrett slip my hand away.

■ **PARKHILL:** I'll tell you what I remember. I saw Greg break open, and I was like, "We got this. And then I see Sam Lickliter blow his whistle and go like that [waves his arm] and I know

that that wasn't going to be good.

■ **BARTRAM:** I thought, "Oh, they must not have counted the basket. So I start walking to the line to shoot free throws. I still wasn't really aware of what happened."

■ **WYSSMAN:** Greg did what white coaches do—if somebody's grabbing you, get their hand off you.

■ **CHEANEY:** I didn't get a chance to see it 'til we got back home. I'm not going to lie—it was a foul. It was a foul that the ref missed.

■ **PARKHILL:** It's funny, during our staff meeting the day of the game, I was asking the assistants about the officiate. "Well, who do we have tonight?" It was Gene Mosier and Sam Lickliter. And my guy goes, "Oh, no."

"IF YOU BEAT THE UNDEFEATED, NO. 1 TEAM IN THE COUNTRY, YOU HANG ONTO THAT THE REST OF YOUR LIFE."
— BRUCE PARKHILL



PHOTOGRAPHED: This photo was taken at a game but has been heavily cropped and is not the original image.

■ **BARTRAM:** I don't think Lickliter ever came back to Penn State. But it was [Mosier], the basketball official—that's the guy who had the view of it.

■ **HAYES:** It all happened so fast, and it was like, "Oh, no. They're not going to try to take the game like this."

Indiana tied the score when Graham, fouled by Barrett on a three-point attempt with three seconds left of normal time.

The game tied by six in the first half. Indiana tied it. Penn State held a four-point edge with 1:00 left in the second OT, but again the Disaster unfolded. Brian Evans gave Indiana the lead for good, hitting a baseline jumper with four seconds to play. Then it was over. Indiana was still No. 1. The game ended off the floor, around the crowd, into silence.

■ **PARKHILL:** After the game, Coach Knight said, "You guys deserved to win that game." We had the hand-dial, and that's what he said. "You guys deserved to win that game."

■ **CHEANEY:** We know we got away with it. But a win's a win.

■ **PARKHILL:** That game would've been something the guys could've really held onto. If you beat the No. 1, undefeated team in the country, you hang onto that the rest of your life.

■ **CARLSON:** We were going through a rough year. That would've been some serious redemption.

■ **HAYES:** It would've been better if we'd lost by six.

■ **BARTRAM:** I can remember students telling us how great a game we all played, how we deserved to win it. They were here for us as well. There was a real sense that, man, we deserved to have that one.

■ **CHEANEY:** We had SportsCenter the next morning. That was a big deal.

■ **PARKHILL:** I have two folders of letters

I got after that game, from people all over the country. I got letters from Indiana fans. I got a letter from the retired sports editor of the Indiana Annual Constitution, said it was the worst call he'd ever seen. I got a letter from a lady in Oregon, said the server watched sports, and she was watching and saw the end of the game and felt she had to write a letter. It was incredible.

For those who couldn't get up, and watched that game, 20 years have about little to drive the memory.

■ **PARKHILL:** Dave Jones from the Huntington Postcard called me and said, "The game's going to be on ESPN Classic." This was 2003. I hadn't ever seen it. I watched with a friend and

I almost started crying. Everything just came rushing back. What I think about is the effort the guys gave, and how unbelievably hard that crowd was.

■ **BARTRAM:** I have had people call me on different occasions—a business associate of mine, the guy's on a treadmill at a hotel in India, and it's on ESPN Classic.

■ **CHEANEY:** A good friend of mine had a VHS copy, and there were multiple occasions in college where he would just say, "You guys want to watch it?" Of course we did. We can't look away. All you want is to get to that call.

■ **REYNOLDS:** People talk about it still, even here in Bloomington. It was one of those games.

■ **HAYES:** I have people who come up to me, "Well, I remember the game against Indiana. You guys got robbed!" It's always that. "You guys got robbed!"

■ **JENNINGS:** I still think it's a great statement that we considered more than just the Penn State community with how we played. They still remember. That's crazy to me. That it's not a sad memory, even though we lost. Sometimes you find victories in losses. ■



If you saw that pic you would say "we can't use that. It is too low res" depending on the context, you might be able to ... Penn State did.



“There was respect and reverence for professors like Fred Patton and George Pined, who’d departed from, pointing, saying they’d freshmen wanted freshmen to know the important figures and to build the habit of tipping your hat.”

“Penn State was a very isolated place in those days. When you showed up for the semester, you didn’t have any friends, you were one everybody was here every year and, so things like dances and campus events were a big deal. That relative isolation created a sense of community, a real bond.”



“Some sophomores would be really rigorous about enforcing the rules. Some couldn’t care less. Believe me, freshmen quickly got to know the real sticklers.”



September/October 2013 THE PENN STATER 33



32 THE PENN STATER September/October 2013

“Class officers would appoint a committee responsible for designing the poster. Students skilled in poetry would handle the language, and usually, the staff of the literary magazine would work with the illustration. Posters were printed in August, ready for the incoming freshmen.”

“”



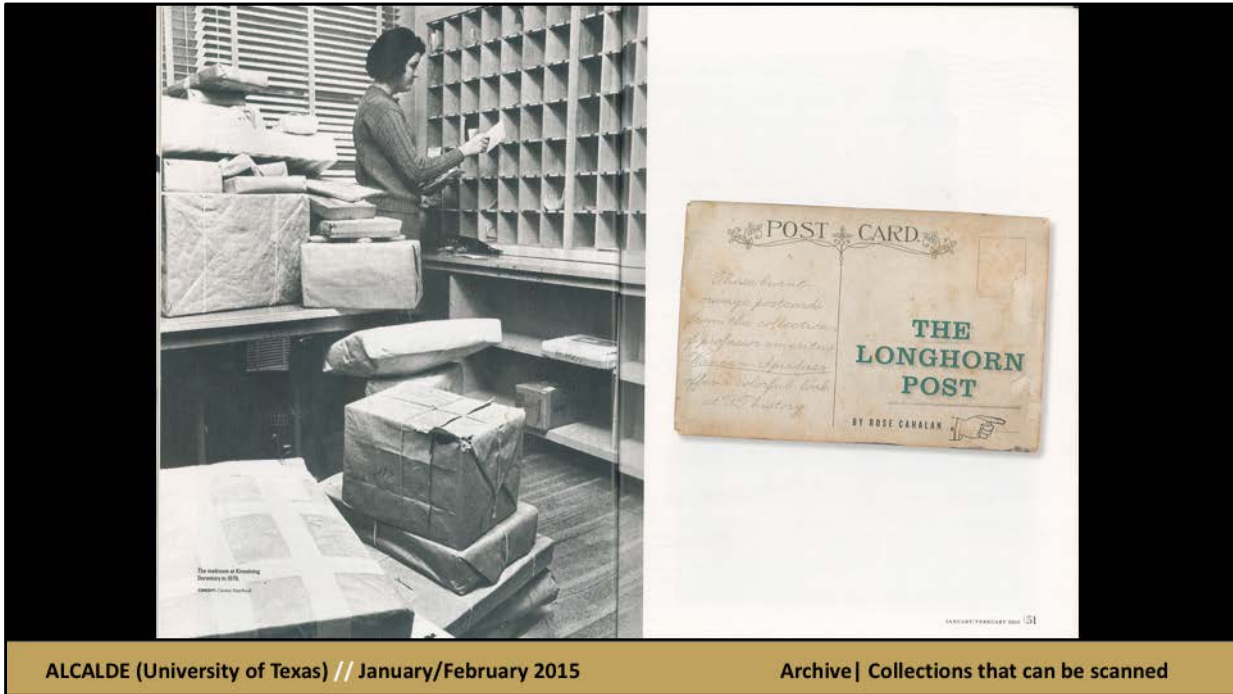
“Freshmen didn't always readily submit. It was not uncommon to find a segment of freshmen, especially by the spring, who were tired of it. Hence the riles of 1908 telling the sophomores that the freshmen they were dispensing was nothing but fat air!”



“Unlike the boy Langens back then, Penn State was known as a people's college. Many students were the first in their families to go to college, and came from rural, farming towns. Sophomores liked to poke fun at that, calling these 'rubies,' but it came from the idea that these youths were college men. You're becoming something different.”

Lee Broad '98, PE 004 628 in University Archives and former head of public services and outreach for the Shriver Family Special Collections Library. He served as university archivist from 1918 to 2001.

September/October 2012 THE PENN STATER 33



I could find dozens of postcards in the antique stores downtown. History and nostalgia plays really well for our audience. So if that works for your alumni, rip off this idea.

AS THE HUMBLE POSTCARD, AMERICANS MAILED SOME 1 BILLION OF THEM last year. Postcards are by nature convenient, quick, cheap, and visually appealing—traits that may contribute to their persistence in an age of dwindling email mail. For centuries people have been using them to share travel memories, advertise businesses, and stay in touch. And for postcard collector Warren Spirduso, they're part of UT history.

Spirduso, BS '82, EdD '96, is a professor emeritus in UT's Department of Kinesiology and Health Education. She's also a delirious, or postcard enthusiast, who's curating a collection of more than 100 UT- and Austin-related postcards spanning over a century. Spirduso is at work on a book of UT postcards, and she shares 10 of her favorites with us in these pages. For her, the informal, unedited nature of postcards is part of their appeal. "I think postcards were a bit like email or Twitter before those things existed," Spirduso says. "They give a window into what life was like."



From 1883-1905, Old Main was the heart of the campus. The building featured a 2,000-seat auditorium, a chapel, a dining room, and a ladies' study room with rocking chairs in addition to ample space for classrooms and lecture halls. "We felt that every other student in the country would envy us in the possession of such a magnificent

building," wrote student Will Young in 1884. But the building's Victorian Gothic towers and spires were already being dated by 1914, when it was razed to make way for the Colonial Spanish Revival-style Main Building that stands today. This undated postcard, which shares a student's relief after an exam ("Passed!"), must have been sent sometime before then.

52 Alcalde



This 1908 postcard shows the typical dress for female students at the time: full skirts with crinolines, petticoats, and leather boots. She didn't dare get caught in women's liberation, uniforms were strict, and handbags were big. All this meant: a woman had to cover in the hours of many miles, when crowds of thousands were gathered outside the women's dorms and demanded that the roads were open their underwear.

Drive-in diners were all the rage in the 1950s and 60s, and Austin was busy with them. This postcard was an advertisement for the Jet Drive-In, located near the old Bergstrom Air Force Base where the Austin airport now stands. While drive-ins were convenient, they were also a stylish gathering spot for young people to

show off flashy cars and impress their dates—something that the message printed on the back of the card cheerfully points out. "Bright, natural light from mercury vapor 75-watt low voltage incandescent lights illuminates the attractive Jet Drive-In," reads the blurb. "This color corrected light returns food, flavors, textures, etc."

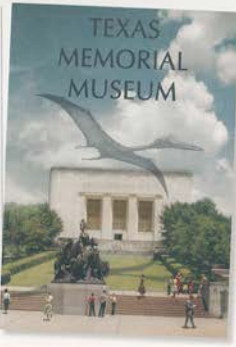




The oldest pool in Texas.
Deep Eddy began not as a pool but as a privately owned swimming hole along the banks of the Colorado River in the 1890s and passed down. Students and locals alike flocked to the Deep Eddy bathing beach and pool to swim, but also to rent cabins, ride a sailboat, go down a slide, and watch shows like Lumberjacks Diving Horse—a crowd and other plunging dangerously off a 30-foot diving platform.

The Texas Memorial Museum
MUSEUM on the UT campus opened in 1959 after nearly two decades of planning and fundraising. It was America's first public museum, and that made it a landmark event, President Franklin D. Roosevelt even spoke at the groundbreaking and in the days leading to start construction in 1958. The program features a photo from the 1950s—but the text and the program dates by John M. Mansour were added in Photoshop by Leslie Meeks, who manages the museum's gift shop.

Painting crews have always drafted the original museum, whose original design called for the construction of additional exhibit halls. The plans were abandoned after state funds fell through. Last August, after additional funding came, the museum started the first addition in 2014 for the first time. Its building includes some 8 million wildlife specimens, and the museum continues to host events like Identification Day, where anyone can bring in a natural object for a UT scientist to identify.

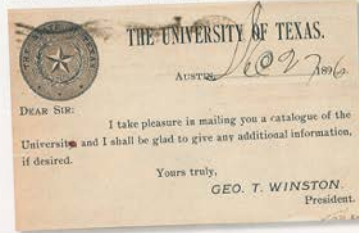


54 | Alcade

These days, admitted students get a "Go to Texas" button perfect for Instagram and Twitter in the mail. In 1906, they got a postcard from the president, along with a printed course catalog.

George Taylor Winston was UT's first regular president, serving from 1890-96 and he had a dry sense of humor. On March 2, 1891, when stu-

dents defied the administration by shooting off a cannon in honor of Texas Independence Day, Winston breezily said, "I was born in the land of liberty, reared in the cradle of liberty, reared on the battle of liberty, and I've had liberty granted to me all my life. But Texas University students take more liberty than anyone. I've never come in contact with."



Before cars were widespread, college students had few opportunities to find a private moment with a sweetheart. At UT, the solution was often a romantic stroll on the Perry, or Ferguson, or Longpath around the edge of the Perry Jones. It wasn't always quiet, though. The Longhorn Band often collected the Perry for symphonies concerts. The park was opened in 1913.

60ALCADE/FEBRUARY 2015 | 55



Printed in 1909, this postcard depicts the Lev Building, completed just a year earlier. It was one of the earliest buildings constructed on the campus. Full-size window signs for class, and although the student body would be mostly made for years, they women made history when they graduated in 1914.

This postcard is undated, but its 1-cent stamp means it must have been sent before 1912, when the Postal Service raised the rate to 2 cents. The message this student wrote, perhaps to a parent or relative, seems cheerful.

56 Akalk



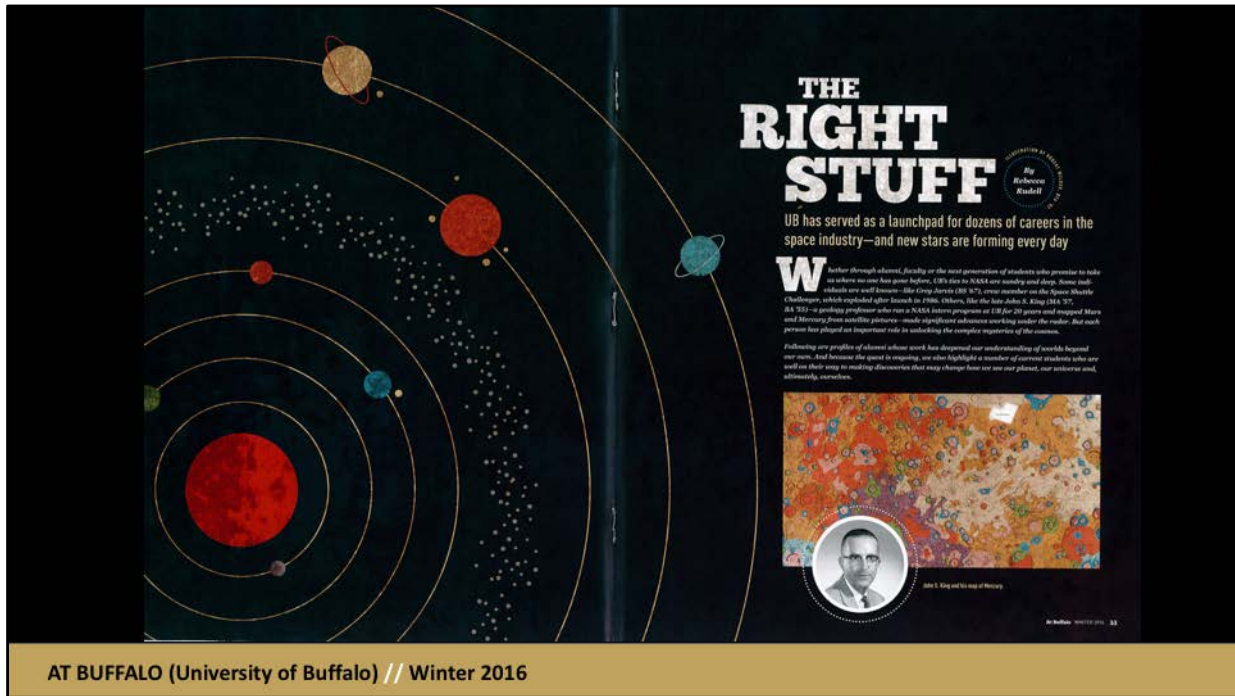
Cheerleaders and fans were dressed just a tad more conservatively around the turn of the century, when this postcard was printed. Note that the lady's bonnet is bright orange, and her scarf, and buttons a "T" rather than the now ubiquitous Longhorn logo. Although the football team briefly wore burnt orange in the 1920s and '30s, the university would primarily wear the brighter shade until the 1960s.

This postcard shows a typical dorm room in the year 1910, although the wide variety of scholastic banners (and just Texas, but also Franklin and Marshall, Lehigh, and Columbia) makes us question the loyalty of this particular student.



MIX IT UP

This may seem like a no duh moment for people who've been in the editorial design biz for a while. But this was like taking the blinders off for me. You can use illustrations and photos in the same story!



Sometimes we can do our own illustrations. This is simple! It's just circles! Any designer could do this.

It's whether we have the time to sit and think and dream up the conceptual ideas. If you don't have time to come up with ideas, then you need to hire an illustrator. That is what you are paying them for. Conceptualizing.

And illustrators are super expensive. So don't be afraid to keep looking if you get turned down, find someone who is still building their career, they won't command as much.

Always try to contact the illustrator directly if you can, rather than going through their agent/representation.

And think of how to use minimal illustration for maximum impact.

*after
the fire*

**BY WRITING ABOUT HER FAMILY TRAGEDY,
DEANNA EMBRELEY BAILEY '89 MOVES FORWARD
ONE WORD AT A TIME.**

On a Christmas morning of 2008 Deanna Embrey Bailey and her husband Chris Bailey '80, suffered a tragedy that made national headlines. At the family retreat Chris' parents in Louisville, Kentucky, a fire started smoldering in the walls of the house sometime on Christmas Eve. At 4:22 Christmas morning the drywall reached its high-temperature failure point of 1,400 degrees and collapsed, filling the house with smoke and setting off fire alarms. The adults, sleeping downstairs, escaped. But the Bailey's sons, Solomon, 12, and Liam, 10, who were sleeping upstairs in the room adjacent to where experts believe the fire started, were trapped. Despite desperate attempts by their parents and firefighters, the boys died of smoke inhalation before they could be rescued.

"That was the end of life as we know it," Deanna says.

THE BAILEYS' LIFE TOGETHER BEGAN WHEN DEANNA, A LANKY CENTER DEFENSE on the women's soccer team, met behind agent and former Chris, an 18-year-old, in a biology class freshman fall. They took the same chemistry class winter term and started dating in the spring. For their second date Chris invited Deanna to watch him in a Burlington, Vermont, lake race. He won.

Deanna had come to Dartmouth from Shelburne, Vermont, and Chris from Anna, Connecticut, via Deerfield Academy. After graduating—for Chris there was a three-year delay thanks to his racing professionally in Europe—the couple lived for two years in Washington, D.C., before returning to New England. They married in 1982 and pursued their careers. Chris is a sustainable agriculture and Devoted to education. Solon was born while they were raising a farm education center in coastal Maine, and Liam while they were managing a 300-acre dairy.

By Suzanne Spencer Rudolph '93

PHOTOGRAPH BY POLLY BECKER

ENTERTAINMENT WEEKLY 89

DARTMOUTH // January/February 2016

Mix It Up | Save some bucks on illos

Save some money by only paying an illustrator for your opener and then utilizing provided art or less exciting photos within the body of the story. Also, think about how you're breaking up the illustration. This is kind of a full page illustration that uses the corners of the spread. Could you get something like this that covers parts of two pages for a one page rate?

from outside Burlington. The family moved to Iowa, New York, for two years while Chris earned his M.B.A. from Cornell University. They settled down in the central Vermont town of Ferris, where Deanna taught sixth grade science and returned to playing soccer. Chris, the CEO of construction firm Robert Deane and Chris, got back on his bike. The four Baileys dined and dived together as often as possible and enjoyed telling jokes at the dinner table.

In 2008 Deanna honeymooned the home, who had different personalities and interests. Robert played the piano and expressed his love for camping and the outdoors as a Boy Scout. Liam, who the family joked had two spouses, "tomato" and "dipping," followed in his mother's footsteps as a living soccer star. His third child, Jack, was the youngest. Together the brothers, who were then 10, 12 and 14, ran an egg farm from their house.

The family visit to Kentucky for Christmas 2009 was the first in nine years, as the boys were excited to enjoy time with their relatives. On Christmas Eve Chris, Liam and a cousin played soccer. Robert played piano for his relatives and their grandfather read *The Night Before Christmas*. The family went to bed looking forward to the next day.

after a memorial service in Kentucky and another in Iowa in Ferris that drew more than 100 people, Bailey strong-armed her family to find her footing, going back and forth between staying and not staying, to reach out to ground. She woke up every day, but she got up. "I just had to keep putting one foot in front of the other," she says. "Nothing big goal. It was just a matter of trying to do the things we set goals for that would help us feel connected to the kids."

She began working with a grief therapist who quickly became convinced that Bailey was experiencing post-traumatic stress disorder (PTSD) and recommended trauma therapy. The trauma therapist gave Bailey documentation and recommended treatment (EMDR)—a widely used psychotherapy approach—in addition to her PTSD. When she experienced symptoms, she developed that trauma involving eye movement and imaginations herself in a manner which she explained her "I began me from feeling something like."

Erin Barrett, Ph.D., an assistant professor at the College of Education and a PTSD specialist, who didn't know Bailey—says that EMDR helps reprocess the left and right sides of the brain to help integrate trauma. This helps integrate thoughts and the re-experiencing of trauma through bodily and cognitive means. "We have to integrate and make meaning of the events to move forward," Barrett says, which may explain why, as Bailey progressed in her treatment, her trauma therapist asked her to create something while thinking about the fire from the boys' perspectives and to examine what happened to them afterward. It could be a story of events, a work of art or something that would help Bailey understand what the boys experienced and get her beyond thoughts of the fire.

Bailey recalled the occasion for two months. But one day she started writing on her laptop and didn't stop for four hours. Writing helped her so much that she moved to Ferris that same day. In Ferris, she says, "Writing helped her realize that her own dad didn't make a

substitute before they could experience each physical pain from the fire. Writing about her sons for several hours each day also brought her closer to them and let her remove them from danger. "It helped me give them a safe place to be," she says.

Bailey spent the next seven months writing her vision of her sons' afterlives. They ride engines and travel back to their home in Ferris to try to soothe their parents, who they are struggling to live without them. Her writing book, *Christmas the Morning*, reflects the beliefs that have guided her since her sons' deaths that Robert and Liam are living on, safe and happy, and that they will always be connected to her and Chris, and that Robert and Liam want their parents to continue living. "I felt I had to know my boys with my life," she says. "They don't want me to die."

Newbery Medal-winning author of *Bridge to Terabithia* Katherine Paterson, a friend of the Baileys in Ferris, read an early manuscript of *Christmas the Morning* and encouraged Deanna to self-publish it. "There was a certain empathy that I got out to the public," says Paterson, who believes it will help others. Bailey published her book, available on Amazon.com, last February. "I am sending this out for the world for one reason only," she wrote in her author's note. "I want to help others who are suffering the remaining loss of a loved one."

While striving to simultaneously honor her sons, live in the world and take care of herself, Bailey has found new supports and boundaries, she describes herself as a recluse that five years after the loss, trying to find solace in the outdoors.

The Baileys started the Robert and Liam Bailey Memorial Fund to support Vermont children's access to music, soccer, recreation and history. Deanna took on a lot of the responsibility of raising the fund early on but soon found it difficult. She loved that it helped kids have access to parents for some level, which she believed Robert and Liam would want. She also found it painful and so her sons were enjoying their time for parents and soon backed off. She and Chris still find it difficult to spend time with families.

Deanna couldn't return to a traditional school setting, where fire and other trauma would trigger her PTSD, but she pursued a master's in science education. She now works with teachers around the state as a science curriculum specialist. "It could be either her teaching kids," she says. "I need to allow kids and teaching them. Just not anymore."

When Chris' company relocated in 2014, the Baileys moved about 40 minutes northwest to Huntington, Vermont. Deanna says she finds it difficult at first to have such a direct connection to her sons' lives and not be able to visit their bedrooms at night, but that it helps her move forward. When she has time to connect to her boys, she visits the school and playgrounds where she lived.

Deanna has also found connection in religion. Saint Catharine, she received her First Communion at 8, but her family stopped attending church regularly after that. She and Chris often say to miss their sons in any particular faith, but they still talk with them about spirituality frequently, through books and in nature.

The morning of the fire, Deanna started God for taking her sons. "Writing is my way of staying grounded with a friend and now regularly attends an interfaith service near her house. "I can't be perfect at God because my kids are with him now," she says. In her book she writes about a "guiding spirit" who connects Robert and Liam to their afterlives.

"The pain will lessen over time, but it will be there," she says. Her advice to anyone who loses a child, let alone all their children,



Bailey's advice to anyone who loses a child draws on her own coping mechanisms:

"Don't do what doesn't help you feel safe."

Deanna on her own coping mechanisms: "Don't do what doesn't help you feel safe," she says. "Don't feel like you need to put on a happy face for the world when there's no happiness involved. Do what works for you. And don't put a trifle on it."

Although the death of a child can stir families apart, Deanna says she and Chris have grown closer. "We've suffered the greatest loss that anyone can ever suffer as a couple. I don't think either of us could survive without the other," she says. They talk about the boys frequently and find talking moments they lived as a family—especially Vermont's Camel's Hump and Mount Mansfield—significant experiences. They maintain a cairn on one mountain in memory of the boys.

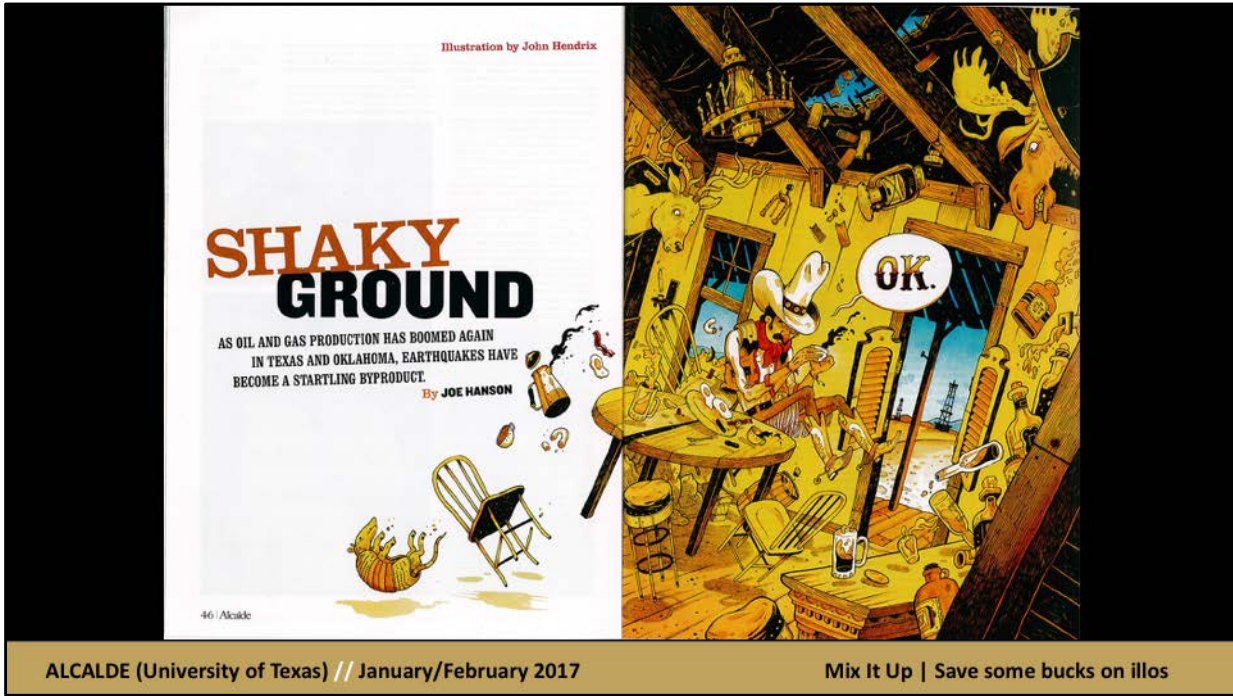
Weather permitting, Chris and Deanna try to climb Mount Mansfield every Christmas morning. They start sunrise hikes onto

their route to grip the icy trail, don headlamps and try to be at the trailhead at 4:30 a.m. The climb for the oldest wakes them. The fire still fills in what an "afternoon" in local trail guides for fair conditions. When they climbed it on Christmas morning two years ago, it was 15 degrees below zero.

The Baileys watch the sun rise from the summit. Chris says he's been known to yell into the wind his grief and frustration, but usually he and Deanna talk to the boys and tell them how much they love and miss them.

DEANNA FRANCIS BERRILL, an environmentalist at Vermont Public Radio. She lives in Ferrisville, New Hampshire.

They have the impact of the illo on the opening spread, then move into more expected art on following pages.



Save some bucks by having your opening illo cross over your gutter, but not be a full two-page illo, which would cost substantially more.

Gordon Laird was standing at the foot of the bed. He was about to say goodbye to his wife and go buy tractor parts when the shaking started. The earthquakes were coming almost every day now, but they usually only lasted a second or two.

As he crested past those seconds, then five, it became clear that this time was different. The bed, upon which his wife sat, was now jumping up and down and being in fact to throw her onto the floor. Some seconds, eight seconds. The bathroom cabinets seemed to be rattling between two and three seconds. In the next seven days and six months left in the ground as if they had come to life and forgotten they were no longer attached to bodies. And as Laird began to wonder if the house was going to last through this one, everything stopped. By his watch, the shaking lasted 17 seconds.

Some weeks earlier, several miles underground, two massive pieces of the Earth's crust had slipped past each other, sending untold millions of accumulated energy rattling under Pecos County and the Laird family's bedroom. The magnitude 5.8 earthquake that struck there on Sept. 4, 2010 was the strongest ever recorded in Oklahoma, and one of a growing number to hit the state in recent years.

In 2011, Oklahoma recorded 143 earthquakes, of magnitude 3 or greater. But in 2012, that number grew to 607. Only potentially-showering Alaska suffered more in that time, while California, a state typically associated with seismic shaking, saw just 140 quakes that year. It's increasingly clear that Oklahoma's surge in earthquake activity is linked to the state's oil and gas production, but exactly how remains the subject of much debate.

Texas has hit its own peak in seismic activity, although to a lesser degree than Oklahoma, which adds continues to what was already a somewhat. Consider that each state is home to thousands of active wells that operate in much the same way on either side of the Red River. The ones really new why Texas isn't shaking as much as has been that region.

What's certain is that researchers and regulators will have much to learn about what happens when we pump massive amounts of oil and gas out of the Earth's bowels. A new research center at UT Austin hopes to change that.

TO CALL THE Center for Integrated Geoscience Research a multidisciplinary effort would be a bit of an understatement. Based at UT Austin's Bureau of Economic Geology, CSRS member includes seismologists, geophysicists, civil, architectural, and petroleum engineers, social scientists, and more concept of collaborating professors. Several oil and gas companies have committed expertise and data, and the Texas

state legislature has chipped in \$4.3 million to establish Tucker, except in the state's seismic monitoring network.

CSRS' mission extends to learn how we might distinguish between natural and human-induced earthquakes, and among the latter, figure out what we're doing to trigger them.

Scott Tucker sits at the helm of this new alliance. He's adamant about being objective and following where the science leads, but as director of the Bureau of Economic Geology, he knows CSRS' work will have far-reaching impacts on energy policy, the environment, and the economy. Those are powerful motivators for a scientist to take on, but Tucker admits any opportunity to bring opposing forces together around hard data. "I call that the radical middle," he says. "It's radical in that there are not many people there."

There's also not much hard data there yet. There are currently just 17 permanent seismic stations across Texas. Tucker will eventually move them double that number, but right now researchers are woefully underinformed about the state's seismic activity. This highlights the crucial role of oil and gas companies, and their decades worth of data, are expected to play in the collaboration. It's likely that access to some of that data will go on to benefit the state that state than the people who make their money there.

The oil and gas business would be much better off if their product came out of the ground like the spring geyser that made Deadwood famous, but that's generally not how it works. The stuff they're after is often locked away in porous rock, so to free it, fluids are injected at high pressures, forming fractures that allow the oil and gas to flow more freely up to the surface. This is what's known as hydraulic fracturing, or fracking.

It's commonly claimed that fracking causes earthquakes, but as is often the case in science, the truth is a bit more complicated.

It's logical to think that creating a breach of low crust deep within the Earth could lead to catastrophic seismic instability, but except for in a few special cases, this isn't what's happening. The real culprit is water. The problem is that oil and gas, fractured or not, rarely come to the surface on their own.

Tucker puts it this way: "When we drill a well, you're drilling into rocks that are full of fluids in little tiny holes, and that's mostly oil, water, and gas." Oil and gas are the long-haired brothers of things that lived in those oceans, and so matter how they're brought to the surface, they bring a



lot of old ocean with them in the form of briny wastewater. This wastewater is often contaminated with fracking chemicals, so even trace amounts of natural radioactivity from within the rock. "You produce all that substance, and you have to do something with it," Tucker says. "I used to get dumped on the surface in more made road pits and into streams. More and more, it's injected and disposed back into rock."

The idea is that pumping this wastewater into deep wells permanently locked away from the laughter. The Environmental Protection Agency has mandated the practice since 1998, but with a focus on groundwater safety rather than seismic activity. Today, it's one of the most widely used methods for disposing of waste from a number of industrial processes, oil and gas included.

There's broad agreement among seismologists that the recent earthquake sprees are linked to wastewater injection wells. They've known this was possible since at least the 1960s, when the U.S. Army triggered a series of earthquakes near Denver after pumping contaminated water into the ground from the Rocky Mountain Arsenal chemical weapons center. But seismologists are a small club, and few of them were asking questions about induced earthquakes before 2008, when, for the first time ever, a series of small quakes hit the Dallas-Fort Worth area. When big

quakes suddenly start shaking, seismologists like UT Austin's Cliff Fialko start paying attention. "If you study stress in the crust, there's stress everywhere, and there are faults everywhere, but most of them are dead," Fialko explains. "It's not that the injection is causing stress or changing the stress, but it's changing the friction." In a sense, all this wastewater is lubricating faults, making it easier for them to slip and slide. Or at least that's true in some places.

Texas is home to more than 4,500 active disposal wells, many of which have been in operation for decades. Clearly, the vast majority aren't causing seismicity, but according to peer-reviewed studies done by Fialko and others, a few have caused faults to slip. The problem is, right now no one can predict which wells are safe and which might set off a quake.

THERE'S AN OLD ADAGE that correlation doesn't equal causation. To put that another way, just because you see two things happen in close proximity doesn't necessarily mean they're caused by the same thing. This principle is one of the most deceptively difficult tasks in science. Tucker and CSRS researchers are deeply mindful of this. They acknowledge there are notable differences among disposal wells, including the volume

Above: Three children take Patrick, 4, down to a store's bottom grocery aisle in Pecos, Oklahoma, Sept. 25, 2010.

PHOTO COURTESY OF THE BUREAU OF ECONOMIC GEOLOGY

Starting with an illo moving into less exciting interior images that could be provided.

reported and the concentration of wells in a given area. They know that some seismic activity may be natural. But most of all, they know that oil and gas production make up a huge part of the Texas economy, and either increased seismicity or gas leakage would have serious ramifications.

If and for how long we should continue to pump oil and gas out of the ground is a burning question, but it's not one that CSSE is tasked with answering. They simply accept that as long as communities are mining out of the ground, we must continue to monitor and respond to the seismicity. It's also difficult to say for sure why a person who smokes their whole life ends up not dying from smoking-related disease. It's equally difficult to comprehend why someone who never smoked a day in their life ends up getting lung cancer. The real question, for CSSE, is whether large groups of people they can help you with confidence how many out of a hundred smokers or non-smokers will die and by what cause.

Large-scale studies like these are not without costs. The Fracturing has been able to draw some good data that indicates between non-seismic and seismic wells and just seismic activity. Now, their task is to take what they've learned and applying it to the future.

Historical data can only provide hints about an area's seismic risk. In days to come, and Texas earthquake monitoring has been sparse at best. If CSSE and TectNet accomplish anything, it will be to fill in these gaps, so that even if there are no certain answers, we'll be better informed about the risks. If you happen to live on top of a water-

water injection well, this is exactly what you need to know.

UT Austin civil engineering professor Ellen Bartja and her colleagues were on the ground in Permian, Oklahoma, within days of September's quake. As part of CSSE, their role is to assess what's going on above the ground rather than what's happening in. Bartja has worked around the world in places like New Zealand, Japan, and Haiti to study how buildings and infrastructure are affected by earthquakes, and in Texas in the months a lot of recently shaken people.

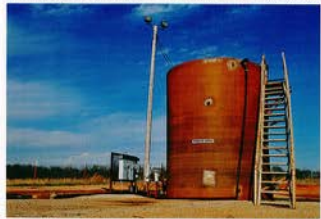
When increasing the strength of Texas and Oklahoma's recent seismic events, mainly earthquakes between 2.0 and 4.0, she jokingly suggests that most of the earthquakes here wouldn't disturb folks in California.

"They laugh when they say, 'Oh, those Oklahoma events, they're just not used to it.' But the fact is they're getting events that can cause more damage than all of your others. They've got to get new designs. You get a 3.0 to 4.0 crack on your wallboard. You've got to patch it," Bartja explains. She's willing to let people in Berkeley, California, avoid change their tone if they're being thorough this every day.

"When you want to go to the Permian reconnaissance, the people, they're mad. They're upset," Bartja says. "It's really disturbing to have a folk event almost every week and significant events probably every month."

Laird echoes that, "It's kind of sets you on your nerves a little bit," he says. "Like when the air conditioning comes on, that kind of little event, that little jolt you're not. Everybody's heart speeds up."

In places like California and Japan, buildings, bridges, and much are designed to survive large earthquakes. The same can't be said for most of the central United States. Generally, structures are designed to withstand historical seismic risks,



Left: A wellhead being used as a well site in Permian, Oklahoma, March 25, 2016.

Image: Shutterstock/ The New York Times/Reuters

50 | Alkalde



2009 earthquakes 2.0 and higher in Oklahoma.

Sites of oil and gas wastewater injection wells in the Oklahoma basin, a dense subsurface rock layer.

to a sudden increase in the magnitude and frequency of earthquakes means older designs are no longer ideal. "They're the houses built and bridges are going to be collapsing," says Patricia Clayton, another UT Austin civil engineer who was on the ground in Permian. "They're robust, but things may respond differently to earthquakes than they do in what."

One of those things is the dense beds covering the front of LaBrea house. Enough large rocks fell during the September earthquake that the LaBrea house told their five grandchildren who live with them if another earthquake strikes, it's too dangerous to escape through the front door.

So far, the UT Austin team remains optimistic about the future of the region. They're not certain how the effects of one large earthquake compare to the cumulative effects of many smaller ones. "One year it's a thousand earthquakes with little bit of damage," Bartja says. "Then you may be talking about a lot of damage."

ANXIOUS CITIZENS MIGHT be as big a risk to the oil and gas industry as electric cars and solar panels. Ultimately, these companies know their ability to do business requires more than just a legal license to operate or a stamp from regulators. They also rely on an earthquake-fearing homeowner isn't likely to grant a drilling lease on their property, but on a larger scale, sufficient public anxiety could force regulators to make drastic decisions regardless of whether that anxiety is warranted.

The people making these decisions work for the state's oldest and most experienced regulatory agency: the Railroad Commission of Texas. In recent years, the agency has come under fire from many environmental groups and scientists for speaking up loudly or clearly enough about the link between non-seismic oil and gas production. Commissioner Ryan Sitton is trying to change that.

"The commission has been very public about the fact that we recognize the potential for risks

between disposal wells and seismicity," Sitton says. "The question, of course, is to what degree is that link a reality and in which areas are the risks the highest? We don't know because we don't have good data, or we don't have complete data. That's why the efforts of CSSE and TectNet are so important."

Acknowledgment of the link between disposal wells and earthquakes is a recent shift for the Railroad Commission, and many have been split over wanting the "permission to drill," but Sitton insists that Texas is taking a more proactive risk than any other state would be to prevent induced seismic activity. After the Permian quake, Oklahoma ordered the shutdown of 27 nearby disposal wells, but Sitton and the Railroad Commission would prefer to prevent risky wells from ever being drilled in the first place. According to ERC spokesman Ramon Sly, their office has reviewed 64 disposal well applications in areas with historic seismicity since 2014, and of those, 24 were approved with special conditions such as limits on injection volumes. The office has also added their front staff seismologist and is heavily involved in the development of TectNet's seismic stations.

Whether this is enough remains to be seen.

"It's our job to get the people of this state, all 27 million Texans, conditioned on how the energy industry is operating," Sitton says. "I'd say that we have a much more scientific and technical job than almost any state. I think, in all of created office. We take a lot of pride in that."

In both an economic and very real physical sense, the Texas we know was built around oil and gas. Tomorrow's Texas may be built on something else, but for the time being, hopefully we can sleep tight knowing a lot more about our people and our state in the middle to make sure that future, however nearby, isn't that so much ground.

What's clear is that the openness with which CSSE and TectNet's data will be combined and distributed represents a major change in how the state's natural resources are managed. If you're building, you might even call it seismic shift. ☐

"Once you're at a thousand earthquakes with a little bit of damage, then you might be talking about a lot of damage."

Image: Shutterstock/ Getty Images/Chris Wedel

51 | Alkalde

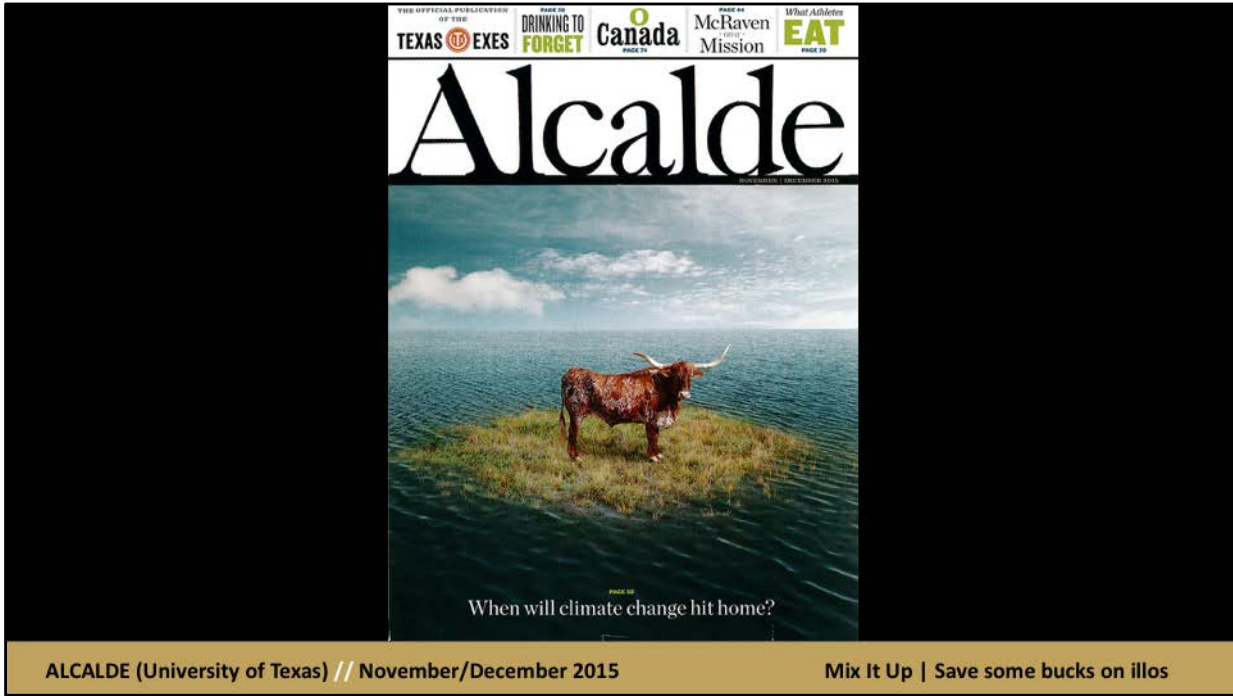
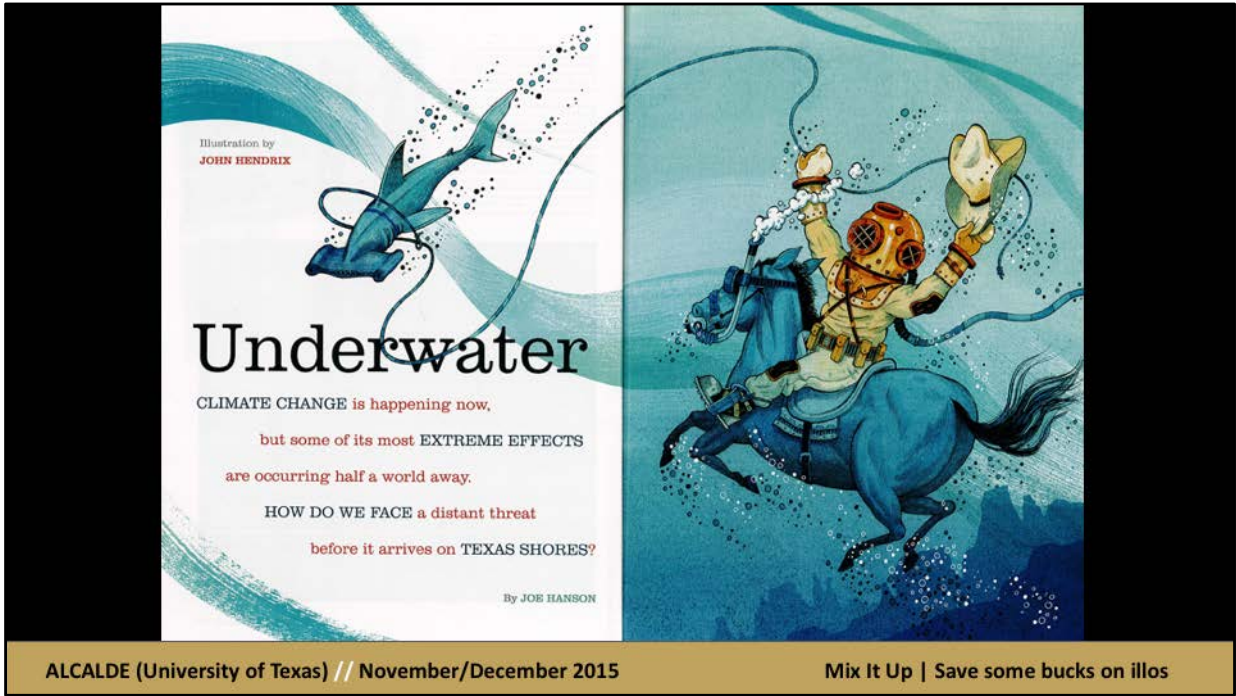


Photo illustration, to illustration opener, to provided photos. And this is a comped photo. What could you comp? Now wait until you see the opening spread for this comp story.



Totally unexpected illo, how fun! And only partly crosses over page.

WATCHING A CHILD BUILD A SAND CASTLE ON THE beach. Sand consistency feels good, not too dry, not too wet. But it's low tide, and I don't have the heart to tell him that in a few hours that real sand is going to be underwater.

The wave destined to destroy his keep was only a handful of miles offshore, beginning its assault on the beach by pushing the water up and up and up, and then never reaching. Near the beach, an alarming noise of events is unfolding that could make that a reality.

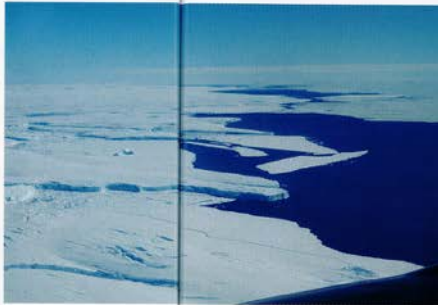
The ice sheets of Antarctica are some of the Earth's most remote places, but they affect the lives of hundreds of millions residing near the world's coastline.

In 2002 scientists announced that a massive ice sheet in West Antarctica is now trapped in an irreversible decline, a melt that could raise global sea levels by 100 feet. And earlier this year, researchers from the University of Texas Institute for Geophysics found that East Antarctica's Thwaites Glacier, a shocking mass of ice roughly the size of France, appears to be steadily eroding.

It's hardly every year that around just how much water Antarctica holds. More than half of Earth's freshwater is locked away there, enough to raise sea level by 200 feet if it all melted. Not all of Antarctica's ice is at risk, of course, but Thwaites Glacier joins a growing number of runaway flows that scientists fear may be headed toward the sea. Thwaites Glacier alone could melt global sea levels by as much as 10 feet, and that is on top of the already alarming numbers predicted for West Antarctica.

Antarctica's glaciers exist in a precarious balance. Melting is a normal process anywhere that ice meets ocean, but if a glacier is flowing out faster than inland snowfall can replenish it, the balance is disrupted. Almost all of a glacier's melting occurs where the body of the ice is exposed to the ocean. If warm ocean currents gain access to a glacier's "grounding line"—the point where submerged ice rests on the Earth below, the site of melting can increase, accelerating the glacier's slide into the sea.

This is precisely what is happening beneath glaciers across Antarctica, according to Justin Greenbaum, a researcher with the UT Austin group. For the past eight years, Greenbaum has spent hundreds of hours in the air over Antarctica, peering through the ice to draw a more complete picture of Earth's changing climate.



THE DOUGLAS DC-3 survey aircraft used by Greenbaum team, straddled with surveillance, with a low tail and wide wings, might look more at home in the final years of Concorde than humming over these frigid landscapes, but this particular plane is no stranger to the cold. Nearly 70 years ago it followed U.S. paratroopers into the snowy forests of the Ardennes during the Battle of the Bulge.

That vintage aircraft is a modern scientific research station, inside, its parachute hooks have been replaced by racks of electronics. One instrument drops precise maps of surface elevation, while another senses fine variations in Earth's gravity. A cylindrical probe jets out from behind the tail and broadcasts data on the glacier's magnetic field. Beneath the wings hang radar arrays that map the coastline deep beneath layers of ice.

When it's time about the data it's off to the DC-3's landing gear. Greenbaum is a principal investigator of the about a dozen snow landing hundreds of miles from their home base at Casey Station. At the bottom of the world, but weather often returns with little warning, and even though the team is accompanied by experienced Canadian bushpilot, they don't argue with Mission Partner. It's not in the air when a storm rolls into town, you're going to be carrying on the ice that night. East and West Antarctica are disconnected islands in a place where every direction seems to be north.



"We now know that this ice shelf has existed for at least 11,000 or 12,000 years, and soon it will be completely gone."

From left looking over the ice shelf from the ship; the ship at the home of the Antarctic continent; James Bornemann and Justin Greenbaum aboard the USCGC Healy; and Justin Greenbaum in November 2010.

to the sea. Khanendar is ringing a death knell for the ice that nurtures them. "We now know that this ice shelf has existed for at least 11,000 or 12,000 years," he says, "and soon it will be completely gone."

Earth has seen this kind of thing before. About 18,000 years ago, prior to the most recent ice age and before humans had migrated out of Africa, Earth's climate and geography were very similar to today, save for one key difference. During the Roman period, oceanic waves were pushed from the North Atlantic higher than present levels. When did this extra water come from? Ice cores drilled in Greenland suggest that it retained most of its ice during that time, so the only remaining culprit for Roman sea level rise is melting glaciers in Antarctica, the cause once melting today.

Despite this precedent, what Khanendar has witnessed at Larsen B is enough to convince him that this time is different. "One thing that the past tells us on this particular case is how unusual and how rapid these changes are taking place," Khanendar says.

The word "collapse" makes it sound as though the melting and the ice was happening quickly and dramatically. But even the worst-case projections show the ice melting out over centuries. "Practically, this will happen at some point, if Antarctica continues to warm up," says Paul Scambius, a scientist at the National Science

Comped cover, cool illo opening spread, followed by not great pics provided by faculty researchers. All in one story. The elements of cover and opening story were united by their tone, which was a bit whimsical.



Photo: Tom Theobald
 One of the most recent expeditions set out in January 2010, the same appears to reflect using 100 million dollars following a flight.

ice Data Center in Boulder, Colorado. "The question is, will it happen within a timeframe that is relevant to any current planning? Or is it distant that there are no steps to take at this point?"

AS CONCERNED AS scientists are about melting Antarctic glaciers, you'll be hard-pressed to see any such signs of change in Fort Aransas. It's the life as usual along the Gulf Coast. Coastline businesses and hotel facilities will flock to these beaches every year. Newly built vacation homes point a giant backstop up and down the shore. Melting glaciers are the reality in Antarctica, but apparently not in Texas.

The human brain is quite adept at turning a blind eye to them. We'll find ourselves explaining or rationalizing them away, and often we just refuse to think about them in the first place. How would children ever get to sleep at night if they didn't develop the ability to ignore the warm sunbeams under their beds? And the more distant the danger, the easier it is to disregard.

According to Harvard psychologist Daniel Gilbert, this risk prevention by climate change often fails because with people because they aren't sufficiently P.A.S.S.-ed: personal, abrupt, imminent, and happening now. When faced with the distant and uncertain threat that is climate change, we tend to overthink everything that we face much lower risks than we actually do, un-

tiling Princeton psychology professor Daniel Kahneman calls our optimism bias. Our accidents only happen to other people. We're less likely to be victims of crime than our neighbors are. Melting ice in Antarctica really won't affect us where we live.

But the effects of climate change are already washing up on Texas shores. According to Kerston Stewart, who studies coastal ecosystems for the Houston Area's National Estuarine Research Reserve, even without the threat of thawing Antarctic ice, rapid sea level rise is already causing erosion of Gulf of Mexico beaches and barrier islands, increased coastal flooding, and widespread habitat loss.

The critically endangered whooping crane is a towering bird whose population once declined to just six birds and now hovers around 400. These birds spend their winters wading through hundreds of miles and low-lying areas between Rockport and San Antonio Bay. Sea level rise threatens to wipe out half of the habitat that will be needed to bring this species off the endangered species list.

Add in the threats from East and West Antarctica, and the story gets even more troubling. Because of how melting Antarctic ice would redistribute the planet's mass and gravity, North America and the Gulf Coast in particular are set to experience a greater share of sea level rise



Fine pics for interior pages, wouldn't want them opening the story.



From left: Dallas and beach members in Port Aransas.

compared to observations on the planet. Over the past 50 years, while average sea levels have risen about 2 millimeters per year worldwide, the tide-station in Rockport has seen an increase of 5.5 millimeters per year.

Residents of the Texas coast are not stranger to rising waters. Coastal live oaks are a sign of salt water intrusion from hurricanes and tropical storms are part of life here, but in the coming decades people may experience those water levels during every high tide. Industries from tourism to petroleum will be affected, although we don't yet know how. Infrastructure from bridges to aquifers will be threatened by the encroaching ocean. Coastal ecosystems that support both economically important and environmentally threatened species will be irreversibly altered. But what?

Reports from the United Nations Intergovernmental Panel on Climate Change have always

included a range of best- and worst-case sea level rise projections, but actual observations have been near the upper end of those estimates. This means scientists have tended to underestimate the actual pace of sea level rise. Even more troubling is that the U.S. past estimates have failed to take America's coast into account, and the Gulf Coast may experience some of the higher-end sea level rise sooner than we think. This points to the need to begin planning now for how we are going along to rising water.

In the aftermath of Hurricane Sandy, New York and New Jersey were awarded nearly \$1 billion in federal funds to construct a storm- and flood-protection barrier around lower Manhattan and build new roads, levees and dikes. Governments along the Gulf Coast have yet to devote this level of response to the risk of rising seas, even in places like Louisiana, where the



What this could mean for Texas

Gulf Coast inhabitants: "We can predict the sea level better than they can predict the weather," he says. But weather is not climate, and sea levels are rising. The sea level rise is not a prediction of the future, it is a fact. The sea level rise is not a prediction of the future, it is a fact. The sea level rise is not a prediction of the future, it is a fact.

SHORTLY AFTER Greenhouse's research was published, the phone rang. On the other end was a couple in southwest Florida who had heard about his work on the coast. With so much conflicting information, they didn't know what to believe. Greenhouse looked at a map and noticed that the couple lived near the coast, about three feet above sea level. The husband and wife wanted to know if they should plan on giving their house to their children, or whether they should sell.

Greenhouse isn't in the real estate business, but he took a few minutes with the couple to explain his research in simple terms. He pointed them to reputable summaries of scientific data instead of talk shows. "What I told them was just to get out of there."

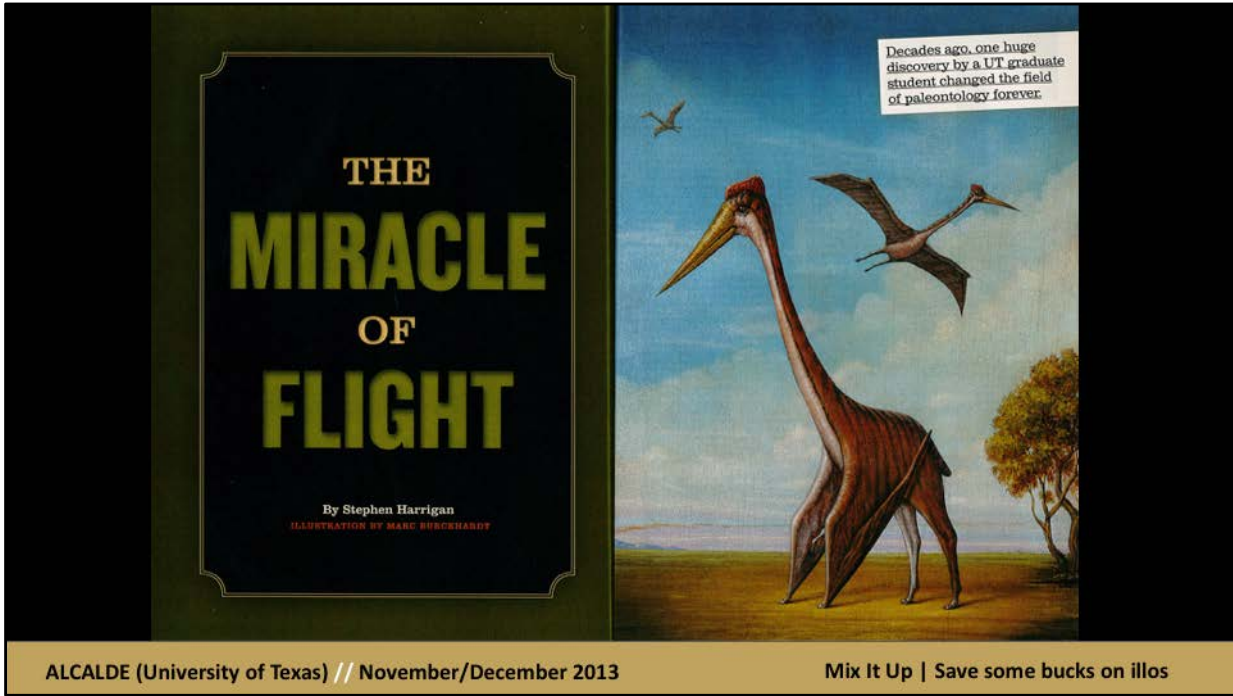
Most scientists who study melting glaciers agree that issues like drought, water availability, extreme weather, and food security probably rank higher on the list of climate concerns, but with roughly a quarter billion people on Earth living within a short high tide, there is almost no issue related to the climate that can be untangled from the threat of melting ice and rising seas.

The threats posed by flooding are and will continue to grow, and it's not just in the tropics, though. But the question remains: How quickly will we have our attention to them, and by all the climate issues they are tied to?

The threats are paradoxically numerous and confusingly varied, but Ted Scahron believes that since we choose to face them, the solution is simple. "Address greenhouse gas emissions and the limits of sustainability of our coastal and estuarine systems." Ted says, "Build a levee, and a planet, that will last as a home for us here."

Above: Long-term sea level rise could put parts of the Gulf Coast at risk. From left: Dallas and beach members in Port Aransas.

Below: Long-term sea level rise could put parts of the Gulf Coast at risk. From left: Dallas and beach members in Port Aransas.



Start with an illo, then go to the archival/provided stuff.



THE GREAT HALL OF UT's Texas Memorial Museum is a towering, cavernous space filled with a rotating exhibit of the museum's treasures, including the skull of a prehistoric stegosaurus, a 200-pound mammoth skull, and a 400-million-year-old slab of well-preserved rock studded with beautifully preserved fossils of ancient life forms.

But the focus is not that your natural instinct to look up, and that's where you are: the most famous, the most stirring, the most collaborative of all the museum's treasures, the creature whose discovery in 1971 by a University of Texas graduate student started the world's pterosaur craze.



...end of it is impossibly longer still, with a flat, bony crest at the top of the head and two long, thin, hair-like bristles that form a comb-like structure. Its hind legs, with the eddy-shaped feet, had been... The complicated system of elongated bones and joints that supported its wings...
When a living *Quetzalcoatlus* was on the ground, standing upright on its hind legs with its wings...
The bones were...
...the largest flying creature that ever lived.

54 / Akale

Pterosaurs were reptiles. They are often referred to as flying dinosaurs, an unfortunate mistake since their pretty much what they look like. But though pterosaurs and dinosaurs shared a common ancestor and inhabited the earth at roughly the same time (the Mesozoic period) by the end of the Cretaceous, a time of about 140 million years ago, they belong to a different taxonomic group with a divergent evolutionary history. Unlike dinosaurs, though they were classified in the same evolutionary tree, they are filled by birds and bats today. More than thousands of different species of pterosaurs have been discovered since the first puzzling fossil of a winged reptile was first found in the late 18th century in the Solihull limestone of Germany. Some species were as small as sparrows, others as long as a truck. They were found in all parts of the world. They were dinosaurs, carnivores, omnivores. There were species that walked on all fours—long-necked, long-necked, long-necked, long-necked. They were species that perched on branches and still flies. Their bodies could be fat and soft and duck-like, or short and rounded with scaly skin, or sharply pointed with scaly skin. Some varieties had outstanding crests on top of their heads that scientists have hypothesized served as everything from a mating display to kind of a rudder for maneuvering in flight.

But nobody had any idea just how gigantic a pterosaur could be until the spring of 1971. Douglas A. Lawson, MA '72, was a 22-year-old graduate student in geology that year. He was doing fieldwork in Big Bend National Park under the supervision of the museum's UT paleontologist, Walter Langston. He was by himself most of the time, being alone in a classroom or an old ranch in the night of the park. Once a week, he would drive into El Paso or further down highway 105 to get supplies. He was working along the dry stream bed when he noticed a cluster of three-inch bone fragments lying at his feet. He knew almost at once, from their color and texture, that they had belonged to some kind of dinosaur, the group that included dinosaurs, pterosaurs, and extinct mammals. A hundred yards upstream, he found more bones, lying in the ground and embedded in the sandstone at the top of a 30-foot-high stream bank.

The bones were pterosaur, particularly a limb bone solidly embedded in the rock that seemed to be holding up the hillside. The bone was huge, but extremely light and delicate for a dinosaur. Could it belong to a pterosaur? Lawson had trouble believing it could be true. It was way too big. The largest pterosaurs known at that time, *Pteranodon*, was only about half the size that *Quetzalcoatlus* would later turn out to be.

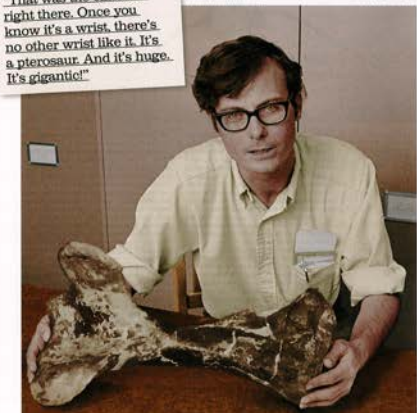
Nevertheless, Lawson made a notation in his field notes, a preliminary guess that the hand material could have come from a pterosaur. Then he gathered up all the bone pieces and carried them in the desert heat through the cactus and burlap to his Jeep. He returned to Austin at the end of the field season and spent a good part of the fall in the Vertebrate Paleontology Lab at UT's J.J. Pickle Research Center. He kept a stack of one of the fossils he had brought back, a seven-foot-long chunk of sandstone studded with bones.

"Okay, what is this thing?" he remembers asking himself one night when he was alone in the

lab. That's when he had hisureka moment. He realized that the bones in the sandstone made up a wrist—a wrist the size of a grapefruit.

"That wrist's thirty right here. Once you know it's a wrist, there's no other wrist like it. It's a pterosaur. And it's huge. It's gigantic!"
The next year he went back to Big Bend with Langston to excavate the big embedded hand he had to have hidden. It was the upper arm bone of the pterosaur, an important piece of the puzzle, but the bones that Lawson found in the creek did not make up a whole skeleton. All he had was the left wing. But in 1973, William Amundson, another student of Langston's who was prospecting in the Junction Formation, found the bones of much smaller but much more complete pterosaurs. Whether the fossils Amundson discovered belonged to the same species or were merely that of a very close relative is still a matter of debate, but the new material made it possible to piece together a coherent picture of what the creature had looked like.

Below: Lawson with the giant pterosaur bone he found in Big Bend in 1971.



ALCALDE (University of Texas) // November/December 2013

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Answer The use of a *Quadraculifer* foraging in the Great Hall at UT's *Big Bend National Museum*.

Lewis announced the discovery of this pterosaur in a 1975 article in *Science*. In that, *pre-Jurassic* *Pteris* was, when public fascination with paleontology was at a low ebb, an unexpected micro-burst of celebrity. He was getting ready to give a lecture at UT's Thompson Conference Center in Big Bend when he noticed something strange: reporters and TV crews were lining the walls of the conference room. "It was a slow news day," he recalls. "The *Sun* *Angels* *Times* changed in and every from 'Man Trapped in New York Subway' to 'Largest Flying Creature Discovered in Texas'."

The animal was still around. When Langston visited Lewis that day, he didn't call it something new, somebody else would. So Lewis christened it *Quadraculifer* northropi, after the feathered serpent god of the Aztecs and the pioneer aviator designer John Northrop. "Since it was the biggest flying wing that had ever evolved," he says, "I thought I'd name it after the guy that built the biggest flying airfoil out there."

"This is the thing that Doug Ross," Timothy Ross, the director of UT's Vertebrate Paleontology Lab (VPL) and an afternoon class participant as he pulled open a wooden specimen drawer in Langston's office. Langston had died a few months earlier at the age of 92, but his expansive office still held the charge of his intellectual personality. There were boxes everywhere, an old manual typewriter on the desk, the skull of an *Acheroniscus* on top of the cabinet, and on the floor a cross that looked older than any of the fossils in the room, and whose professorial label government "Pur and Kamin for the White Family."

When Ross pulled out the drawer, I found myself staring at the *Quadraculifer* holotype, the biggest one known. The *Quadraculifer* holotype had come out of that Big Bend rock bank in 1972. It looked like a modern-day bird. It was hard to imagine that an animal could have ever gotten off the ground with an arm bone this huge and dense. But Ross pulled up a forearm bone from another drawer as I could see the cross-section size of its broken end. The bone itself was exquisitely thin, fringed with cartilage that was filled with with fossilized collagen, but when the *Quadraculifer* was alive would have been almost hollow. Ross pointed out a large hole there at the end of the humerus. "That's the hole where the tendon that attaches the shoulder muscle attached. There's nothing that has a humerus like this. You've never had anything like that except on a pterosaur."

Ross showed me the early draft of writing the *Quadraculifer* arm bone in my own hand. When I let it back down in the top on top of a paper clipped ahead of faded newspaper filled with Langston's pencil marks, I noticed another bone

lying below it. It was substantially more slender than the humerus but at least a foot long, and tapered like a dagger or a clubhead. That bone was a part—and only a small part—of the giant pterosaur's astonishingly elongated fourth finger, which grew out and out from the hyper-articulated metacarpals, forming a kind of wrist that supported the mainstay of the creature's wing.

"There's part of the face," Ross said, carefully picking up a flattened length of bone eight or nine inches long that I could have spent a lifetime poring without ever imagining it could have anything to do with another's face. Fortunately, as Langston's desk there was partially reconstructed shell of one of the slender *Quadraculifer* specimens that got the pterosaur into some kind of context, though the skull was unacceptably locking itself—more alien than anything you might expect to see hidden behind a secret door in Area 51. It was long and thin and plate-shaped, with the open air, thin structure that back the head of the head.

Near the skull stood another curious-looking structure, a tall, wooden frame from which *Quadraculifer* bones were suspended by string. Langston had used the apparatus, Ross said, to try out different hypothetical configurations of the animal's flight.

"He was trying to figure out range of movement and other things," Ross explained. "What was going on with the legs. Did they had to be like a bird? Then he got more into details. When was working on that thing for many, many years."

Over the past few years, the *Quadraculifer* holotype has been at the VPL, was Brian Andres, BS '00, now an assistant professor at George at the University of South Florida. Obsessed with paleontology since childhood—"I think I made up my mind when I was about three"—Andres was a freshman at UT when he met Langston in person. "Then, he'd come to school," he remembers Langston saying, as he handed him a *Quadraculifer* neck vertebra he had in the process of studying.

"It was truly an amazing experience," Andres says, holding a *Quadraculifer* fossil in his own hands in Langston's office, was part of the chain of inspiration that had him to become a pterosaur expert himself. In fact, when I talked to him in August, he had just published a paper in the *Journal of Paleontology* of the *Quadraculifer* holotype, which he named a new species, *Andresia* langstoni, for his late professor.

"You can still have the excitement in Andres' voice when he talks about *Quadraculifer*," Ross says. It does it. When it came out I pushed the boundaries of what we know of animals, what life was capable of. There are papers written going back to the 1800s guessing what the maximum size of flying organisms could be, and *Quadraculifer* just blew that out of the water. It really pushed the limits of the mechanics in terms of what animals could do. *Andresia* langstoni was an infamously fragmentary, but *Quadraculifer* is amazingly complete.

"That we're still trying to figure this thing out, how it lived and breathed. It just boggles your mind. How was an animal that could look a griffin in the eye, then take off and fly?"

Exactly how it took off and flew is a matter of

debate, and one other thing. *Quadraculifer* was, in every scientific comparison, a very large animal—Andres' best guess is a minimum wingspan of slightly more than 10 feet—and it's harder for very large animals to get themselves into the air. To become airborne, it probably was along on all four legs until it reached something close to take-off speed, then dove itself upward with its front feet, gaining just enough altitude for a prospective downward stroke of its wings to launch it into flight.

Over the air it probably flew with a minimum of wing flapping, gliding along on air currents and thermals. Many pterosaurs species had a tendency to overfly. So for *Quadraculifer* has been found only in isolated environments, so I think it wasn't limited to coastal regions. It may have traveled long distances by occasional soaring aloft, just like many migratory birds do today. Nobody knows for sure what the creature did or how exactly they ate it, but Andres thinks that a small rodent equivalent for understanding the diet of *Quadraculifer* might be the Marshlow stock of Sub-Saharan Africa, which is an active hunter of fish and amphibians and small mammals, as well as a canopy scavenger

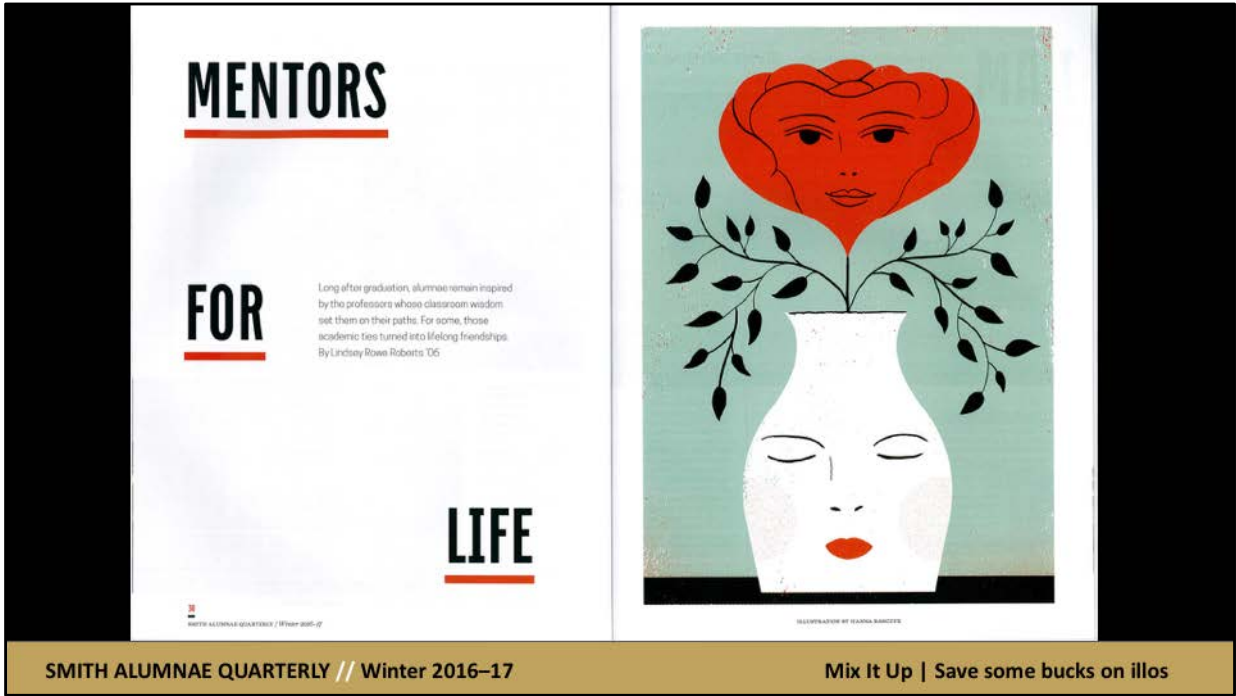
"It pushed the boundaries of what we knew of animals. What life was capable of."

that looks for meals where vultures congregate. Oh, and one other thing. *Quadraculifer* was, in Andres' words, "big." Its body would have been covered with a suit of scales that a human could have imagined as hair.

Accidentally flying far above in the first thing that comes to mind as you stare up at the giant skeleton hanging from the ceiling of the Texas Memorial Museum. But *Quadraculifer* has a way of teaching the human imagination in general. Every two years after Doug Ross came across its bones in Big Bend, the creature remains a landmark scientific discovery and a critical inspiration for young paleontologists like Andres.

It also remains a mystery. Standing below the giant skeleton in the Great Hall, you can't help but wonder: Could this possibly be me? "I'd understand like this really once live on our own earth." If so, what would it have been like to be alive back there in wilderness? The first one might have been a slight detouring of the sky, or the sound of massive chattering—perhaps squawking, howling, or rattling horns. Your attention drawn upward by the darkness, you would have raised your eyes and seen waves after waves of giant migrating pterosaurs banking over the sea, their wing beats making a sound like great walls filling with wind as they flew, their long legs extended and their bones reaching toward the ground, through the Missouri skies. ☐

Stephen Herrington is a faculty fellow at UT's McCombs Center for Writers.



Start with an illo, move into more expected portraits.

I AM

A JOURNALIST. When I sit down to work, whether I'm pitching an idea to a new magazine or writing an article for a favorite editor, I feel that familiar fog of inadequacy settle in. Then, my mind travels back to my senior year, and I see my English professor Patricia Skarda stare me down from behind her desk in Seelye Hall (the line of students outside her door finally gone on a late midwinter afternoon), and I hear her ask: "Lindsey, what do you think?"

Miss Skarda, as she preferred to be called, was advising my honors thesis on the British author Thomas Hardy, and we were stuck—mainly because I kept coming back to her with ideas by other students. I kept trying to provide the right answer, but Professor Skarda wanted me to try out a new answer. As she pressed this question, with the red light levers pushing pink and purple across the sky behind her corner office, I was perfectly speechless.

Over a 3 years of writing since, I've found that one of the most important tools I need is a backbone soft enough to listen to criticism, and strong enough to keep on going. I need to be able to face the daily rejection of editors who don't like my story ideas, or my editors who cut my favorite words. More important than my laptop or cellphone is my belief that I have something worth saying. This is the kind of belief that the best of professors can give. But given to me tied with a ribbon.

As her student, I chose to prove myself worthy of her already high estimations of me. In my first class, half the library began to keep taking classes from her and from the other great minds she pointed me to. After I presented my senior thesis, she presented me with a check from the University of North Carolina. A couple of years later, I earned across the country to take a shot at writing for a national publication. I ultimately became the assistant managing editor for *American* magazine and then the monthly shop-

ping columnist for *The Washington Post*. She taught me how to network. She colonized every internship and job and article I showed with her. She always knew I could do it, even when I didn't.

Our relationship grew beyond the academic and aspirational because Pat let me into her life, and I let her into mine. My friends will never forget when she came to my dad's birthday at Potomac Row wearing a feather bonnet, or our entertainment. In 2009, when I moved back home to Seattle, she attended a fellow faculty's wedding nearby and stayed with my family. During that visit, my grandfather fell ill for the last time and she came with me to hold his hand. At the national dining facility, she looked into my music eyes, just like she had looked into mine, and told her she needed to say goodbye.

When I attended Pat's memorial at Smith two years ago, I was surprised to have more students stand up to testify to her. The new line formed and the heart of students who didn't believe in themselves. I will give her love—I didn't get to say goodbye—but it shows me to know that a group of us still have her living presence alive in our heads. At Smith, many relationships between professors and students become like ours, those of mentor and mentee. Some mentors become colleagues, and even friends. Read on for five stories of the life-changing connections, forged at Smith, between professor and student.

PHOTO COURTESY OF PATRICK J. WHELAN SMITH '11

SHARED LANGUAGE OF POETRY

Lynne Francis AC'10, poet



Major American studies **Prof. Chung's** influential mentor, Melissa in Literary Studies, Teaching Center

My first class at Smith: "My career was on a nostalgic foundation. Prof. Chung had introduced the Mythology in Literary Studies course to his own wonderful way—80-year-old poetry, for example, and poets show us how their work should be read. That class set the whole tone at Smith for me. I remember we closely being addressed in that first class as his colleagues—that love he referred to all of his students. I was coming back to

without after about 13 years. That was huge for me." **My personal life mentoring:** "I think as an Asia, you're more outgoing, you're not afraid to go to the professor. You know her's a human being. I started talking with him about my kind of poetry and how anything he taught because he's such a generous scholar, such an mentor."

We had each other moments: "After graduation, I moved to Northampton, hoping to find a job. He suggested that we check in on each other every other day. He was writing a great deal then, and I was, too. We would check on each other's progress. I read six poems. That kept me honest. Now, we still check in to talk about poetry or catch up. Last June he found a 30-day poetry challenge, and we both did it."

Becoming family friends: "Situations we would share poetry while he was waiting for his children to get out of college class. My daughter was in Seattle, my son, Leahy, Johnson '04, and then, Cecilia Johnson and I graduated together in 2010. Cecilia was in dance, and Chung was the second reader for her M.F.A. thesis. That was me doing anything."

MENTOR: LYNNE FRANCIS

Associate professor of English language and literature

Five years after Lynne Francis graduated from Smith, she and Prof. Chung submitted poems to a competition at *American*. When Francis' poem "Pompano's Lull" was chosen as a finalist, Chung notified it from memory to the audience, which included his family. The audience voted by applause for her poem to be the winner. "It was encouraging and inspiring," Chung says. "More importantly, I was an honor." As her professor, Chung recalls being impressed with Francis' commitment and devotion to class and her ability to be a "poet's rig" poet. "Lynne has been writing poetry for a long time, so her ability to give colleagues in that genre," Chung says. "She has helped me to see greater attention to what is good in poems. She's also very encouraging about my work in general. She once said that my poem made her 'burst out.' That's that."



PHOTOGRAPH BY CHRISTOPHER S. HARRIS

PRESENTING THE COOL COURSE CATALOG

We profiled 14 amazing courses that'll make you wish you were a student again. Best of all? You can experience them without a single test, paper, or problem set.

By Erin Peterson and Marla Holt
Illustration by John S. Dykes



PURDUE ALUMNUS // March/April 2016

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very year, Purdue offers thousands of courses that are designed to build students' skills and hone their critical thinking abilities. But there are also many courses that seem designed to draw a crowd because of the uniquely fascinating view of the world that they offer.

And these are some of the courses we wanted to share with you. Though we couldn't possibly highlight all of the terrific classes available to students, we scoured Purdue's course catalog for some of the best.

We found more than a dozen classes in a wide variety of disciplines that cover everything from time-tested wisdom to practical life skills to up-to-the-minute news analysis. We think you'll see at least a few in the pages that follow that will make you wish you had just one more semester in the classroom.

Tell us about your own favorite course by e-mailing us at alumnus@purdue.edu.



RED, WHITE, AND BLUE

Contemporary Issues in American Studies

Taught by Alyson Fausch, American studies

WHEN PEOPLE AROUND THE WORLD SEE THE TERM "America," they're typically referring to the United States, even though this nation actually isn't the only America out there. The word also brings to mind a long list of issues — from gay marriage to race relations — that, from a global perspective, define current American culture.

In Alyson Fausch's graduate-level course, students grapple with the idea of America as perceived globally. They explore, through video's border issues, what it means to be American.

Class discussions range from the 2016 presidential election to the safety of borderlands to the issue of trade.

icking human beings across the border between Mexico and the United States. No topic is off limits. Fausch says. "I want them to think broadly about the ways in which interdisciplinary and global perspectives about American culture can be relevant to their research," she says.

It turns out that one of the best ways to understand ourselves is by researching the ways that others see us. "We try to get them to develop their ideas and beliefs about American society," Fausch says. By the end of the course, students have a deeper appreciation for the country's role in a global society.

48 PURDUE ALUMNUS

WOKED UP LIKE THIS

American Beauty

Taught by Doreen Shavel, history

Many women get excited for their monthly beauty fix of either one thing: Shave. Menstrual would like her students to know it's that effective beauty is typically anything but.

Take, for instance, our hair. Our bodies are covered with it, and many women spend hours each week styling and packing it, strengthening it or trying to condition it and getting it. But, too, have their hair rituals, though they tend to be a different order than women's.

Then, of course, there are the countless ways women try to modify their bodies through diet, exercise, spa, and more permanent measures. "There are so many techniques that people use to modify their bodies from plastic surgery to the removal of hair through laser," says Shavel.

The course examines everything from women's going to elaborate body shapes of the day (like to the woman here with a fashionable shape in an age of "Tights, or vice versa")

Ultimately, Shavel believes it's fun to decide in person for not permanent beauty at any level, but she also agrees that having a deeper understanding of how culture shapes our ideas about appearance makes a difference. "We can't escape from the influence and the magnitude of the body type," she says. "But knowing that there are cultural assumptions that underpin our perceptions of beauty can be useful in accepting others and ourselves."



WHAT DID THEY SAY?

Course: Animal Communication

Taught by Jeff Lucas, biology

WONDERSOME ARE THEIR POWERS: BEARS WOULD BEARING down on trees and search for food, but when you hear that distinctive drumming sound, drink, fish, and drink, says Jeff Lucas. "When male woodpeckers drum on tree trunks, they're sending a signal about their potential as mates," he explains. "A female will listen to the drumming, and the loudness of the drumming is directly related to whether or not to mate with that male."

Animal language may not be as sophisticated as Shakespeare, but it is intricate and interesting in ways we just beginning to understand, says Lucas. From the electrical pulses that electric fish use to communicate with

TIME TO SMELL THE FLOWERS

Flower Arrangement and Indoor Plant Management

Taught by Mary Lou Hopkins, horticulture



Each semester, she will, lecture or social hours are replete with colorful roses, displays carefully arranged by students in Mary Lou Hopkins' course. The flowers look pretty — and they also probably live longer than the bouquet currently sitting on your kitchen counter. That's because the students who bring their creations home have also learned to properly care for the flowers and greenery. "Flower arrangement and care is a lifelong useful skill, whether or not you work in a flower shop," Hopkins says.

Hayden's students practice their complementary skills with flowers Hopkins buys from a local wholesaler. Hayden emphasizes the principles of basic floral design, such as balance and proportion, but also encourages the occasional rule-breaking to add unexpected touches to an arrangement.

The course is about more than playing with stems and petals; students also learn what certain flowers mean, which can differ by culture and occasion. "We associate white flowers with purity, but in some cultures that represent death," Hayden says. The course also covers the identification and care of houseplants as well as the science involved in growing them, such as the chemistry of plant foods and fertilizers.

For those of us just hoping to keep an anniversary bouquet looking fresh, Hayden passes along two tips. Add a good floral preservative to the water for added longevity, and always cut flowers at an angle with a good clean snip. Such a cut allows the water in the plant, called xylem cells, to stay open and continue to absorb water.

one another to the calls of a frog in a chorus, animals have incredible unique ways to share information about everything from nearby predators to the location of the next meal.

And what animals hear can change based on the season. In frogs, birds, and mammals, for example, as a female's estrus (and fertility) begins, she can hear sophisticated at picking up the nuances of a male's communication methods. "When the estrus begins, she can hear more subtle variations in the male's call," Lucas says.

While the class is designed to explore just about every animal but humans, Lucas acknowledges that much of what scientists have learned in the field may apply to us, too. "Communication, like lots of things in biology, encompasses a huge variety of different approaches," he says. "That's useful to animals, and it's useful to us, too."



PURDUEALUMNUS.ORG

MARCH // APRIL 2016 49

STAR STRUCK

Descriptive Astronomy: Stars and Galaxies
Taught by Robert Lang, physics and astronomy

There's one obvious answer... the researchers view that answer as a major award to be given to the best... an answer that just a generation ago to put you from your space change. They also identify...
A group of students in Robert Lang's course recently made that discovery when they went in search of a sequence to Lang's free-form, "no-outstanding-odd" astronomy assignment. Their findings have the name: Lang says, "We can see planetary orbits at work at the Topogonose-Mat."

The award-winning paper is just one way Lang engages his students' curiosity about the universe as they explore such topics as stellar birth and death, supernovas, black holes, and dark matter. Hands-on class experiments include building a wide-necked solar eclipse and making a comet out of dry ice, water, ammonia, carbon dioxide, and liquid nitrogen.

Of course, they also share the night sky. To make sense of the cosmos, Lang and the students head to the darkest spot they can find—like an isolated cornfield or a local elementary school—with a Perseus-owned telescope.

Even though the summer can make our first long Lang was announced by a particularly accessible selection. "I hope this course removes the fear some students have of science," he says.



GAMES THEORY

Olympic Games: Ancient and Modern
Taught by Bill Harper, health and kinesiology

When Pierre de Coubertin launched the modern version of the Olympic Games in 1896, he probably didn't imagine today's multimillion-dollar corporate sponsorship, the drug, and technology-fueled quest to reduce athletic performance, or, for that matter, the fierce competition at all.

But what he did imagine was something more: larger than the Games, called the Olympic Movement. "The Movement is a bigger idea about the power of sports to inspire a better, more peaceful world," says Bill Harper.

Harper's course tracks the Olympic Games from their origins in ancient Greece to their governing research in the late 20th-century state-of-the-art research, and their current incarnation as political and business powerhouses.

The class doesn't shy away from controversies that have shaken the games. Harper famously used the Berlin Games to discuss the role of the system, and Coubertin's advocacy of allowing women to compete in the Games. But over time, Harper says, the Olympics often get it right. One Olympic success is the 1992 effort to create the myth of Olympic superiority with the first gold medal in the Berlin Games, and for that, because competitors volunteered male competitors overall.

Harper hopes his students begin to understand why the Olympics have thrived over time. "In spite of our world wars and so many other international breakdowns, the Games continue," he says. "It's the largest international effort that has years and justice law. That's a remarkable statement."



A GROWTH INDUSTRY

Small Farm Experience
Taught by Steve Halber, agriculture and landscape architecture

When the Purdue Student Farm was established in 1910, one of the very first things it seemed was a farm crew. At about the same time, the university created a new degree program of sustainable food and farming systems. That's a course that gives students hands-on experience—and adding in a few summer internships—turned out to be the perfect way for the farm to get up and running.

Students in Steve Halber's course, which is offered in both the spring and fall, work on everything that happens during a seasonal cycle of a small farm that produces veg, staples and cat flowers. That includes planning for and selecting crops, greenhouse seeding and bed preparation, planting, analyzing and treating for disease and pests, irrigating, weeding, harvesting, and sales.

"We stop often to talk about what we're doing, but it's really an opportunity for students to do the work of farming," explains Halber. Farmers use jacks-of-all-trades, he says, so the course goes into several different disciplines, such as agronomy, plant pathology and entomology, and horticulture. The course also adds in the knowledge students need to start and run their own sustainable small farms, should they choose to do so.

Because the Purdue Student Farm is a working enterprise and produces food to sell at local farmers' markets and restaurants and through farm shares, students don't just learn on a handful of demonstration plots, but take on all of the challenges—both good and bad—associated with farming. "The farm is a living laboratory where students can see the consequences of their decisions from year to year," Halber says. "It doesn't get more realistic than that."



THE MONSTERS WE MAKE

Introduction to 3D Animation
Taught by Ray Haines, computer graphics technology

From Pixar movies to cryo-cosmos, architectural, web design to the latest in medical imaging technology, 3D animation has probably already made your life a little bit richer. And in his course, Ray Haines teaches his students to start creating some of these close-to-magical experiences.

Haines—who admits he's partial to the movie monster side of the field—teaches his students to build 3D objects, add virtual skin and bones, and make their imaginary creatures move in a believable way. "In the end, they'll create a little movie clip or a series of models that could be put in a video game," he explains.

Throughout the course, Haines also highlights the tiny details of 3D animation that allow these fun industry jobs to be done.

For example, the way that light bounces off surfaces is difficult to capture accurately down right, however, it can diffuse a scene with a powerful sense of reality. When Mike Newswell, a character in Haines' University, walks through campus at night, Haines through the trees, the effect is magical. "The scene is far more than just a single computer calculation. The light is exaggerated and unrealistic," says Haines. "But the way that it was done gives you an intense sense of being back on campus and getting ready to start a new semester."

In the end, Haines wants students to gain more than a deep appreciation for animated low-office situations. "I want them to come away with one more tool to be creative," he says.



WHAT PACMAN CAN TEACH US

Writing for Games
Taught by Samantha Blackmon, English

HOW WOULD YOU WRITE LIKE CAROL LARUE AND LEE TO COMPLICATED VIDEO GAMES LIKE Halo and Minecraft? games help to create and experience stories like no other media. "Games are interactive, experiential experiences," says Samantha Blackmon. "When people think about video games, there's often a bias when people make the wrong choice and die. But in today's games, there's often a lot of choice. Players make a choice, and the rest of the narrative changes."

The techniques of game storytelling are vast. Take the crime-fiction game The Story. For example, the game identifies itself as like a Whodunnit on the surface, but the player has to work to solve the case and learn the people being questioned about missing persons. "Because it's just like a computer desktop, it's as though the game itself disappears," explains Blackmon. Another game, Doctor A Tale of Two Sons, makes players "feel" the death of a character through the close-up of a character.

Through discussion and readings in game theory, students learn how such games tick—and then they work collaboratively to create their own.

Working in teams, they write scripts, develop storyboards, and create flowcharts that can be turned into a game. "When you've got a creative writer, a computer graphics student, and an animation student, they're all looking from different perspectives and have to learn what strengths and limitations the other [disciplines] bring," Blackmon says. "Working collaboratively and being able to see things from other people's perspectives is essential."



DO PURDUE IN A LITTLE MORE

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A MATTER OF LIFE AND DEATH

Mortuary Practices Across Cultures
Taught by Michele Buzzeo, anthropology

One culture may long have an unbalanced relationship with death. We know the traditions and customs that fill out funerals across the world, but when it comes to the details of people we love, we don't know (speaking in funeral homes and letting others, such as those in the mortuary sciences and medical professions, deal with the aftermath). This hands-off approach isn't the case in other cultures, many of which tend to take care personally by comparing and contrasting American mortuary practices — what happens to the body after death, how and where it's buried, and what items accompany it — with those of other cultures, traditions and how death rituals reveal societal values, religious beliefs, and other cultural standards. As part of the course, students complete several thought-provoking assignments, including interviewing a local funeral home to learn about embalming and cremation. "I want them to think about what mortuary practices can tell us about a particular culture or society," Michele Buzzeo says. "What is the meaning behind death rituals, whether they're religious or secular? Why do people choose to bury their dead in such a way? Answering these questions can be eye-opening."

52 PURDUE ALUMNUS

BEYOND THE HORSE RACE

Campaigns and Elections
Taught by Josh Swain, communication

As the excitement to November's biggest political event at every level will be going all out, one message is personally you to choose them when picking in the voting booth this year. But it's the very thing you know about politics in what you see in media stories or the extensive amount of radio and television ads at 11 a.m. you're missing out, says Josh Swain. "These things are really just the tip of the iceberg," he says. In his course, students study topics including political fundraising and



interest groups, how not families and geography influence our political affiliations, and how political parties actually work. "So students can't think if you've ever wondered why the Republican presidential candidates have been facing off so often in some time, while Democratic candidates have had their debates based on, Saturday evenings, that's how the candidates are the networks." These rules are set by political party committees, and they're choosing their schedule

because they want to create advantages for their candidates," explains Swain. What those advantages are aren't always made explicit, but students get a practical reason to class. "Scott begins students come away with a deeper understanding of the way that the mechanics of American elections shape the world we live in." What then to see how elections influence democracy and how they contribute to both the promise and pitfalls of "democratic government," he says.

WOULD YOU LIKE WINE WITH THAT?

Wine Appreciation
Taught by Christian Buzzeo, food science

How often does one stand before the vast array of wines at the liquor store, overwhelmed by the choices? Most likely you choose the bottle with an appealing label or an affordable price point. That price is important — but perhaps not the most important. "I want them to think about what mortuary practices can tell us about a particular culture or society," Michele Buzzeo says. "What is the meaning behind death rituals, whether they're religious or secular? Why do people choose to bury their dead in such a way? Answering these questions can be eye-opening."



photograph of the above. That's not to say that the world of wine, like all other things, is not complex. Students learn how wine is made — from grapes to bottles — and how it's produced and consumed in different times and cultures. The class touches on microbiology, engineering, politics, history, climate change, and chemistry, all

while taking students on a virtual tour of the world of wine. Class sessions include wine tastings paired with information about wine etiquette and responsible consumption. Buzzeo encourages students to read up on the states and countries that produce the wines that are sampled in class. "This can be an extra adventure and can foster curiosity about other cultures and ideas," Buzzeo says.

YOU PAY FOR WHAT YOU GET

Introduction to Personal Finance
Taught by Michael Row, consumer science

MICHAEL ROW WANTS HIS STUDENTS TO KNOW THE SKILLS THEY NEED TO TAKE PERSONAL RESPONSIBILITY FOR THEIR FINANCES. SO THEY CAN MAKE DECISIONS THAT BENEFIT THEM FOR THE REST OF THEIR LIVES.

While parents assist at first, money can seem hard — sometimes too easy — to come by. Students learn to arrive regularly and credit card offers are typically plentiful, but if students aren't prudent about managing this new influx of cash and credit, they can find themselves in a deep financial hole. Michael Row is laser-focused on giving students the tools they need to make smart financial decisions. For example, he says, students may not initially see anything worrisome about racking up thousands of dollars in debt on a credit card, since low monthly payments can make the debt seem painless. "The problem," says Row, "is that the interest rate on a credit card can be as high as 20 percent. In other words, those monthly payments will add up — quickly — to far more than any of the initial charges." Students also talk about the power of contributing to retirement accounts as early as possible, a topic that their parents may not have had to worry about when they started working. "Many age-conscious had pension plans, and a pension would work for us years and get a pension for the rest of our lives," he says. "That just isn't the case now." Row wants his students to have the skills they need to take personal responsibility for their finances, so they can make decisions that benefit them for the rest of their lives. "These days, people just don't have the option not to pay attention to their money," he says.



GET WELL SOON

Science, Medicine, and Magic in the Ancient West
Taught by K. Dickson, history

Students learn that this isn't a novel, but it is. It's a novel, but it's also you live in the past century. A few thousand years ago, nobody understood that microorganisms were the culprits — illnesses, your very red-head-stain. "That's literally how we were treated with disease prevention, quite guidelines, or more explicit, movement toward physical or moral pollution," explains K. Dickson. "These ideas began to change in the 19th century B.C., when Hippocrates encouraged rigorous hygiene. Hippocrates encouraged rigorous hygiene. Hippocrates encouraged rigorous hygiene. Hippocrates encouraged rigorous hygiene." In the course, Dickson and his students explore the ways that religion, astrology, magic, and medicine intertwined in the ancient West, and how they began to

separate and change over time. "While we might scoff at some of the most outrageous ancient ideas about the way our bodies work, we may not be so smug as we think," says Dickson. "In the ancient world, if a man sneezed, he got a cold, but if a woman sneezed, she was overbearing with her uterus," he says. "That seems strange, but the idea of female physiology dominating by reproductive and sexual means influences modern medicine's ideas of the way up through Freud, and it still lurks in the background. You can see how these ideas were constructed and developed over time." —
K. Dickson is a Professor Emerita.

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MARCH / APRIL 2016 53

DRESS

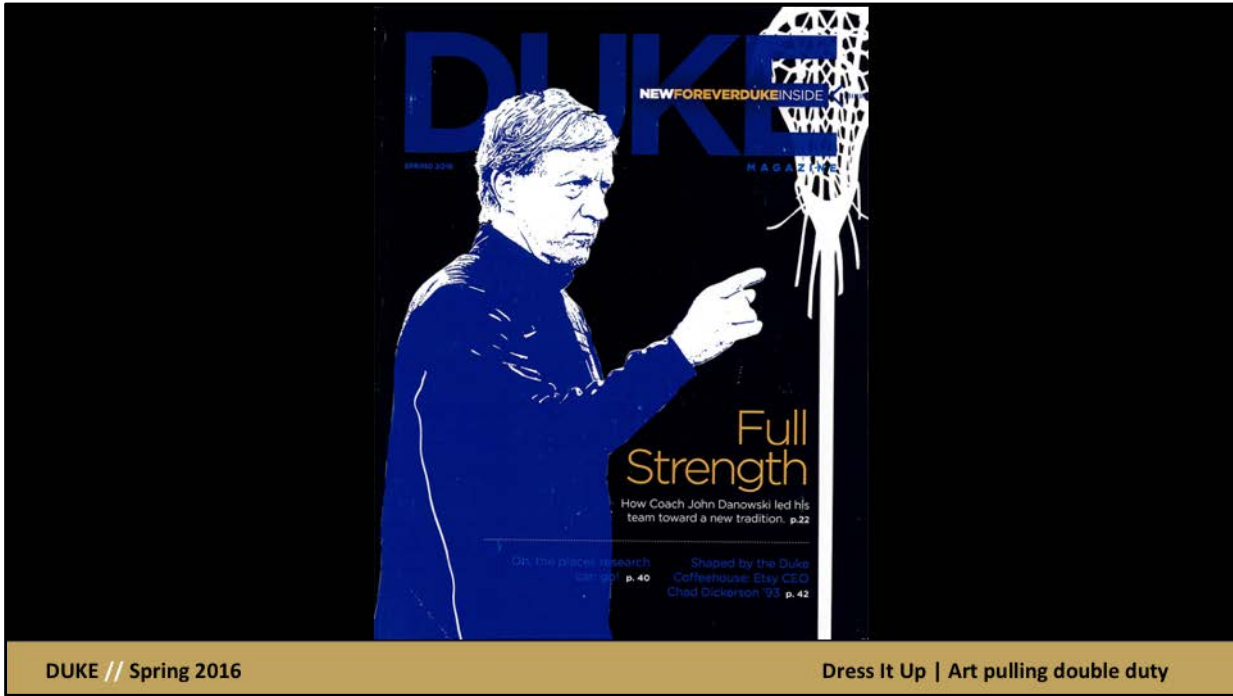
IT UP



Add a little color and some bold type, and BAM! This janky old scan makes a rocking cover statement.



This is an image that Duke has pulling double duty. Used as a photo here, turned this photo into an illo for their cover.



Maybe not the most exciting execution, but think about how you might be able to alter your images to reuse them in more than one place in your mag.

SEEING THE FOREST
and all its trees

Professor Tracks Changing World with Revolutionary Map

WITH A NOVELETER CRAWLING TOWARD his College Park office, Maryland geographer Matthew Hansen is thinking about traveling into untouched tropical wilderness. On a computer screen is a large swath of green, a natural forest in the Congo, with a small black dot in the middle. Some of the forest has been burned along a nearby river, but the black dot—a lake—is in the ever-shrinking, unsmiled portion of the world's ecosystem.

"Oh my God, if I go into a primary forest, it's breaking ecosystems," he says. "It's the closest thing for me that comes to church."

It is a shame, he says, going there would "almost be wasteful." It's the basic conundrum of the loving observer. Like a surfer regretting the impulse to ride his board through a perfect wave, there is the knowledge that enjoying nature inevitably changes it.

The conundrum is partly conjured by Hansen's lanky frame, stubbed beard and casual voice, but it's also because Hansen will be big part of future efforts to preserve nature. The professor of geographical sciences recently created a first-of-its-kind digital map that represents a leap forward in understanding how the world's trees are disappearing and is a centerpiece of efforts by governments around the world to gather reliable environmental data.

"It's the first time that we've seen global forest cover change in such fine detail," says Chris Justice, chief of Maryland's Department of Geographical Sciences. "This is really a breakthrough in our field."

The map, produced with more than 60,000 satellite images and a team of 15 researchers from Maryland and other universities, Google and the federal government, cataloged the amount of forest lost and gained between 2000

and 2012. What it shows is a net loss of 1.3 million square miles of forest.

The destruction is personally disappointing to Hansen. Yet the former Peace Corps volunteer doesn't paralyze into other countries and hector the locals about saving their natural resources. With a few days of accurate monitoring of their own, what's needed first is a basic understanding of what's happening in the world's trees.

"Just this idea that, man, there are very few forests that are left alone," he says. "We're really good at appropriating landscapes and branding them to our will."

PATIENCE IN PERSONALITY

Hansen feels comfortable under any circumstances in traveling to research forest cover, and the list of local dishes he has eaten—milk, chicken, tomatoes and mushrooms in the Congo—would impress even those with iron stomachs.

"They were all good," he says. "I've got something to eat, and I'll eat it."

Hansen grew up outside Indianapolis in Carmel, Ind., and after a false start at Duke ("My dad didn't like the return on investment") ended up getting a degree in electrical engineering from his mother's

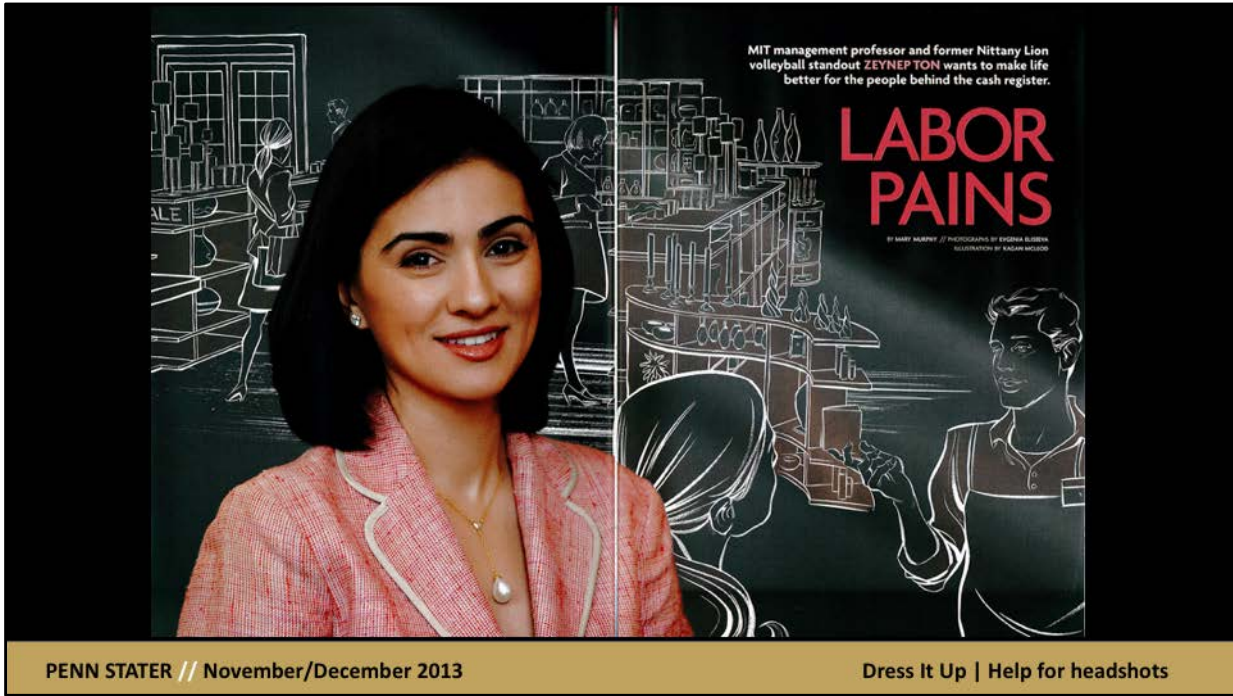
BY LIAM FARRRELL

TERP 2014 2014

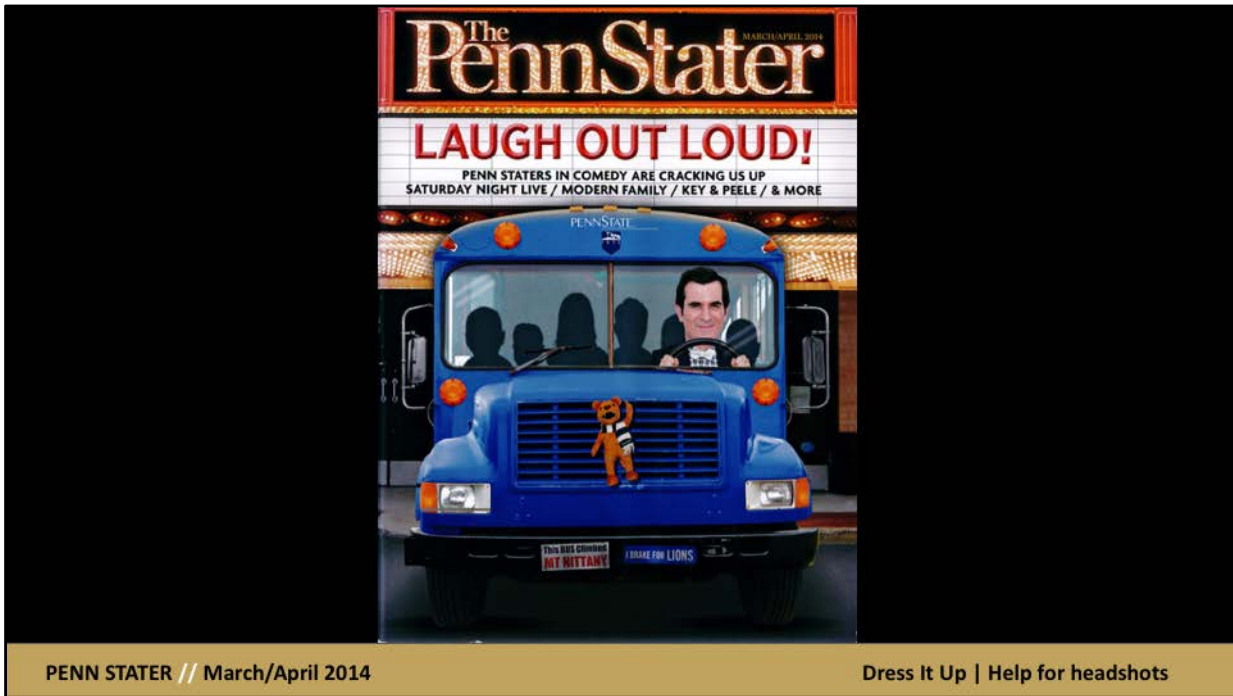
TERP (University of Maryland) // Spring 2014

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An application like this could easy be used for a boring headshot. Could be layered with a stock image.



An application like this could easily be used for a boring headshot. Simple doodle drawing in the back.



You could totally add some fun pizazz to a collection of boring old faculty headshots. Just make them into bobble heads, Use photo illustration to create new environments. Can you imagine something like this with areas of study/expertise?



A lot of quality time with PhotoShop.



KEEGAN-MICHAEL KEY

Actor, *Key & Peele*

▶ **Lately it seems like everyone is a fan of Keegan-Michael Key.** Once a standout cast member on *MadTV*, Key (**THE MEAT AKA**) hit it big in 2012 with *Key & Peele*, the sketch comedy show he shares with fellow *MadTV* alum Jordan Peele. Now entering its fourth season on Comedy Central, *Key & Peele* has earned rave reviews from critics and legions of die-hard fans, including President Obama—who offered praise for a sketch in which Key plays Obama’s “sugar translator.” Next up: Key and Peele will star in and co-produce a movie with comedy heavyweight Will Arnett—who is, yes, a really big fan.

/ MAD TV / KEY & PEELE / MUPPETS MOST WANTED / MODERN FAMILY / FINDING DORY

TY BURRELL

Actor, *Modern Family*

▶ **Flashback to 1997:** How would three Penn State grad students Ty Burrell have reacted to the news that he’d one day star in America’s biggest sitcom? “If someone had told me I’d hold down a steady job, I would have cried tears of joy,” he says, laughing. “A business attendant? I would have been like, ‘Is that a joke?’” **BURRELL’S TV MEAT AKA** a show pitched. **PH** brought on ABC’s *Modern Family*, the comedy that’s arguably the most popular TV show in the country (he writes his own 18 episodes since 2010), including an Outstanding Supporting Actor win for Burrell in 2011. *Modern Family*’s success has also earned Burrell household-name status, and roles in two highly anticipated movies—this year’s *Muppets Most Wanted* and 2015’s *Finding Dory*, the *Nemo* sequel. “It’s all been a surprise,” he says. “A very pleasant one.”



GETTING STARTED
I grew up improvising with my brother and my dad. My dad encouraged a lot of silliness in our house. My brother and I always had a running bit going—the way younger than me and smaller, and we’d do the Abbot and Costello thing where he was the funny one, and I was the obvious, innocent one. We’d work

40 THE PENN STATER March/April 2014



GETTING STARTED

I was probably 12 or 13 when my mom told me, “You know, you don’t need to perform on the dining room. You can do it on stage.” More than likely I just did very hyper-exaggerated imitations of some character from *The Empire Strikes Back* at the dinner table.

FINDING INSPIRATION

The more success you have, the more you start living a new lifestyle, and the more you lose those ordinary moments that have nothing to do with your business. Ordinary life is when the funny stuff happens. It’s one of the worst

dilemmas of this job. So lately, I’ve been really excited about taking out the mop and mopping floors.

FAVORITE SHOW ON TV

The Real Housewives of Atlanta. The humor’s unintentional, but it’s hilarious. And it’s always funny in Philadelphia. I’ll DVR it, and then sit alone in my house watching it, laughing out loud.

COMEDY HERO

It’s a tie between Peter Sellers and Richard Pryor. As much as I enjoy stand-up comedy, I’m fascinated by comedic actors. They resonate with me more.

There’s a level of clever observation that’s layered on the acting, and that makes me so much fun.

FAVORITE PERSON TO IMPROVISE

For me, the wisest a person is, the easier he is to improvise. Like Christopher Walken—especially *Iron Walken* because he’s just odd. I do *Bill Cosby*, but it’s partially based on Adam Sandler’s impression from SNL. That’s the thing about improvisation. They’re really original. Once someone feels that quality about a person, everyone goes, “Oh yeah, that is what he sounds like!”

UPRIGHT CITIZENS BRIGADE / SATURDAY NIGHT LIVE / LATE NIGHT WITH CONAN O'BRIEN /

that bit for hours, do it for the family and so on. To when I started getting out to perform, I just did whatever they’d pay me to do. I never thought of having the right to go out and make my own money. I was naive. “Oh my God, these people are paying me to do Shakespeare!”

WHAT’S FUNNY?

I have no idea. I really don’t. Deep down, there’s something about it that is 100 percent irrational. To be honest, I don’t want to know exactly what that is. The feeling of getting a laugh is my favorite thing in the world, and I think fully

understanding it would sort of ruin it for me.

FAVORITE MOVIE OF ALL TIME

The job. Steve Martin opened my eyes to comedy, and there’s a lot of stuff in that movie that, while being utterly silly, is so sophisticated. It just makes me go, “huh.”

SIGNATURE CHARACTERS

Before *Modern Family*, I really only played the guy you were fleeing would be shot or killed at some point in the movie or show. *Real Ph.D. Comedy* isn’t a huge stretch for me. It’s obvious,

and I feel pretty oblivious sometimes. Really, I’ve been anything that character except two a bit. The “genre” of my brother being smarter, and me being a little bit stupid but good-natured came really to us. Even today, we seem to slip into those characters whenever we’re together.

LAST FINE LAUGHING REALLY HARD?

A couple hours ago, actually. My 3-year-old daughter was doing her season of ballet dancing. It was pretty amazing. You can see bits of what she probably imagines ballet is. It’s a lot of back and arm swinging.

March/April 2014 THE PENN STATER 41

SARAH BURTON

Performer, Upright Citizens Brigade

▶ Sarah Burton enrolled at Penn State as a broadcast journalism major, though she says, "I always secretly wanted to do comedy." When Burton '09 took I.B.D. to MA I.B.D., joined campus improv group Full Access as a writer, but never went. After graduation, she began taking classes with legendary NYC comedy troupe Upright Citizens Brigade, whose members have included Amy Poehler and Aziz Ansari. In July 2012 she earned a spot on those of UCB's improv troupes. When Burton's not performing, she's researching—which may seem counterintuitive for a craft synonymous with spontaneity. "I'm prone to like a script," she says. "You need to train certain muscles as you're ready for anything."

GETTING STARTED I always loved comedy, but I didn't consider it a career possibility until I started going to comedy nights with full Access and saw other people doing improv for a living. I went home and told my family I wanted to pursue it, and my brother was like, "OK, do it right now."



IMPROV He still doesn't really get it.

MOST SURPRISING THING ABOUT IMPROV My friends don't believe it's entirely made up. They think we plant people in the audience to see certain things, or that we've rehearsed the same bits over and over. I swear, we don't know what's going to happen.

FAVORITE PERSON TO IMPROVISE WITH I can't say I'm great at improvising, but I do Sarah McLachlan. She has that drop-of-breath voice that makes anything sound easy. Even her hornless dog and cats.

SIGNATURE CHARACTERS I think all comedians have toward certain types of improvisations. I do a lot of such, judgmental nouns.

COMEDY HERO Tina Fey. Everything she does is funny, and people say that's easy to work with and open to ideas. In comedy, that's huge.

WHEN A JOKE GOES TOO FAR Sometimes you take a risk and then hear cackles. There's a way to ease it, though. Be honest. If I say something like, "I took that too far didn't I?" and then you get a laugh.

BOB CLENDENIN

Actor, Cougar Town

▶ There's a good chance you've seen Bob Clendenin's face before. With more than 20 TV appearances, dozens of movie roles, and countless commercials, Clendenin '09 MEA AAA is used to being referred to as "that guy from that thing." His latest work isn't exactly low-profile, either. He plays Tim, Courtney Cox's overly affectionate (read: creepy) neighbor on Cougar Town, the TNT series, which covered its 8th season in January. Clendenin also shows off his improv chops in Quirk Drive, a Web comedy that's recently premiered and "completely free-form," he says. Now in its second season, Quirk Drive is among Hulu.com's top 10 most popular shows.

GETTING STARTED When I first realized I wasn't part of the structure and I thought, "OK, what other needs do I have?" As a kid, I had a pretty serious fan collection, and I'd use them to create different characters. The bowler hat was an English gentleman, the suit guy with Shogun on it was a strange, wrong-moving man, who would hurt touch-suits everywhere.

My mom remembers catching me in my room, working on my material.

WHAT'S FUNNIEST? Something that's always funny to me is an attempt to do something and failing. Failure can be tragic or comedic, depending on how it's set up. Like Speed Tap—they're trying to be this great band, but they're failing. Or Michael

Scott on the Office. We laugh hysterically at his efforts to be something he's not. We sympathize with the audience, it goes all the way back to Clendenin.

COMEDY HERO Bob Newhart. My parents used to play his comedy albums when I was a kid, and he's just so minimal and dry—the antithesis of somebody like Robin Williams. Visually and facially, Newhart gave away nothing. I find that style so appealing, it's probably why I gravitate toward more dead, deadpan deliveries as an actor.

FUNNIEST MOVIE OF ALL TIME I just saw This is the End. It's a comedy, reminiscent of Absolutely Genius. And I love all these guys—Damon Hsu, Seth Rogen, James Franco.

SIGNATURE CHARACTERS I really love playing outcasts. People who are just slightly off center. And if I'm being honest, it's not a complete fabrication. For always being the odd man out, I can behave as a twisted coming-out, but the thoughts in my head aren't all that weird.

MIKE STILL

Actor, Performer, & Artistic Director, Upright Citizens Brigade

▶ Improv comedy is Mike Still's thing. Just ask his family—which, on holidays, is subjected to endless rounds of "Mind Meld," a raucous Charades-like game that inspires actors often use as a warm-up. "They love it," he laughs. "It's silly, but they love it." Still entered the improv world in 2005, when he and a group of friends formed A Week of Kitchens, a sketch comedy troupe whose weekly online videos earned a cult following. Still '09 I.B.D. soon got involved with Upright Citizens Brigade, which, for this improv-shake, was a natural fit.

MOST SURPRISING THING ABOUT IMPROV That anyone can do it, as long as you don't mind looking stupid. That's the secret. The people we think of as comedy geniuses—they're just regular people

who are willing to get out there and look like idiots.

COMEDY HERO David Letterman. Growing up, I used to tape the Late Show every night and

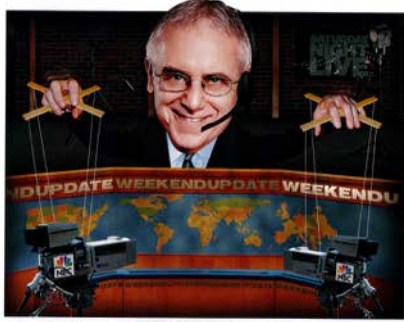
watch it the next day. I had stacks of VHS tapes full of Letterman episodes. I probably still have them. I think he's the best.

FAVORITE PERSON TO IMPROVISE WITH Bryan Cranston, from Breaking Bad. I love the intensity in his voice, the constantly gritted teeth. I do an Alton Brown impression, too, the guy from Food Network. Also, Betty White. I think improv is people I secretly want to be.

FUNNIEST SHOW ON TV Conan. There's a real artistry to the show, and Conan's intelligence are amazingly intelligent.

LAST TIME I LAUGHED REALLY HARD A couple days ago, I was making one of those bits of improviser fall-on-Buffalo—the people background, trying to get out of whatever ridiculous thing they said. OK, man.

/ THE ELLEN DEGENERES SHOW / THE EARLY SHOW / THE MIKE DOUGLAS SHOW /



DON ROY KING

Director, *Saturday Night Live*

► Don Roy King says he's always loved "putting on a show." With directing credits that include *The Daily Show*, *The Mike Douglas Show*, and *Survivor*—oh, and three Emmy awards—King '90 has been the man behind the cameras at *Saturday Night Live* since 2006. As director, King (a Penn State Alumni Fellow) literally pulls the show—managing lighting elements, camera coverage, special effects, and music. How he sums it up: "It's a symphony conductor and an air traffic controller all in one."

WHAT'S FUNNIEST?
Comedy is hard. It's subjective. It depends on the writer and the show, and sometimes it's just the next week, with a new host, and a bit. That can happen without anybody knowing why it's hilarious or chemistry.

FAVORITE SNL SKETCH
A few years ago, Kenan [Thompson] came to me with this idea for a fake

talk show called *What's Up with That?* After telling me how he's going to bring a ring, we had the camera discover all these bizarre characters in the audience, and back to the stage, and there's a robot, dancing with Fred [Armstrong] and Jason [Sudeikis]. Really crazy stuff. I just looked at him, and said, "Do you realize that we're live show? With only five cameras?" [Laughs] It's out, though, and we made it work. Now,

that bit is one of my favorites.

BEST SNL GUEST HOST?
Justin Timberlake. He's so talented and versatile, and he just enjoys being there. A remarkably sweet and giving guy.

DREAM JOB
Somebody I'd like to get into acting, in either movies or films, but I couldn't be happier where I am now. My job is to make people laugh and clap, and sometimes I get a gold statue for it.

MY SENSE OF HUMOR
It's a little dry and sarcastic. My 10-year-old daughter seems to have inherited that. She told me the other day that she wants to be a director, but "not like you. Dad. A real director." Gee, thanks.

ADAM YENSER

Stand-up comedian and writer, *The Ellen DeGeneres Show*



► If you don't know Adam Yenser's name, you probably know his material. Yenser's jokes have earned big laughs on *Saturday Night Live*, *Late Night with Conan O'Brien*, and, most recently, *The Ellen DeGeneres Show*, where he's part of the eight-person writing team that nabbed a Daytime Emmy in 2011. Yenser '01 Con, Ed has been making the rounds as a stand-up comedian, too, performing original material at comedy clubs in New York and L.A.—including a stop at Comic in November 2012.

GETTING STARTED
My first stand-up experience went really well, which probably made me overconfident, because my second time was a disaster. They were on open mic night in the basement of a taco restaurant in New York. There were about four people in the audience. I went through five minutes of material and didn't get one laugh.

FUNNIEST MOVIE OF ALL TIME
It's a tie between *Anchorman* and *Monty Python and the Holy Grail*—the only two movies I can watch over and over and laugh just as loud every time.

TOUGH SUBJECTS
Politically, I'm very conservative, which people don't expect. I like to anticipate the trends a little bit. I talk about how I

don't have to worry about the economy because I packed up all those Obama commemorative coins when he was elected—and those are always worth more when they have obvious mistakes on them.

DEALING WITH HICKERS
People about women stuff sometimes, but I've never had a really persistent hick. The way to not to engage the drunk people.

FINDING INSPIRATION
When I sit down to write comedy, I can't write comedy if I get ideas from conversations with friends, but most of the time, I think of material while I'm driving. I guess I don't pay enough attention to the road.

LAST TIME I LAUGHED REALLY HARD
My friend [comedian] Nick Coble was doing some one material the other day. I wasn't used to his joke and told it, but he has this bit about the dog Whiskey. It absolutely killed me.

/ SURVIVOR / COLLEGEHUMOR / BUZZFEED / COUGAR TOWN / QUICK DRAW /

JEFF RUBIN

Writer, *Buzzfeed.com*



► Jeff Rubin was the first employee of CollegeHumor.com. In 2004, the comedy website's two founders hired Rubin '04 Com as a writer, and in the past nine years, he's produced hundreds of articles and videos (including viral hit *Slip Slap*), a Web talk show for videogamers), helping CollegeHumor grow from dorm-dweller favorite to media powerhouse. In late 2012, Rubin left CollegeHumor for BuzzFeed, where he specializes in the same brand of snarky—and occasionally shrewd—comedy.

GETTING STARTED
My first semester at Penn State I was writing ads for things and sharing them via AIM away messages when I heard there was a humor magazine competition. Thinking, "Oh, other people want to do this too?" Then when I started taking it seriously, stuff gets a lot more engaged.

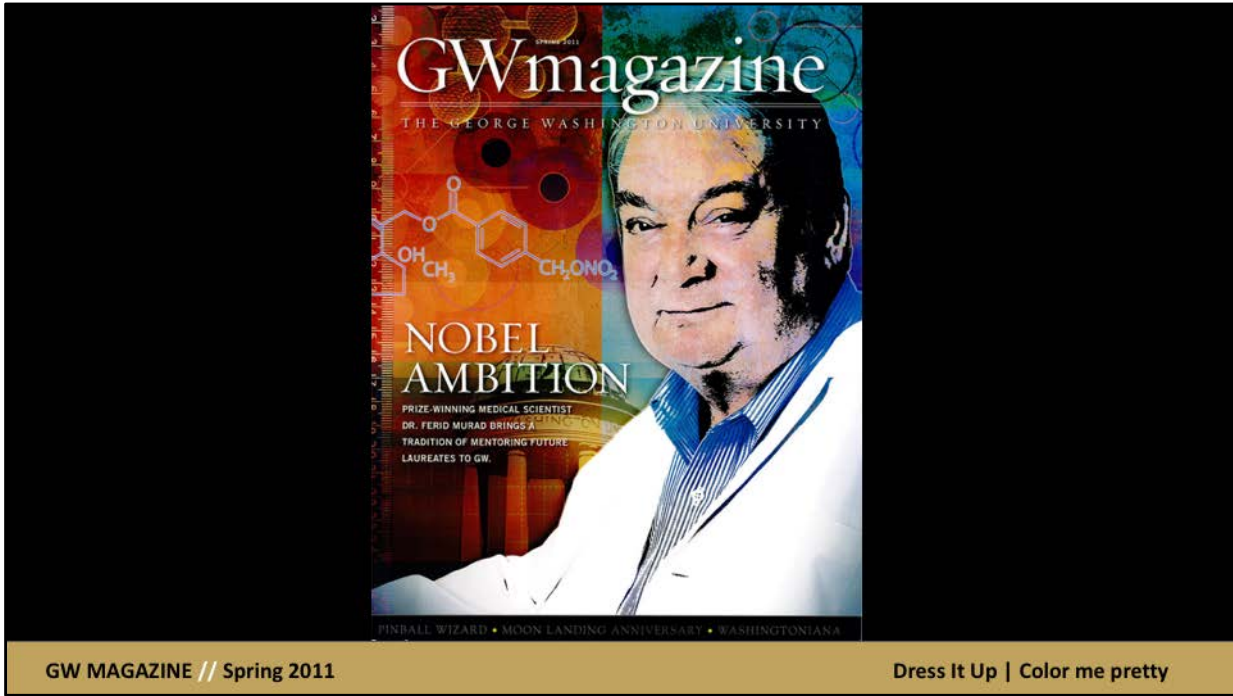
FINDING INSPIRATION
I get ideas from just being. You need to have a life so you have something

to comment on. Plus, life has a ton of health benefits.

COMEDY HERO
"Weird Al" Yankovic. When I was growing up there weren't a ton of alternative voices for kids, and *Weird Al* made me feel like I had one. Maybe even could be weird. Obviously, I don't recognize that at the time. Last year I taught the video for "Take a Sledge" was the greatest thing in the world.

FUNNIEST MOVIE OF ALL TIME
I think it might be *The Big Lebowski*. Right.

LAST TIME I LAUGHED REALLY HARD
You can actually watch it online. It's one of the best episodes of *Slip Slap*. It featured Fat Catz, the film, and this MMA videogame for Wii. Those guys are both hilarious comedians on the internet, but they're also friends of mine, and so that video, they're making me laugh the way only friends can. If



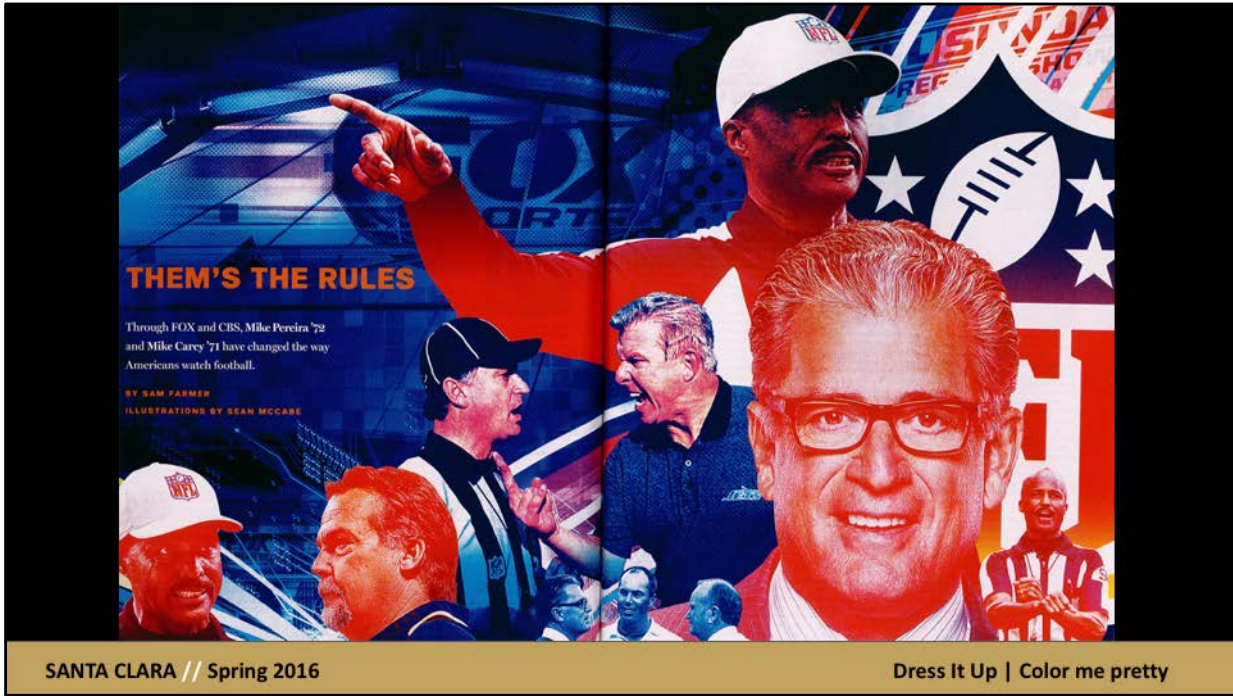
I have had this in my pile for a LONG time. The sticky note sticking out of the top has faded! Good use of visual texture, combining graphic elements, crazy colors to make something out of a provided photo.



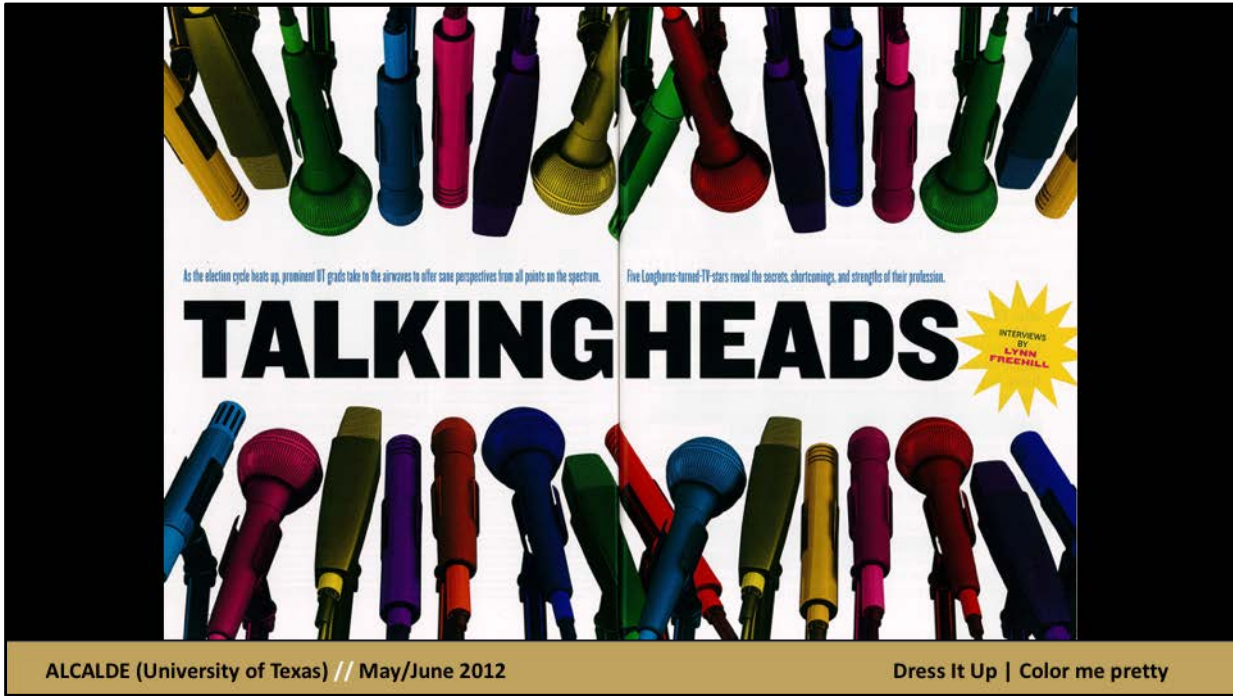
Not sure what to do for your headshots/provided photos? Give them some color!
Everyone is instantly united.



None of these elements alone is very strong, but you throw them all together, and you've got a cover. Good choice to tone down the blue so it's not so over-the-head patriotic.



Crazy colors. Visual cacophony. Totally plays up the shouting and passion around sports commentary.



Stock images colorfied

October 15, 2004. Journalism students still review the moment as a dramatic case study on the intersection of TV and politics.

Comedian **JON STEWART** went on CNN's *Crossfire* debate program as a guest—but quickly went off the rails.

Instead of making funny quips about his *Daily Show*, he stayed deadly serious as he criticized *Crossfire* and its black-and-white debate style. **"STOP, STOP, STOP, STOP HURTING AMERICA,"** he begged hosts Tucker Carlson and Paul Begala.

TIME named the episode one of the top 10 TV feuds ever. Not long after, CNN canceled *Crossfire*.

At the center of that pivotal moment was a Longhorn. **PAUL BEGALA** is a former UT student body president turned White House aide turned on-air analyst. The tense moments with Stewart weren't funny, Begala says, but they weren't as crushing as they looked from the outside. **"I LIKE CONFLICT, ESPECIALLY WHEN IT'S DIRECT,"** he says. **"I LIKE SOMEONE WHO STABS YOU IN THE GUT, LITERALLY AS IT WAS HAPPENING. I WAS THINKING, 'THIS IS COOL.'"**

The show died, but Begala endures, a television stalwart for a decade now. The TV landscape has changed since, with more analysts and viewpoints popping up, more cable networks making clear their ideological leanings, and even more shows experimenting with different presentation styles.

Here is what **JON BEGALA**, **FRANK ANTHONY**, **MARK MCKINNON**, and free-roamers **MARJORIE CLIFTON** and **KAROL LUNNEY** see around them—for better and for worse—as they make the television rounds.



PAUL BEGALA
CNN

BA '83, JD '90, Life Member

SEE ME ON: Anderson Cooper, John King, and the Situation Room.

WHY DO YOU DO IT? I'm there like a former football coach is in the booth. The bad is I'm not trained to be a pundit. As long as the audience knows that, that's fine. The good is I have experience and access that a journalist doesn't have.

MY SPECIAL INGREDIENTS: I try hard to make things interesting and funny. I do have access that journalists don't, and I can't betray that. At the same time, I can stick up when that other people might not get it.

MY INSPIRATION: The University of Texas. We were a student government 30 years ago, and in 1962, the rep was to would have a bunch of little campus politics. My answer was, 'you'd be a junior journalist, junior businessmen, junior everything. That's how you develop a John F. Kennedy or a John Connally.'

AND THEN... I set out to change the world, to work for politicians and senators I admired in Woodstock. When it came time to name an issue that MENSOC offered me a job.

MY INSPIRATION: Mark White, the leader of a Democratic political operation, but he calls them as he sees them. And his theory—the model is based on **NOT AN INSPIRATION:** I was working for Bill Clinton in 1994, and we were getting pounded in

"COMMENTARY AT ITS BEST PROVIDES INSIGHT AT A TIME OF INFORMATION OVERLOAD."



primary, and one analyst said Clinton was like a get-out Confederate soldier. The Democratic Party would end on one week, he said. The big risk of punditry is thinking tomorrow will be just like today, but never is.

IT REMINDS ME OF: The night that Barack Obama was elected. I'll have for Hillary in the primaries. But I was thinking of Barbara Jordan speaking in the '70s about how her faith in the Constitution was limitless. It was extraordinary to see hundreds of thousands of people swarming openly in Grant Park.

MY FAVORITE: I have a broad media palate. I read the *Wall Street Journal* and watch Fox News so that I know what both sides are thinking.

OPEN HOUSE/CONFIDENTIAL: Michele Bachmann was on CNN one time, and I brought my four legs to work with me. Ms. Bachmann showed up to an interview, and she had her girls in the green room, she basically went into some mode and was so nice to my kids. I don't agree with anything Michele Bachmann believes in, but I can't tell from my experience to her that she is a good person.

FORGIVE ME FOR SAYING: My buddy [John] Condit told me, Mrs. Romney talking about Michigan's midline shape. I touched the tip of the mitt and the base of the mitt, she said. Alex said, 'There was never anyone all those kids came from.' I thought Anderson Cooper was going to cry under the desk.

PROHIBIT WORDS: I am president of my strong conviction in the way I'm doing.

WHAT TO BELIEVE: Commentary at its best provides insight at a time of information overload. When it works it brings content, perspective, and a point of view. The best industry—what, what, when, where—is still. But commentary can tell us how and why which helps us see our own views.

WHAT SET ME OFF: Let me focus on my own shortcomings. I tend to be too black-and-white. I place a high premium on honor, but sometimes I second-guess myself. And it wouldn't hurt if I looked more like Matthew McConaughey instead of, as one pundit said, Peter Dinklage in Young Frankenstein.

CNN/Photo by John Wright/Agf

MAY/JUNE 2012 | 43

Bold color choices. You can't make someone PURPLE!?!?!? Yes, you can!



ARTHEL NEVILLE

Fox News
RJ '06, Life Member

"BUT DOGGONE IT, I WAS THE STORY. EVERYTHING THAT IS ME DROWNED IN KATRINA."

the station anchoring. He said, "No, you have the innate ability to be an anchor. You continue to hone your skills as a producer, as a reporter, as a writer, as a story teller, as an editor." That's why I'm still anchoring.

DISCOVERY: I've had my moments when I worked in a situation where I thought, "This is not why I got into this." I don't want to be around people who are lazy or lack scruples or just want to show out on television.

PROUD OF: Just in general I'm happy to have the perspective of being an African-American woman doing this on a regular basis. But specifically, I covered Hurricane Katrina. I've been New Orleans. That was the most difficult assignment in my career. Because as a journalist, you're not the story. But I digress. I mean the story. My home was washed in water for two weeks. Everything that was around in Katrina.

BY THE WAY: We have great makeup artists and hair stylists at Fox. And I am blessed to do my own. I do do my makeup in 30 minutes and my hair in about 15. It's a vice. But I like doing it because I don't have to do it for other people.

LOCKING UP: This past Saturday, as I finished all my preparation in terms of reading, I threw on the music in my office and started dancing to get myself all worked about my job.

SUGGESTIONS: It's a visual medium and I'm fortunate in having to work out and be fit and healthy. I eat. That part's not fun. But I do not starve myself for the moment. I just eat and healthy.

BEST PART: I love what I do and am happy enough to still be doing it. That right there is perk enough for me.

FRIGHTENING: I find him to be a kind-hearted, know-nothing guy. He's fairly interested, a good dad, and he's your friend, but a good friend. He's intense with me, too, but I just give it back to him, and I don't take it personally.

TV ANCHOR DREAMS: Well, it gives people food for thought about... and definitely changes the game—politicians have to always be on their toes because even on everyday news.

GET THE DISTINGUISHING: Our job as journalists is to report the news. Now if you want to take into the analysis and opinion shows, you have got to be that in opinion. There's nothing wrong with that, but you're going there to have different points of view. Don't be confused.

MARJORIE CLIFTON

CNN, Fox News, and beyond
RS '02

"YOU'RE SITTING IN A MEAT LOCKER TRYING TO TALK TO A BLACK BOX AND APPEAR ANIMATED AND ENGAGED."

SEE ME ON CNN and Fox: Early Start, Monday, Late Update, I go full circle.

I'D CALL MYSELF: An analyst. And I'm officially a political independent.

BEHIND THIS SCENE: It's really only this year that I started doing on-air commentaries. What has been a consistent thing through my entire career is training women in media. The camera's got turned on me.

WOMEN'S PROGRESS: There is still a huge disparity in terms of general and commentaries.

HOW I GOT STARTED: I was a broadcast journalism major at UT. I left that to go to advertising and marketing school. I was on turned off by the idea of having to sell media. What I've learned and what I'm trying to do is to play the game so you can get in and change it. I always got pushed to be a Republican or Democrat because that's what sells. I try to represent both sides in a fair way that's promoting dialogue instead of polarity.

HOW IT FEELS: I came out of a private all-girls school in Houston. The diversity of UT gave me a broader perspective.

TV THAT INSPIRES ME: In terms of inspiration and goals, Rachel Maddow has created a new space for women in humor and sarcasm. She infiltrated the boys club in a way that I don't think any other woman has. Pamela Anderson is very balanced, and has been a major role model. She's done the same role of direct and focuses on on having a more global perspective.

MY FAVORITE MOMENT: Recently debating this health care issue. Never before has my voice felt more important because of the lack of women on there speaking about it. It required me to bring a bigger part of myself into it than I'd ever had before as a woman and a Catholic.

WOMEN'S PROGRESS: "Confidence, don't stop growing down—just don't forget the dress to the newsroom and the boardroom."

THE NEXT NEWS REPORT: It's been having a stir current on what's happening, up to date on what other people are saying, and doing the necessary research on a given issue. I do two or three hours the night before of general prep. Then they'll email me the topics at 6 a.m., and I'll prep until I'm on the air at 7.



MARK MCKINNON
MSNBC and More

SEE ME ON: Various television platforms. I am a regular on Morning Joe on MSNBC.
WHAT I DO: Provide news and analysis. Analysts usually have sections. I generally just prefer to report as a weekly guy.
WHAT I'D LIKE TO DO: I try to bring a common sense, middle-of-the-road perspective. I am not a hyper-partisan. I worked 13 years for Democrats and 13 years for Republicans, so I understand all perspectives. I also started an organization called No Labels, which seeks to bring people from all sides together in an



46 / Alakale

effort to make Washington work.
HOW I GOT HERE: I volunteered for Lloyd Doggett's U.S. Senate race in 1994.
HOW IT UNFOLDED: My first campaign was for Andy Rosen in 1998. As editor of the Press, I represented student views both in the paper and in public forums.
MY INSIDE: Charlie Rose is terrific. He's got great guests and a longer format that allows for more discussion on important issues.
UNWIND: I don't want to name names, because I still have to work for their network, but I was on a show and where we went to break the host said, "Cut the bipartisan crap, McKinnon. Just give me some red meat."
FAVORITE MOMENT: Had some fun last week when I showed up on Morning Joe with a beard. And they cut to a shot of me side-by-side with the guy from the Don Quixote campaign, "Stay Thirsty, My Friends."
PROBABLE ON: I'm happy just to get through any

"WHEN WE WENT TO BREAK, THE HOST SAID, 'CUT THE BIPARTISAN CRAP, MCKINNON. JUST GIVE ME SOME RED MEAT.'"

show without totally humiliating myself. I usually sign off by saying, "Kick it hard and carry on, Republicans."
MY FAVORITE STRATEGY: Often I don't get much advance notice. But I always try and think of at least a few things that I want to get into the conversation. Otherwise, you are totally at the mercy of the interviewer.
WHAT I SEE ON TV: People would be surprised by how friendly it can be behind the scenes between hard partisans who then get on camera and tear each other apart.
IDEAS: Cable TV provides an astonishingly vast array of opinions and ideas. There is something for everyone.
CONSTRUCTIVE CRITICISM: Increasingly, in an effort to attract niche audiences, cable TV is pushing further and further to extremes. It would be good for all media to work diligently to make certain they are providing a balanced perspective.



KAREN TUMULTY
The Washington Post and Elsewhere
BJ '77

SEE ME ON: Washington Week, Five the Nation, Rachel Maddow on MSNBC, Red Eye on Fox.
HOW IT UNFOLDED: Basically a reporter. Everything I did with, whether it's the minutes I write for the newspaper, Twitter, or programs I do on TV, really does grow out of my love of work, which is reporting.
WHAT I'D LIKE TO DO: There's a real value to having watched the political and governing process for as many years as I have. It gives me the ability to take a look at what's going on now and get a sense of what it means.
DRINK OF CHOICE: The television staff starting in the mid-'60s. The Clinton impeachment coincided with an explosion in cable news. *TRUCE*, where I was before the Post, was very eager to see us on the air.



GETTING MY START: Part of it is really just doing it. There's no education for that. *TRUCE* put us through media training as well.
HOW IT UNFOLDED: The business was so different when I was in school in the late '70s. It was very much a print-focused profession. But the writing and analysis skills translate pretty easily.
THE NEWS: The thing you have to be willing to do is say, "I don't know." There are things you can't predict or can't know, but there is a great deal of pressure to act like you know things.

"PEOPLE WHO FIGHT ON THE AIR GENERALLY LIKE EACH OTHER OFF THE AIR."

MY INSPIRATION: I do admire Gwen Ibb. On her show, she will only have real reporters. You have to have covered the actual thing you're talking about. Nobody can be an expert on everything. Gwen has a way of keeping people on point and to the facts.
MY MOST DISCOURAGING MOMENT: I was once on with a so-called analyst at Fox News who was asked about something going on on the Democratic side of the ledger. She said, "I don't follow Democrats. I only follow Republicans."
FAVORITE ON-AIR MOMENT: One of the most thrilling things I've done is moderate one of the Republican presidential debates at Dartmouth.
BACKSTAGE SURPRISE: People who fight on the air generally like each other off the air.
WHAT COMMENTARY CONTRIBUTES TO DEMOCRACY: It gives us necessary. People invest a lot in it.
WHAT TV SHOULD DO BETTER: It could always use additional depth, but just an acknowledgment that some things are unknowable. That's my problem increasingly on the cable channel—an acknowledgment that there's any ability to sense other points of view. ■

WASHINGTON POST | 47

UF

THAT'S

Entertainment

UF ALUMNI MOVE BEHIND THE SCENES GETTING OTHERS INTO THE SPOTLIGHT

BY MATT WALKER (MASC 13)

22 | WINTER 2016

The 5-foot-3-inch literary giant and cultural icon Truman Capote held the attention of thousands at the University of Florida's Florida Gym, touring on the heels of publishing several controversial stories in Esquire magazine.

Just across campus, a little-known governor from Georgia was speaking to a group of approximately 100 people in the McCarty Auditorium - the result of a last-minute phone call from the governor's son.

Don Epstein! (It's still then-chairman of UF's ACCENT Student Business was running back and forth from one to the other, making sure both events ran smoothly.

"Little did I know that Jimmy Carter was going to be the next president of the United States," Epstein says.

Being involved in Student Government Productions (SGP), ACCENT or Gator Great has motivated and inspired many UF students over the years, creating a sense of talent, ambition and curiosity that has launched many successful careers covering every aspect of the entertainment industry.

"Our students are extremely bright, but they're also creative," says **Mark Morgan**, director of external relations for the Division of Student Affairs. "Because of the opportunities that they have on campus... they are able to take significant leadership roles early on in that experience."

While successful performers are the ones who often become household names, there are always those talented people behind the scenes working hard to get those performers jobs, tell their stories and make sure everything runs smoothly.

"CREDIT HEAVILY... THE EXTRACURRICULAR ACTIVITIES AT UF! FOR CREATING AN INTEREST IN ME EARLY ON ABOUT LIVE EVENT PRODUCTIONS."

- Mike Wilson (SIS 16)

FLORIDA GATOR | 23

FLORIDA GATOR // Winter 2016

Dress It Up | Unity of black and white

Simple repeated graphic, headshots all uniformly black and white.

Epstein would become one of these people. His experiences with bringing popular speakers, bands and performers to UF would reiterate his life path, as it would for so many others.

"I was ACCENT for five years, and I really became fascinated by the whole entertainment world," says Epstein, who helped bring names such as Hunter S. Thompson to UF when he was 22.

After Epstein graduated, he landed a job joining the speakers division of New Line Cinema in New York City, where he says he became further enamored with "this world of intellectual property and theater thought." It wasn't long before he visited his soon-aging Greater Talent Network, where he combined his fascination with storytelling and his ability to cultivate relationships to build his young company. As an agent, he maintained his connection with UF by bringing in celebrities such as Alvin Huffman and Tom Wolfe to speak there. CFE is now considered to be one of the nation's most influential and largest speakers agencies.

Over the years, Epstein, whose name now adorns the ACCENT office on campus, has worked with counterculture icons like Thompson, groundbreaking journalists such as Carl Bernstein, and politicians, actors and filmmakers, including Paula Abdul and Steve Wozniak. Legendary New York Yankee baseball player Alex Rodriguez is one of the more recent additions to CFE.

While at UF, Epstein worked under the guidance of Miles Wilkin (BSBA '90). Wilkin had already become enamored with the entertainment industry in the late 1960s as a student and after graduating, he worked at UF and the late '70s, helping to bring acts like Bob Dylan, Janis Joplin and Elton John to UF. This is when Wilkin began to embark on a path that would make him a highly influential figure in the Broadway theater world.

"I credit heavily perhaps even exclusively, the extracurricular activities at the University of Florida for creating an interest in me early on about live event production," Wilkin says.

Wilkin took that interest into pioneering territory as he co-founded the SGCE Theatrical Group in Houston in 1982. Wilkin and FACE are largely responsible for laying the foundation for the traveling Broadway musical — something often taken for granted today. Wilkin and his team promoted heavily, negotiated, and built and renovated theaters across the country.

Wilkin and FACE also became involved in producing more than 200 Broadway shows, including "Elphaba on the Road," "Spamalot," "The Producers" and "Managers," picking up six Tony Awards along the way.

Wilkin is now the vice chairman of the John Gene Organization, at which he "provides the vision for Broadway Access America's significant touring network and Broadway.com's vast commerce network," according to his professional bio. A UF

distinguished alumna, Wilkin's vast influence in the Broadway world was recognized earlier this year when he received a prestigious Special Tony Award. Through the Miles C. Wilkin Acting Studio in the UF School of Theatre + Dance, he continues to give back to UF, providing opportunities for aspiring student actors.

HARD WORK PAYS OFF

Morgan, who was the former director of student activities and the associate director of the Delta Delta, has seen many SGF and ACCENT students go on to great careers. But it wasn't always a glamorous endeavor for the student volunteers.

"They realized pretty early on that if they're going to be successful in the business, they had to be willing to do all the ugly work," she says.

Real Mater (BA '03) might agree. His introduction to SGF came when he tagged along with a fraternity brother, **Kim Culver** (BSBA '88), who was SGF chairman at the time, to a reggae concert.

"My role on that day was literally to pick up garbage after the show, that's what I did," Mater says. "That was sort of my introduction to SGF. And then I loved it... I worked in the organization for three years. Once I was motivated, I was hooked."

For Mater, one of the most intimidating moments came two years later, when he was chairman of SGF. He was in talks with The Rolling Stones' management team about bringing the rock legends to UF, but the show would have to take place in





Epstein



Wilkin

AS A STUDENT, MILES WILKIN WORKED AT UF UNTIL THE LATE '70s, HELPING TO BRING ACTS LIKE BOB DYLAN, JANIS JOPLIN AND ELTON JOHN TO UF.



FLORIDA GATOR // Winter 2016

Dress It Up | Unity of black and white

Crazy duotone image way more interesting than black and white.

the stadium, something that had not happened in years.

Mateu called a meeting with then-UF Athletics Director **Jeremy Foley**. "So here I was, a 27-year-old kid having a meeting with Jeremy Foley saying, 'Hey, I want to bring the Stones,'" Mateu recalls. He says Foley was very kind but denied his request because the event would have damaged the playing field. (The Stones famously eventually stayed in the stadium in 1992, when their tour coincided with the opening of the field.)

After graduating, Mateu went to New York with aspirations of working at MTV or a record company, instead he quickly found himself working in the motion picture program at the William Morris Agency, one of the largest talent agencies in the country. Mateu was soon backing up some big popular rock and alternative acts of the day before moving over to the television side of things, where he would become the managing director of its Latin American and Hispanic businesses.

In 2006, Mateu struck out on his own and founded the Flamed Media Group in Miami, where he manages creative, Hispanic, American and advertiser markets, several of whom have won Emmy Awards. Mateu was also integral in bringing the ABC hit sitcom "Ugly Betty" to American audiences. The show is based on the Colombian telenovela "Yo soy Betty, la fea."



Mike Mateu

In 2014, he launched the content development company babaluviv, with babaluviv. Mateu focused on his first love, music, bringing the R&B/Hip-Hop Flamed Latina, featuring Jennifer Lopez, Pitbull and other national acts, to Miami last year. The firm is also working on its first reality and scripted shows for television.

Mateu says he looks back on his SGP days as some of the most enjoyable times he's ever had in the entertainment industry. The SGP office in the Center for Student Activities and Involvement is named for the Mateu and Cullen families.

Taking over the reins from Mateu as SGP chairman in 1991 was **Ben Schilling** '93 (left), yet another student whose career path was defined once he became involved in the organization.

Schilling was always a big music fan, and during his year as SGP chairman, he recalls bringing 30 national acts to the UF campus. "The biggest show we ever did was Larry Kravitz and The Club," Schilling says. "We did a live show [at Flamed Field], and I think 20,000 people showed up. People were carrying cases of beer on their shoulders. It was a total party. And the cops were trying to shut me down and take me to jail."

Schilling says he tried to reason with the police that if they pulled the plug on the show, they might cause the riot they were trying to prevent. Ultimately, Schilling stayed out of jail, and the show ran smoothly.

"BASICALLY, YOU'RE ENTRENCHED WITH THE ARTISTS AND OVERSEE EVERYTHING THEY DO WITH THEIR CAREERS, AND YOU'RE SOMETIMES VERY MUCH A PART OF THEIR PERSONAL LIVES!"

— Ben Schilling '93 (left)

Like Mateu, Schilling also went to work for the William Morris Agency after graduating, but unlike Mateu, he traveled south to the company's Nashville offices and remained heavily involved in the music business.

In 1999, he left the agency for Vector Management, where he works closely with founder and influential manager Ken Levitan. Schilling's first management gig with Vector was working with legend Stevie Nicks, a group he still manages today.

Schilling has also worked with Kid Rock, Bonnie Doo, Kenny Wayne Duplantier, Ozzy Osbourne and many more performers over the years.

As a manager, you're basically in charge of all of their personal appearances, record label issues, social media," Schilling says. "Basically, you're entrenched with the artists and oversee everything they do with their careers, and you're sometimes very much a part of their personal lives."

It can be anything and everything, from putting a band member in rehab to dealing with a medical condition to performing at the Republican National Convention."

As glamorous as it sounds, behind the scenes is hard work, but these alumni wouldn't have it any other way. And for students willing to take the leap into the entertainment industry, there's no better place to start than UF student activities. Just ask Schilling, Mateu, Wilkes and Epstein, Morgan, who has worked with hundreds of students over her 20 years at UF, including Schilling and Mateu, agrees. "After they graduate, the students tell me they would have never even pursued the career they chose if their interest hadn't been piqued because of their involvement in SGP, Gator Graze or other student activities." ■

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WARDE MANUEL: DRIVING FOR SUCCESS

As U-M's new athletic director, Warde Manuel returns to his alma mater to oversee one of the country's largest athletic departments. And his goals are relatively simple: the academic and athletic success of its students. BY MICHELLE MARANO

As the Wolverines walk through the tunnel on their way into the Big House on football Sundays, the players pass beneath a banner that says "ouch-up-to-touch-for-good luck." It reads: "The team. The team. The team."

Manuel, 30, MHW'93, M'96, a big guy with a young face, still looks like he could put on his pads and stride onto the field. But his playing days came to an abrupt end in 1983, when he suffered a neck injury that cost him his senior year and the life he expected to live.

"It was hard," he admits. "There was a great when I was in team, knowing my career and my dream of playing professionally was going to end." He could not have known it then, but the injury led him down a different path to athletic and administrative success.

In January, U-M President Mark Schlissel announced the appointment of Manuel as U-M's new director of athletics. He succeeds interim athletic director Tom Izzo, 71, and replaces Dave Brandon, 74, who stepped up Michigan's marketing efforts, but because a lightning rod for criticism.

Manuel, who turned 40 in May, says his goals for the \$133.6 million department are simple. He wants its athletes, male and female, to be successful both on the field of play and in the classroom.



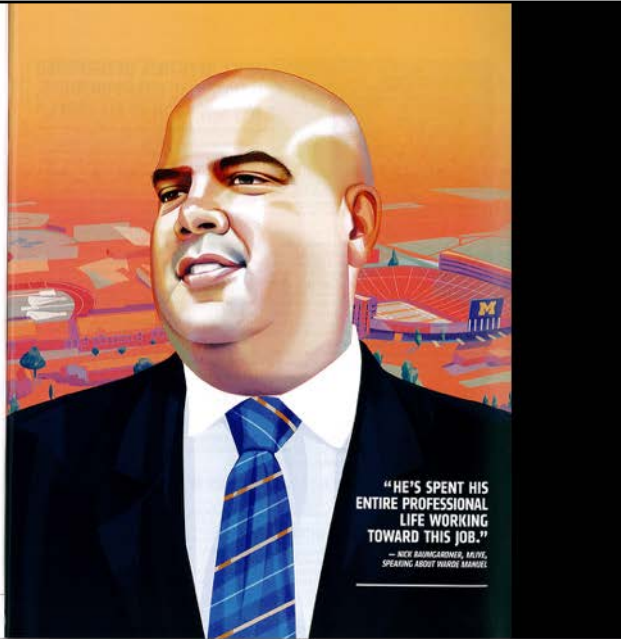
Warde Manuel, pictured here in the 1987 game against Ohio State, played football until he sustained a neck injury in his senior year.

"We are here, first and foremost, to have our students learn and grow from the University of Michigan all the academic lessons you are taught to give as young people," Manuel says. "I want them to win, academically, to get the best grades and work hard and achieve great success in the classroom and graduate from Michigan."

That ethic extends, of course, to athletic competition. "When we hit the field of play, or practice, I want them to want to be the best that they can be and the team can be. We want to win championships, for that was what was meaningful to me as well."

MANUEL RETURNED TO MICHIGAN from the University of Connecticut, which won six NCAA championships during his three-year tenure as athletic director. UConn became the nation's dominant power in women's basketball and a perennial leader in men's basketball, winning six NCAA championships.

He arrived like a natural pick, given his pedigree, and the hiring process went quickly from the time he was approached in December 2013 to the announcement of his appointment the following month. But there was plenty of competition. Michigan hired a search firm to consider 62 candidates for the job, including athletic personnel from major universities in the Big Ten and the Southeastern Conference. After all, Michigan athletic directors historically have remained in the job a decade or more. Following H. Vast, Fritz Olske, and Don Cushman all



"HE'S SPENT HIS ENTIRE PROFESSIONAL LIFE WORKING TOWARD THIS JOB."

— NICK BAUMGARDNER, M'10, SPEAKING ABOUT WARDE MANUEL

Don't have a great headshot? Or don't have one at all? Make an illo out of it. This one is stylized.

THE DAN INTERVIEW

PHIL HANLON '77

AFTER THREE YEARS IN OFFICE, DARTMOUTH'S PRESIDENT OFFERS HIS TAKE ON STUDENT LIFE, THE FUTURE OF THE COLLEGE, AND WHAT IT'S LIKE TO LIVE ON PRAT ROW.

BY C.J. HUGHES '92

THE 18TH PRESIDENT OF DARTMOUTH

arrived in Hanover three years ago and didn't spend much time unpacking. As the College tried to regroup after a harsh economic downturn, it also found a deep drip of underwriting scandals about housing, sexual assault and binge drinking.

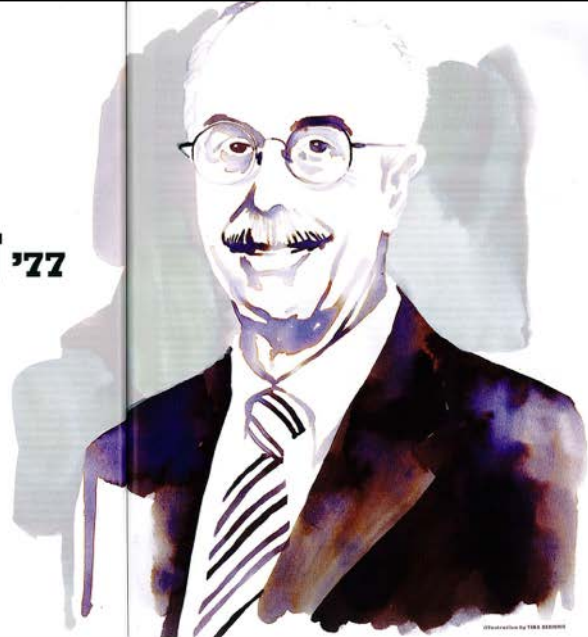
For Hanlon, addressing those required a detour from immediately articulating larger goals. A math professor and former provost of the University of Michigan, the passionate academic came to Dartmouth with big and occasionally provocative ideas about how to adapt a tradition-bound place for the 21st century.

"If you're standing still, you're falling behind," Hanlon told D&M in the course of nearly three hours of interviews in Hanover this summer, reflecting back on his arrival and sharing his vision of days ahead, beyond his Moving Dartmouth Forward initiative, designed to make Dartmouth a safer and healthier school.

Already, there's momentum. This summer the College established its school of graduate and advanced studies. As of this fall students are assigned to residential college-like dorm clusters that aim to be social hubs—spaces that can serve as New Haven for Hanlon.

In 2014 the College created a space for the Dartmouth Entrepreneurial Network (DEN), a student-focused, tech-type incubator.

82 DARTMOUTH ALUMNI MAGAZINE



DARTMOUTH // Nov/Dec 2016

Dress It Up | From photo to illo

Loose watercolor approach



FULL BROADCAST

At UMD, Pakistani Journalist Works to Expand Vision of Local News—and Survive Doing It. **BY LIAM FARRELL**

REPORTING THE LOCAL NEWS IN AMERICA is rarely beset by mortal danger. Publishers may suffer cuts, and their meetings may be disrupted by terror plots and other major neighborhood events may be intimidating, but there are usually lots of a familiar nature.

Not so in Pakistan, where journalist Saif Nadeem Akhbar runs a daily news service in unstable tribal areas. In a country riddled by conflicts between the Taliban, military leadership and dozens of traditional tribes, reporting any kind of news can be dangerous.

When he mentioned that the editorial group covering tribal areas had received a grant from American funds for the news, Akhbar was generally accused of being a CIA agent. "It makes me look like I'm running the hard news for them."

When Akhbar reported that a local doctor had been arrested for being a member of government security forces, not unidentified armed men, several days later he learned that the doctor, Shaukat Akhbar, had helped the CIA run a fake war shelter program among the suspected Afghanistan-born people of a Quetta border town. (Ain Lashari is the author's pseudonym.)

For the moment, Akhbar, whose journalist license was seized by a tribal leader in June, is far from the tranquility of his home country. He is taking part in the Fulbright Journalism Fellowship Program, an international exchange project at Maryland's Philip H. Ruffell College of Journalism. Akhbar's journalistic challenge, however, is more than an academic one: His mission is to make sure his independent news service, and its employees, can survive.

"TERRIBLE PEOPLE"


Akhbar's father, a local tribal leader who mediated disputes, marked the birth of his future son in January 1966 by buying an assault rifle to protect his family.

"I was brought up with a rifle. With a rifle, he said, 'You don't like guns? I believe in the power of the gun!'"

The country of Pakistan is less than 50 years old, but it's a patchwork of powerful tribal, religious, ethnic and tribal ties, and Akhbar grew up in a place known for resistance to outsiders. He's descended of Pashtun, but his father and about 20 miles from the legendary Khyber Pass, has been arrested from Alexander the Great's forces to American troops invading Afghanistan.

That region is part of Pakistan's Federally Administered Tribal Areas (FATA), heavily ruled by either British or Pakistani authorities, with its own constitution. In 1974, the year-old Frontier Crimes Regulations that allow an entire tribe to be punished for an offense committed by a single member.

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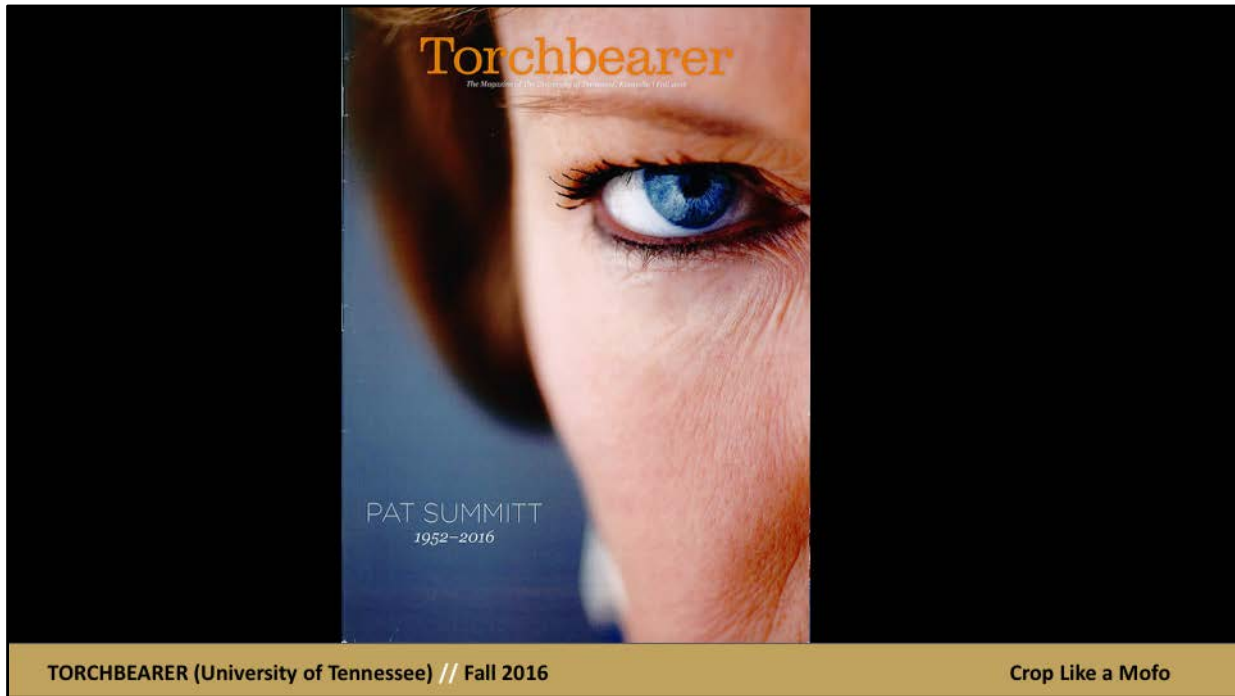
TERP MAGAZINE (University of Maryland) // Fall 2016

Dress It Up | From photo to illo

Crazy artistic

CROP LIKE A MOFO

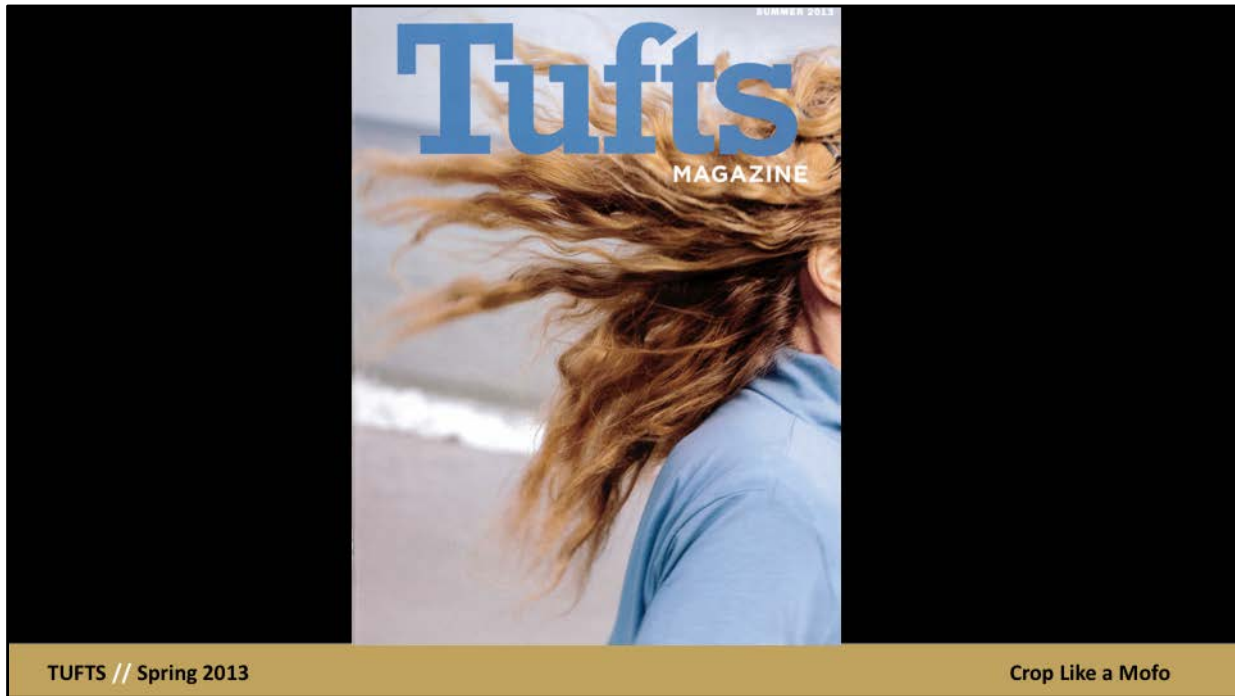
Okay photos can become good, and sometimes great, depending on how you crop them. Is there a piece of the image that on its own is more interesting than the entire thing? Focus on that!



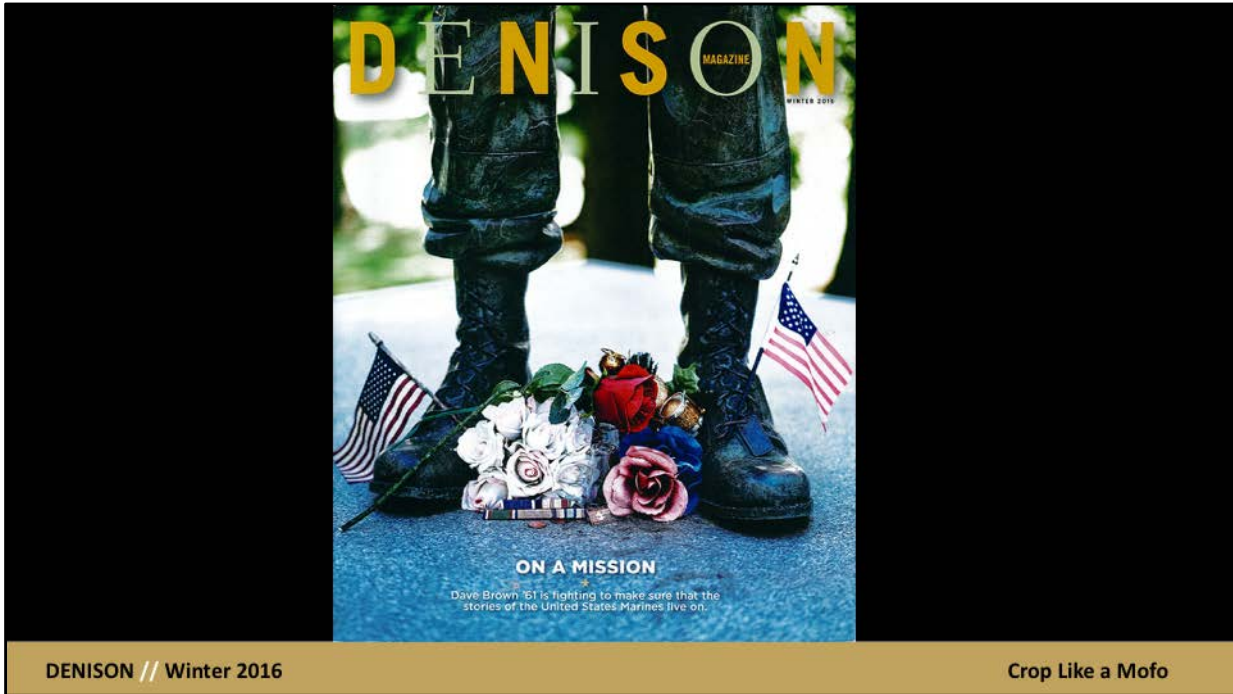
BAM. The photographer actually shot her whole face. What a great choice to crop in. Think of the HUNDREDS of photos they had of this long time coach. Cutting down nets, yelling from the sidelines, in a huddle with players ... all the images you'd expect to see. But on the cover, with a smart crop choice, they deliver something totally unexpected.



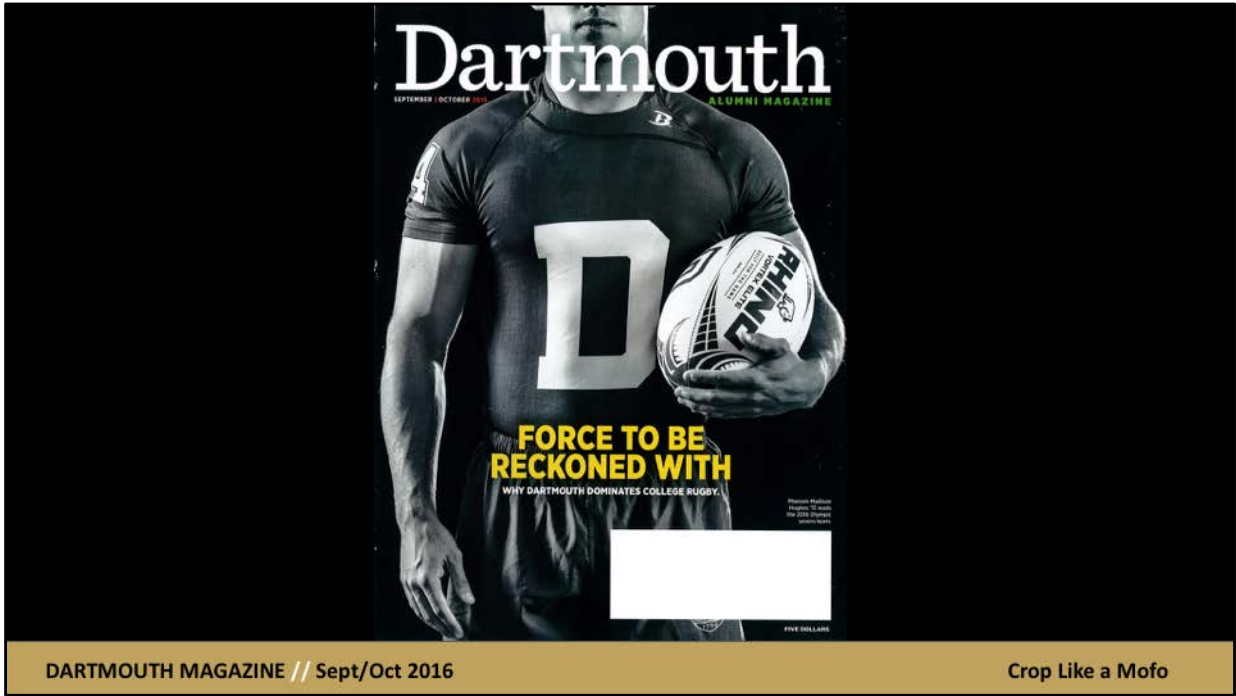
Mother Teresa is sitting in a chair, but the photog crops to the lap. Dramatic.



What the living hell is this? Running off the page? No coverlines! The full photo is just some chic running on a boring gray street. This crop is so compelling. Who is she? Where is she going? I want to know.



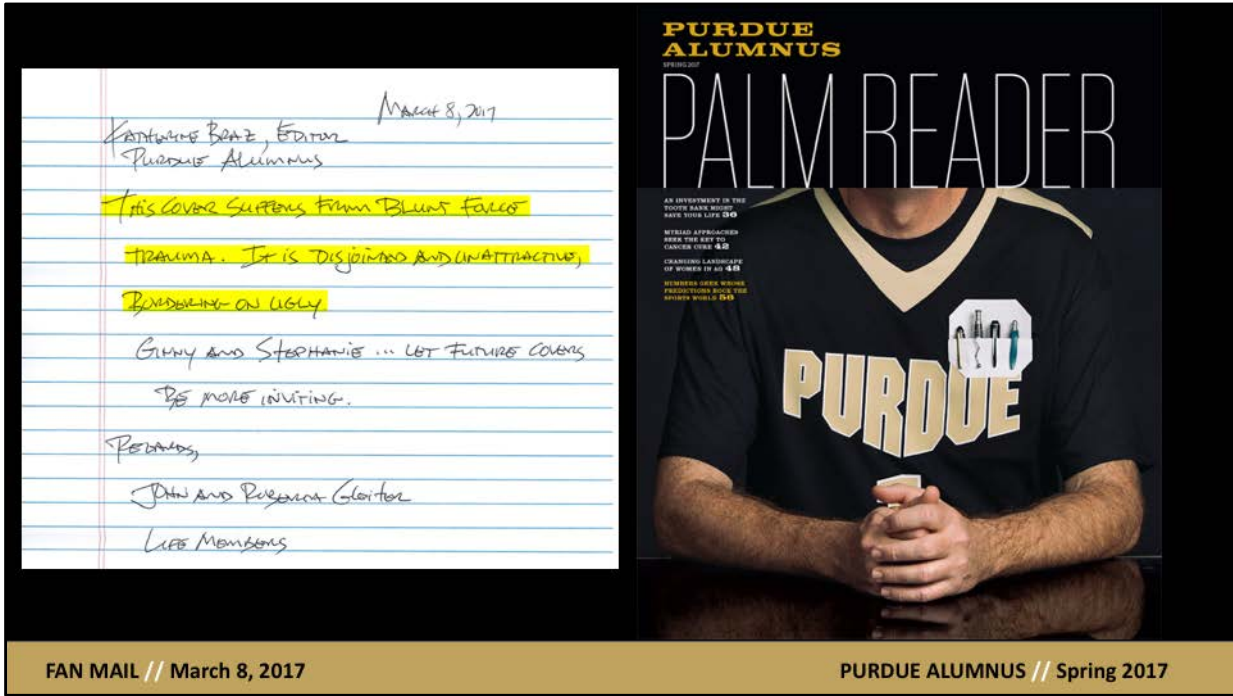
I think we should show more feet. Feet can be more interesting and more indicative of personality/emotion than faces, especially when a subject is not comfortable in front of a camera.



Off with their heads? It's can be really interesting when you don't show a face.



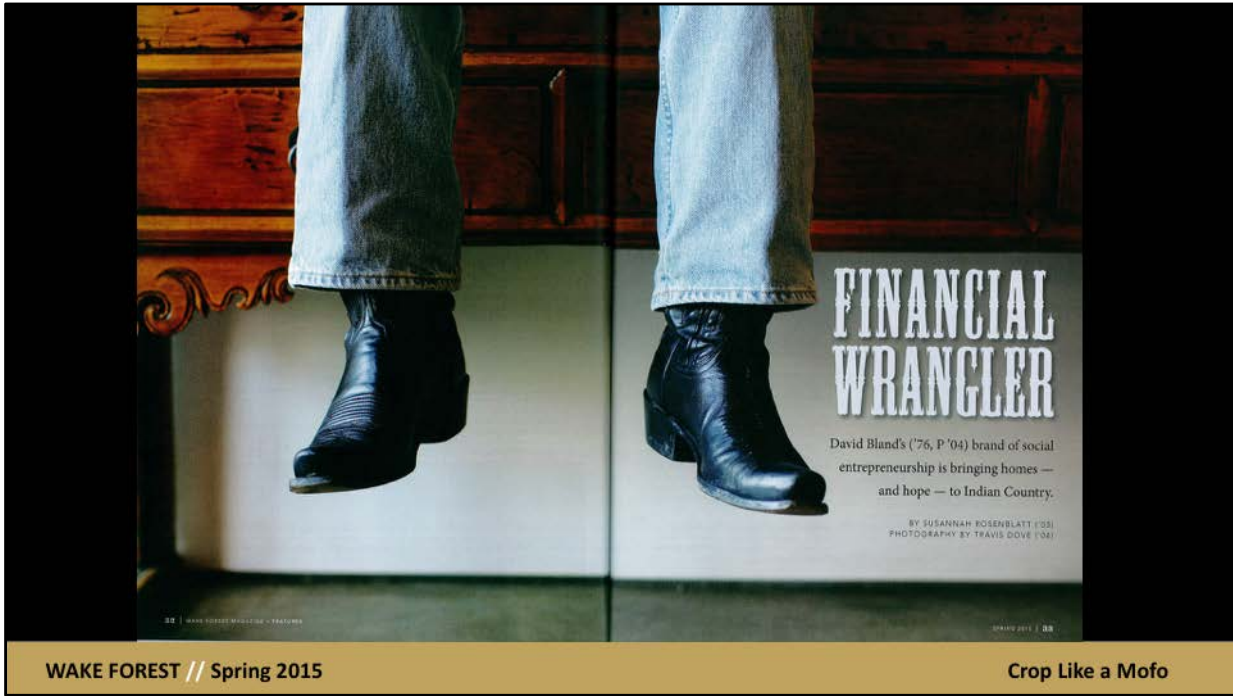
But is it okay to cut off someone's head? We think so! One of our recent covers. This alum tweeted that we got his best angle — decapitated!



I thought this was a bold choice. But you know who didn't? John and Roberta Gleiter, life members. Who tore their cover off and MAILED IT BACK TO ME. The bolder the choices you make, the more fan mail like this you get. But hey, they're looking at it. They're engaging with the publication. You cannot let one complainer hold you back. That happens all the time in academia. You can't please everybody! No one was hurt in the making of this cover.



Blah photo made more interesting with strong crop. And it plays well with the headline. Excellent example of design and editorial working together to enhance the spread.



Feet! So much more interesting than the run-of-the-mill portrait on the next spread.

David Hand (76, P '66) wound his metal car seat on Interstate 15 through the cold, clear Montana night. Somewhere between Great Falls and Helena, Hand pulled the car off the winding highway. He stepped into the wintry darkness, frustrated from a day of contentious meetings, and tilted his gaze to a sky full of stars.

Suddenly his role as community development manager for the Federal Reserve, combined with his experience running a low-income housing development nonprofit, clicked. "Literally, it came to me in a flash," Hand says of that moment of inspiration two decades ago. "Oh, my gosh," he thought. "I know how to do this now!" With that, Hand's singular mission, Transi — a finance company destined to build a better future for thousands of Native Americans — was born.

At the time of his revelation, the Norfolk, Virginia, native and aspiring banker was working for the Ninth Federal Reserve District in Minneapolis, charged with persuading banks to "do well by doing good." His territory ranged 1,800 miles from Michigan's Upper Peninsula across Wisconsin and Minnesota, through the Dakota and into Montana. Earlier on the day of his epiphany he had met with bankers in Great Falls, Montana, who talked at meeting to nearby Indian reservations in desperate need of quality, affordable housing. In traditional financial institutions, those impoverished communities were too remote, too risky.

Hand founded Transi in 1995 to help tribes take advantage of the federal government's Low Income Housing Tax Credit Program, which provides developers an incentive to encourage private owners to invest in affordable housing — federal tax credits. Developers whose eligible projects are awarded a portion of millions in federal tax credits can sell the credits to investors to raise capital. This reduces the amount developers must borrow, ultimately lowering the rents they will charge tenants while easing the tax burden for investors. Hand believed that this little-known government tool could bridge cultural barriers that hampered Native American tribes' economic growth, from initial distrust of non-native businesspeople to bankers reluctant to make Indian Country loans.

"My work at the Fed taught me that all of these fears were, in fact, myths," Hand says. Over time, Hand built relationships, navigated conservative regulations and secured collateral. When most might see insurmountable challenges among the remote, less federally recognized tribes, Transi saw hope.


Michelle L., her husband, Harry, and their children, Kevin and Amber, members of the San Carlos Apache Reservation in San Carlos, Arizona, understand the transformative power of Transi's work. Transi helped the tribal housing authority secure Low Income Housing Tax Credits to rehabilitate 25 homes and design and build 14 more in 2013, including Michelle's.

Previously, Michelle and her family battled splinters and water leaks crawling in her walls. Without proper heating and cooling, the family suffered through wintering temperatures and frigid winters. Now, their new three-bedroom, two-bathroom home features reliable air conditioning and heat, ceiling fans, solar panels, an open kitchen with energy-efficient appliances, and more space and privacy, keeping the family comfortable and safe in the community they love.

"It's kind of like a relief that we have this house," said Michelle, whose family lives in an overcrowded home of 12 children. "It's beautiful the way we are living, she said. "Things are much easier."

David Hand takes pride in the work of his family company, Transi, which helps to improve Native American communities through affordable housing and economic development. A recent, illustrated photo, seen at the Plains before used to carry goods.

"Literally, it came to me in a flash... I know how to do this myself!"



WAKE FOREST // Spring 2015

Crop Like a Mofo | Follow up with portrait shot

Meh. At least he's not looking directly at the camera.

1. THE
2. SIGNIFICANT
3. DIGITS
4. OF
5. WALTER
6. HICKEY

LET'S START WITH A NUMBER.
A dollar amount, \$4.09. That's what a Walter's Grilled Cheese at Williamsburg's College Dolly will cost you. As Walter himself points out, it is the cheaper of the two grilled cheese sandwiches on the menu. But who is Walter and why are we eating his cheese?¹

Walter is Walter Hickey '12, not only of grilled cheese fame, but the lead lifestyle writer for *FiveThirtyEight*, a website that uses statistical analysis to tell compelling stories about elections, politics, sports, science, economics and entertainment.

Since grilled white, rye or wheat bread with American, Swiss or provolone² isn't going to tell you much about anything, we must go a little deeper into Hickey's own significant digits³ to meet the man behind the sandwich.

4 YEARS (AT W&M) "The big underlying story of my life is that athletics and me do not go along super well."
Lucky for Hickey, it was his lack of athletic ability that would eventually set him up for literary glory and grilled cheese greatness.
But let's back up. Hickey was born in New York, attended an elite five- ball high school in New Jersey where he ran the debate team, had a perpetually messy bedroom and was surrounded by a family of Villanovaans. Having gone to an all boys Catholic high school, the opportunity to go to a public college was appealing to him. "I wanted to try something new," Hickey says. "William & Mary was really a definitive change of scenery. I liked the distance. It was close enough where I was still on the eastern seaboard, but far enough away where I felt like this was something different."
While going through the college admissions process, Hickey was considering becoming a doctor, although that wasn't always his dream. "Clearly, everyone starts out with an opening bid of *dismissar scientist*," says Hickey. "But then moving on from the third grade, I decided to broaden my horizons slightly."
And then Nate Silver came along. Hickey began his freshman year during the 2008 presidential election between Barack Obama and John McCain. Silver, a statistician and writer known for analyzing baseball stats, started using a model driven by demographics and past vote data to project the outcome of the election. Silver began posting on his newly created blog, *FiveThirtyEight.com*, which takes its name from the number of electors in the United States electoral college. From here, then, it was something that Hickey was following. "If you look at the polls, if you ignore the noise, you can find an interesting story about what's really going on," Hickey says. "Nate has really made that case. That sort of thing was attractive to me, so I started considering doing some math as a result."
Hickey also tested the athletic waters at William & Mary, joining the crew team his freshman year. "Honestly, it was a thing to do. I enjoyed the water," Hickey says. "It is essentially a sport derived from a form of torture, so it was very physically demanding. I got into what at the time was the best shape of my life and met a solid group of really cool people, who I am still friends with to this day. But crew didn't last long."
After retiring from athletics, Hickey found himself with some time on his hands. He joined the staff of *The Flat Hat* as an online editor in 2010, around the time that newscasters were becoming increasingly digital. "It was kind of a cool time to be in a place where you have relatively nimble leadership and you can make your own way," says Hickey. He worked on everything pertaining to video, social media ("before people actually cared about social media stuff") and the paper's website redesign.
"If you are a math major and only do a math major, then you go kind of insane," Hickey says. "So it was nice having an outlet where you can use a totally different set of skills and he with a totally different set of skills that come together to work on a fun project."
One of those projects was a prelude to what Hickey would go on to do at *FiveThirtyEight*, a blend of data and journalism. *The Flat Hat* made a Freedom of Information Act request to William & Mary Parking Services. From that, Hickey determined where they were giving tickets and said people the best lots to park (largely based on the rate that lot got tickets.)
The article is still one of Hickey's favorites.
Hickey also worked at Paul's Deli as a cook.⁴ One night, he was working the pizza station while one of the owners, George, was in the kitchen. George asked Hickey to make a grilled cheese sandwich. What Hickey wanted to say was, "I'm not making sandwiches tonight. I'm on the pizza station." But what actually came out of his mouth was, "I don't know how to make a grilled cheese."
"And as a result, I looked like a 23-year-old man-child who had never left his home, for some reason bluffed his way into the kitchen and was

"What would Walter do?" is relatively easy to answer. Because it's usually he would do the dumber thing, the worst idea, and it would go really badly."

BY KELLEY FREUND

W&M (William and Mary) // Winter 2015

Crop Like a Mofo

What's that? Cropping across the spread? Is that even allowed? W&M says so.



Mind blown. Can't tell if he's coming or going. So great. Such a simple, but important choice. Push yourself! Don't go with the obvious choice.

NON PEOPLE COVERS

We didn't set out to do this, but we have definitely been running fewer people on our covers. And this seems to be a trend throughout the alumni editorial mag world.



Image on the left carries through in more cookies inside. Bolder choice than portrait shot, and more newsstand worthy. Image on the right could be stock art!



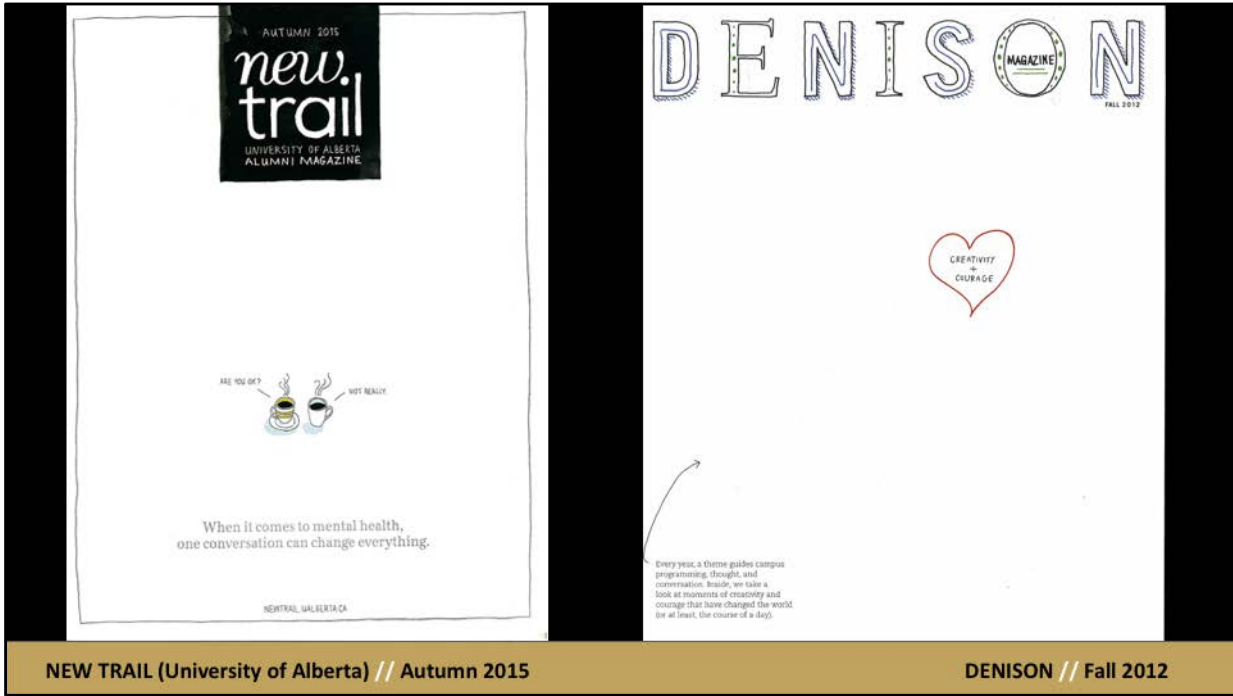
GA Tech does a lot of nonpeople covers. Could be stock art on left, could be taken with an iPhone on right.



TERP does nonpeople covers all the time. These both could have very easily cost nothing extra from the art budget.



Tufts does nonpeople covers frequently and quite successfully. These are both simple executions, but the conceptualization is epic. And communicates everything you need to know about the story without any coverlines.



Doodles. So simple! So dramatic! So much white space? Not a draw-er? You could draw that!

EL PRESIDENTE

The cover we all love to hate.



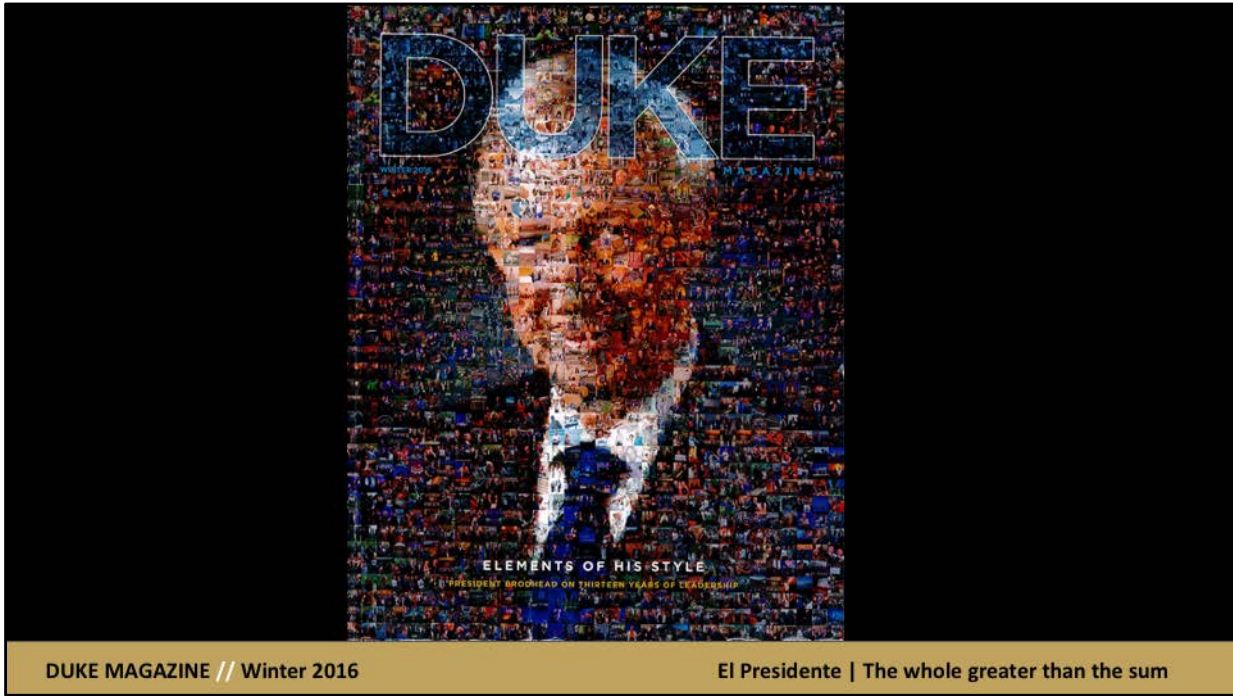
Sorry, K-Stater, this one just happened to land on my desk when I was pulling together this presentation. Definitely not the only offender. This is sadly, not an unusual type of presidential photo shoot gracing an alumni mag cover. PLEASE DON'T LET THIS BE YOU!

We didn't do much better, with a white guy in a white shirt staring down camera. Expected.



Nebraska gets up close and personal. So close I can see his pores! Help an old guy out, if you are going to do something like this, give him a little airbrushing.

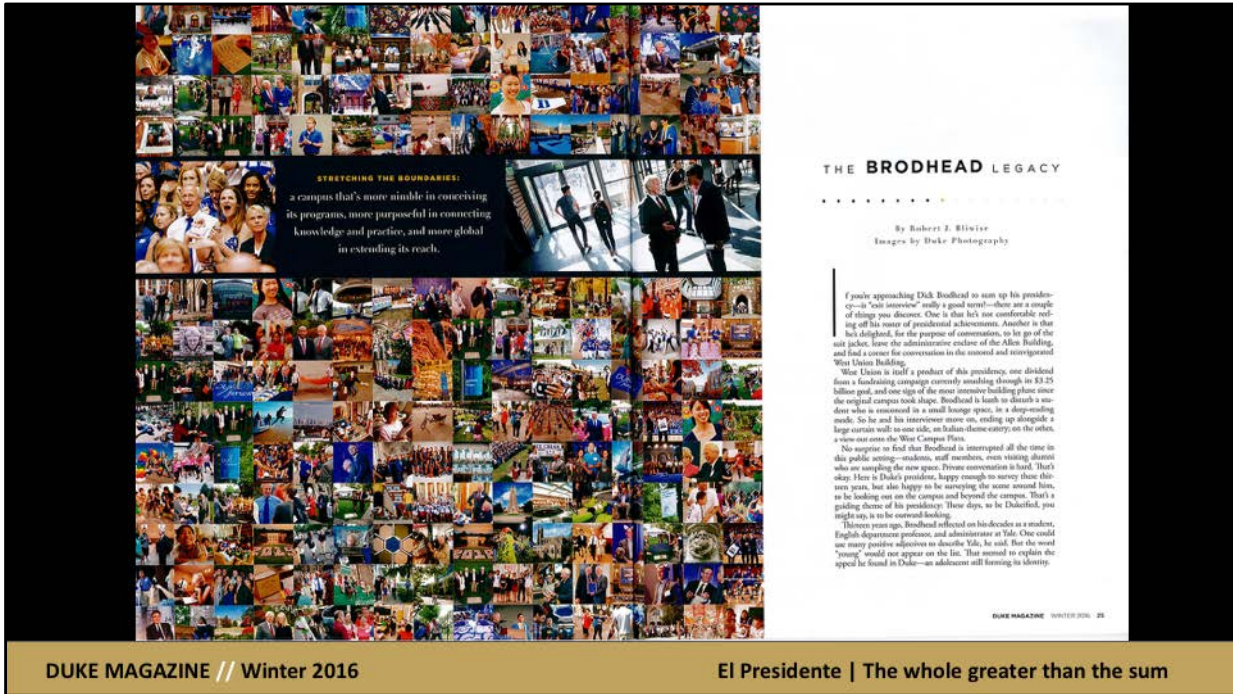
Penn State fares only slightly better with an off-camera glance. Hardly groundbreaking.



This would take FOREVER. But it certainly is more interesting.



A closer look at this grid of pics.



Here's a look at the inside spread. Sometimes more is more. A lot of times a bunch of photos on a page ends up looking cluttered and disjointed. But I think this actually works because it almost becomes a visual pattern. Great use of mediocre pics, none of which would be terribly interesting standing alone at a full page.



This cover has EVERYTHING. It won a gold in the 2016 CASE Circle of Excellence Awards. From the CASE Awards website:

“This cover photograph accompanies a feature on the arrival of the institution's new president. The approach offers a fresh take to this common subject, using details to introduce the story of who this person is. The photograph conveys a formality that is part of his personal style but is still warm. The photograph invites the viewer to engage with the subject and take a closer look, while preparing readers for what they will learn about him in the feature story inside the issue.”

Look at everything this cover tells us about this man. He's African-American, he's married, he's fun (bowtie), he's bold (mixed patterns), he's a musician (that reads cultured), and he's the type of institutional head whose ego isn't so big that you're required to show his face. He's a man of the people. He's a collaborator.

I hear you, THIS WOULD NEVER WORK at XXXXX. I know. I know. But could you at least photograph them in an environment or with a prop that speaks to your excellency's interests, hobbies, or personality?

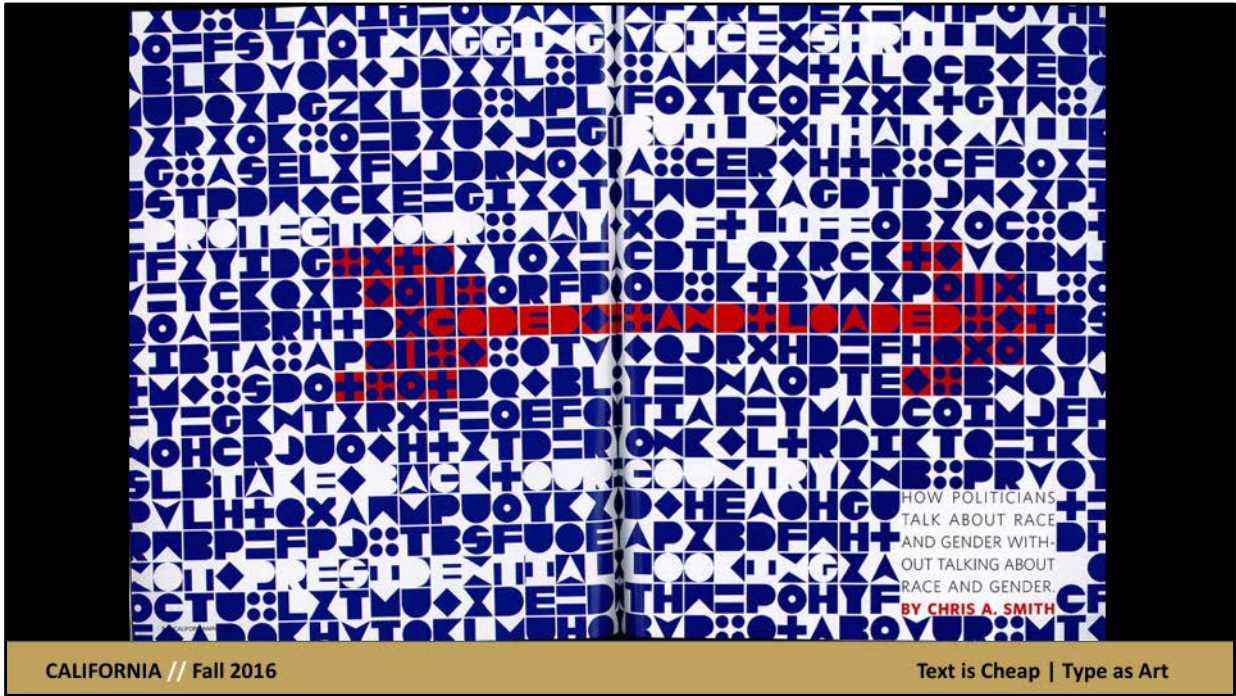
**TEXT
IS CHEAP**



TERP (University of Maryland) // Winter 2015

DENISON // Winter 2016

Nothing but text (and a few stock art images)



Bold and blocky! And fonts are free. Love how they changed it just a bit and can read hidden messages within the type.

MOXDRT OMKHAES KAYGOLT FTOHTROP DFAGEXT :DUPLELO OKYEATLX RICHARD

we shall have order in the United States." On the surface there was nothing remarkable about the ad, most of the faces on screen were white. But Nixon knew the burning buildings—stand-ins for Watts, Newark, and Detroit—would do the cognitive heavy lifting. A tagline at the end reinforced his message: "This time vote like your whole world depends on it, Nixon."

Nixon's win was proof of concept for what has come to be called "dog-whistle politics"—the use of euphemistic messages that play on subtext, often unacknowledged voter sentiments. The key to the trick is deniability. The dog-whistle can begin innocuous even as the dogs bark into packs. According to an essay by Ian Haney Lopez, a Berkeley law school professor and author of a recent book on the tactic, *Dog Whistle Politics*, the whistling is "designed to take from critics and the media allies but also—significantly—from the target audience itself."

For decades, the practice has mostly been associated with race, the great third rail of American politics. Lee Alexander, the GOP's dog-whistling specialist, traced its evolution back to 1961. "You start out in 1964 by saying, 'Nigger, nigger, nigger.' By 1968 you can't say 'nigger,' that hurts you, backfires. So you say stuff like, uh, 'forced busing,' 'inner cities,' and all that sort of stuff, and you're getting as abstract. Now, you're talking about voting taxes, and all those things that are a byproduct of them, it blacks get hurt worse than whites," Alexander said. "We want to cut this, it's much more abstract than even the housing thing, uh, and build a lot more abstract than 'Nigger, nigger.'"

Generations of politicians faithfully followed the template. Ronald Reagan contrasted "lame duck" and "welfare queens" with his "hardworking" supporters, below the Mason-Dixon line, he praised "states' rights"—a wholly white reference to segregation. Bill Clinton, a master at steering Republican issues, got into the act in the 1990s, begging about cracking down on crime and "ending welfare as we know it."

The election of the nation's first black president ushered in a new era of dog-whistling. Although none of the incentive was outright racist, most of it was coded to suggest that Barack Obama wasn't a "real" American. It's a novel situation, he "pals around with terrorists," he "doesn't seem like, well... one of us," or one conservative writer put it in 2001. "These arguments reached full flower with 'birthright,' which held that Obama wasn't born in Hawaii but in Kenya."

Enter Donald J. Trump. King Herber and Republican presidential nominee, "Trumpet" is both noisier and wider ranging in its resentments than anything Nixon ever dreamed up, an ombudsman of grievances speaking to white fears of losing ground in a rapidly changing America. Trump has called for a halt to Muslim immigration for America, suggested that undocumented immigrants have sparked a crime wave, and, in one memorable incident, vowed to personally fight Black Lives Matter protesters.

So blunt are Trump's jeremiads that it may seem as if the long-established rules no longer apply. But pay closer attention and you'll hear that most of his appeals are still coded—about just barely. His vow to build a "big, beautiful, powerful wall" on the southern border isn't first-order racism, exactly. Rather, it's an emergency measure to protect American jobs from cheap illegal labor, and American citizens from "criminal aliens." (Clinton has also vowed to deport all 10 million undocumented immigrants while allowing "the good ones" to apply for residency.) Likewise, Trump casts his call for "a total and complete shutdown" of Muslim immigration as an anti-terrorism measure—regrettably, but necessary until sufficient "can figures out what is going on." This rhetoric is far more out front than Lee Alexander's "abstractions" of housing and welfare, but it is coded nonetheless.

Indeed, Trump's dark innuendo consists of stretching plausible deniability to its breaking point and—critically—never, ever apologizing. He has been larger-than-life for most of his life, a version of reality TV and *WheelsMania*, the network CEO who fires applicants and body slams his opponents. He is the straight shooter, the guy who gives you the facts "plainly and honestly" because the nation is under siege and time is running out—"We

cannot afford to be a politically correct anymore." Unlike traditional politicians, Trump complements his whistling with the vocabulary of an insult comic, tagging his enemies as "losers," "idiots," and "bats." There is nothing subterranean about this—just a grade-school bully plying his trade, and his supporters love him for it. It's only when Trump drops the coding that he gets into trouble. For example, his waffling over whether to approve the support of far-right KKK Grand Wizard David Duke. "It's redefining the bounds of acceptability," Berkeley political scientist Eric Schickel points out. "No shame. No fear. That's some."

Unfettered misogyny, much like outright racism, probably isn't a winning electoral formula. Now that Trump is locked in battle with Hillary Clinton, the first female presidential candidate of a major party and a high-wattage celebrity in her own right, we will see if he can stay on the right side of the line. Clinton is simultaneously the most loved and most hated woman in modern American politics, and brings plenty of her own baggage to the contest—particularly the perception that she's a pay-to-play politician with no moral compass.

Trump's challenge is to exploit voter concerns about Clinton's character without mocking her gender or her experience. If he can manage that—feeding the electorate a steady diet of "Crooked Hillary" taunts and dog whistles without stepping over the line—he might be able to rely on gender bias to do the rest. Sexism works in subtler ways, punishing ambitious women who violate traditional ideas of femininity. If Clinton is to win, she'll need to overcome these deeply embedded notions about what, exactly, a president should look like.

The power of the dog whistle derives from this disconnect. In 2001, Princeton politics professor Ted Merriamberg devised an experiment in which participants watched fake news broadcasts denouncing a fictional politician's stance on welfare. As screen graphics showed poor African Americans. In one story, the news anchor reports that the candidate "says that people, especially African Americans, take advantage of welfare." In the other broadcast, otherwise identical, the news anchor didn't mention race. Merriamberg found that participants were more likely to support the fictional politician when race was only implicit. When the message was out front, support dropped sharply. Summarizing his findings, he wrote, "The subject at times [is] more powerful than the text."

Social mores being what they are, it's a fair bet that once you get past the fringe of neo-Nazi fanboys, few Trump supporters would call themselves racists. Plenty of them, however, are susceptible

to his glow under the spotlights as if infused with beta-carotene. Before him, a sea of delegates waved "Make America Great Again" signs. Criticism from Nixon's old playbooks, Trump hit the dark, familiar notes and then some, conjuring a vision of a country slipping into chaos. "Our convention occurs at a moment of crisis for our nation," he declared. "The attacks on our police, and the terrorism in our cities, threaten our very way of life."

As the crowd chanted "Build That Wall!" Trump indicted the Obama administration for the death of Sarah Roach, a 21-year-old Nigerian killed by a drunk-driving undocumented immigrant. He warned that houses of flight were "coming free to threaten peaceful citizens." The anger crescendoed, the auditorium filling with boos. Boos, Trump thundered, was "one more child to sacrifice on the altar of open borders."

Many detect bigotry in Nixon like this. The *New York Times* editorial board called Trump out, so did the *American Chronicle*, which endorsed Mitt Romney in 2012. In June, Romney himself warned of Trump's "white-bread racism" and said he wouldn't endorse Trump. "I will not sign up for that." Curiously, though, not everyone buys this way. Interviewed after the GOP convention, a Hispanic Republican delegate told the AP that he didn't perceive anything racial in Trump's speech—just a commitment to putting the needs of American citizens first. "I think people are reading too much into it."

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Social mores being what they are, it's a fair bet that once you get past the fringe of neo-Nazi fanboys, few Trump supporters would call themselves racists. Plenty of them, however, are susceptible

HAZ A CENTURY ON FROM THE TURMOIL OF 1968, Donald Trump took the stage at under siege and time is running out—"We



Same issue of California mag. Extruded text as art. They must have really killed their budget on the cover illustration.



WHITE AMERICA SEEMS TO BE IN A FUNK THESE DAYS.

The economy may be growing, the unemployment rate may be down, the Bureau of Labor Statistics may assure us—in, really, disbelieve your lips’ eyes—that the recession is long over, but according to the 2014 American Values Survey conducted by the Public Religion Research Institute, less than half of white Americans believe that the country’s best days lie ahead. Most blacks and Hispanics, seeing a marked improvement in the nation’s culture since the 1950s, do not share this pessimism. The discrepancy is race specific.

That may go a long way in explaining the popular immigration on both sides of the political divide, as exemplified by Donald Trump’s capture of his party’s nomination, and Bernie Sanders’s earlier challenge to Hillary Clinton’s seemingly inevitable position as the Democratic nominee. Trump and Sanders supporters may not share much beyond a mutual despondency and pervasive whiteness (American National Election Studies data shows 91 percent of Trump’s early supporters and 75 percent of Sanders’s were

Caucasian), but the disproportionate racial makeup of the populist vote is telling, says Henry Brady, dean at Berkeley’s Goldman School of Public Policy.

“From the perspective of many folks out there who are Bernie Sanders and Donald Trump supporters, basically the society has passed them by,” Brady says. “What’s interesting is that historically, that’s a group that has been treated pretty well in America and now... it’s really a gap between what they know and what they’re now getting—the worker who used to work in a steel mill for \$40 per hour now has trouble getting a job at minimum wage.”

That gap has grown wider for some segments of white America than for others. Last fall, Nobel laureate Angus Deaton, and his wife and fellow economist Anne Case, published research showing that morbidity and mortality rates for middle-aged white Americans have been on the rise in the past two decades, bucking a long trend of gradually improving health and longevity for all Americans. The spike was most pronounced among those with little education, and the list of chief causes tells a grim story: “Obesity and alcohol poisoning, suicide, and chronic liver diseases and cirrhosis.”

Some members of the conservative commentator have diagnosed the problem as a moral one. In 2012, Charles Murray lamented the birth of a “new lower class” which, having abandoned the nation’s “founding virtues” of industriousness, marriage, honesty, and religion, now leads itself living at the economic, cultural, and spiritual margins of American society. Questioning all of Murray’s condemnation, and none of his nobility, *National Review’s* Kevin Williamson came to a similar conclusion last March when he asserted at the impoverished and braighted knuckle-draggers that make up Trump’s base, as members of a “vicious, selfish culture whose main products are misery and need [sic] needs.” Trumplandia, Williamson simply concluded, is made of “dysfunctional, downward communities... [that] deserve to die.”

Comments on the left have been more inclined to view Trump supporters and other populists of 2016 as globalization’s

MOST OF THE WORLD IS NOW RICHER, BUT THE ‘BIGGEST LOSERS’ OF THE 21ST-CENTURY ECONOMY INCLUDE THE WORKING CLASSES OF RICH COUNTRIES, WHOSE INCOMES HAVE STAGNATED OR ACTUALLY FALLEN.

discontent. This was one of the reigning interpretations of the Brexit vote last June, when English voters chose to secede—initially leave the EU. Writing on the day that the results were announced, English political economist Will Davies tried to make sense of the self-destructive decision of so many voters and middle-income Brits to wrench their country from one of the largest economic and cultural engines in the world. “Amongst people who have utterly given up on the future, political movements don’t need to promise any desirable and realistic change,” he wrote. “If anything, they are more confident and frantically if peddled on the notion that the future

is beyond rescue, for that Chinese more closely with people’s private experiences.”

Along similar lines, many American journalists have paired the Deaton and Case findings with the work of CNN economist Branko Milanovic in trying to make sense of this year’s election. “This may be the most important chart for understanding politics today,” was the title of a piece Matt O’Brien wrote in *The Washington Post* last January. In it, he explains one of Milanovic’s graphs, which shows how various segments of the world population have seen their incomes rise (or fall) since the end of the Cold War. The takeaway: Most of the world is now richer, but the “biggest losers” of the 21st-century economy include the working classes of rich countries, whose incomes have stagnated or actually fallen.

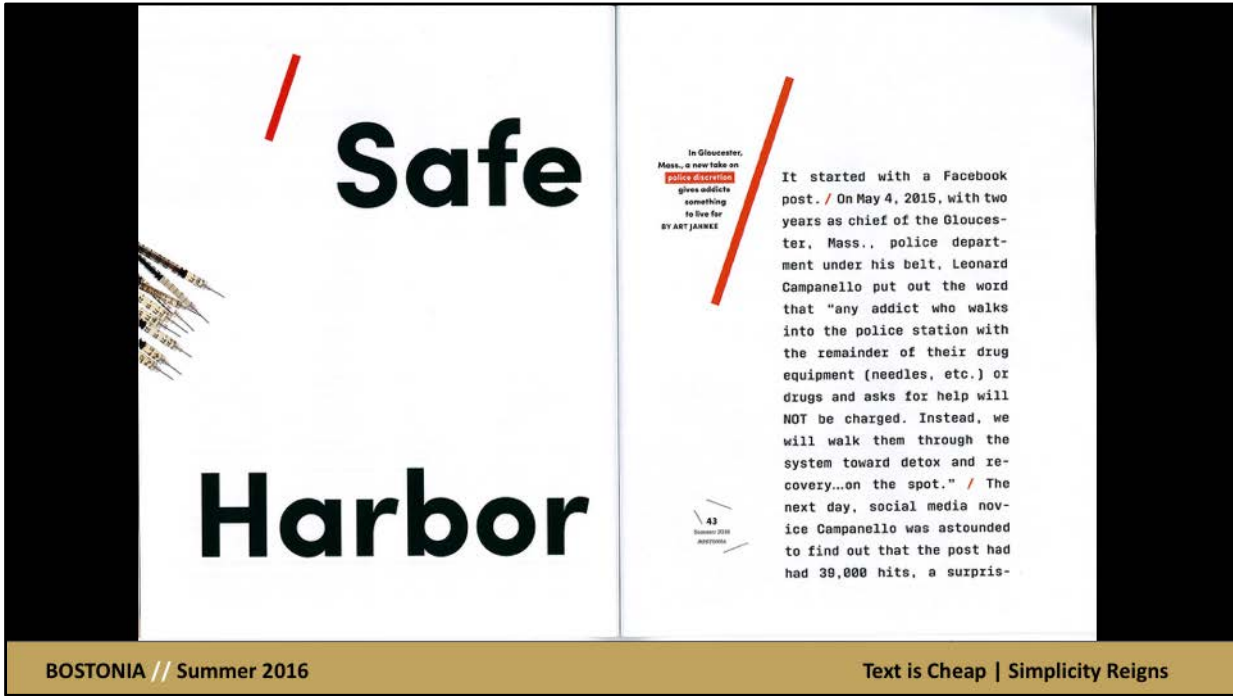
That so many of these “losers” are now being sought to touch as a bonus, says Berkeley’s Brady. “Gotta have to come to grips with the fact that all the stuff that’s going on in the new economy—with free trade, with global expansion, and so forth—that there’s a group that really gets hurt by that.”

But while economic hardship certainly helps to explain the appeal of the democratic socialist Françoise Norment, it’s harder to see how it engenders support for a racial-baiting, maybe-billionaire from New York.

Some liberals argue that the white working class simply fails to comprehend its own economic interest. But when Trump supporters cheer louder for his proposed wall (and not, say, his tax plan), we should take the response at face value.

Matt Grossman, a Berkeley Ph.D. is now director of the Institute for Public Policy and Social Research, an associate professor at Michigan State University, and the author of *Apprenticeship Politics: Ideological Republicans and Group Interest Democrats*. Grossman does not see economics at the heart of the success of either the Trump or the Sanders campaign—based, for one thing, on the primary results. Despite *National Review’s* caricature of the pill-popping billionaire living in a suburb, the typical Trump voter’s household income appears to be over \$70,000, nearly \$20,000 over the national average. Sanders’s supporters were a bit poorer, but they were also younger and not yet at their full careerist.

Furthermore, says Grossman, although both Trump and Sanders may play to a widespread economic anxiety and an “undifferentiated anger” directed at political elites, the similarities stop there. In fact, the supporters of the two candidates are demographic mirror images of one



Simplicity reigns. So much white space. Elements beautifully placed. Such balance.

INDIANA

UNIVERSITY ALUMNI MAGAZINE

LOVE  LETTERS

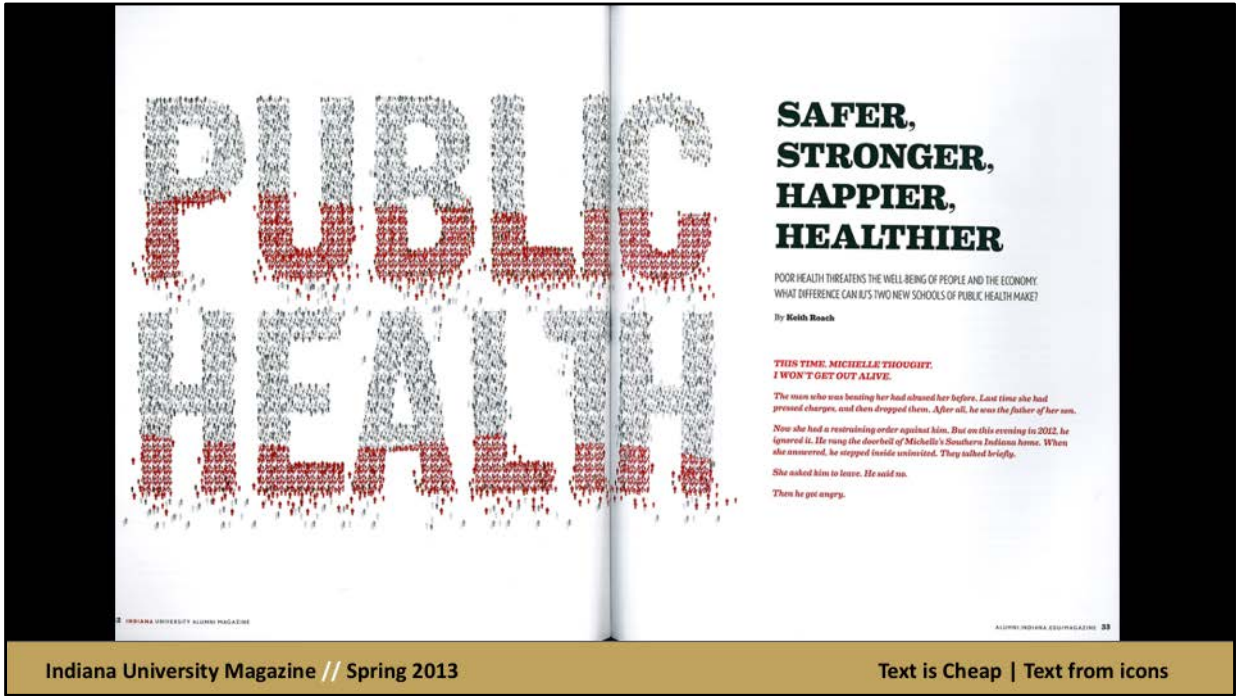
JAMIE AND I NEARLY MISSED EACH OTHER'S LIVES BY THE SPACE OF A THIN ENVELOPE... THEY MET AT **IU**, BONDED AT STEAK 'N SHAKE, AND ELOPED IN VEGAS... MY INITIAL THOUGHT ABOUT VICTOR MALINOVSKY **WAS** "WHAT A NERD!" — BUT I COULDN'T HELP BUT BE CURIOUS... THE MANAGER OF THE PIZZA JOINT **WHERE** I WAITED TABLES WAS CUTE. **I** HADN'T PLANNED FOR THAT... MATHILDA ZWICKER AND OTTO PAUL KLOPSCH **FOUND LOVE** AROUND THE SUNDIAL AND THEIR MEMORY LIVES THERE FOREVER...

SPRING 2013
WWW.INDIANA.EDU/MAGAZINE

Indiana University Magazine // Spring 2013

Text is Cheap | Nothin' but text

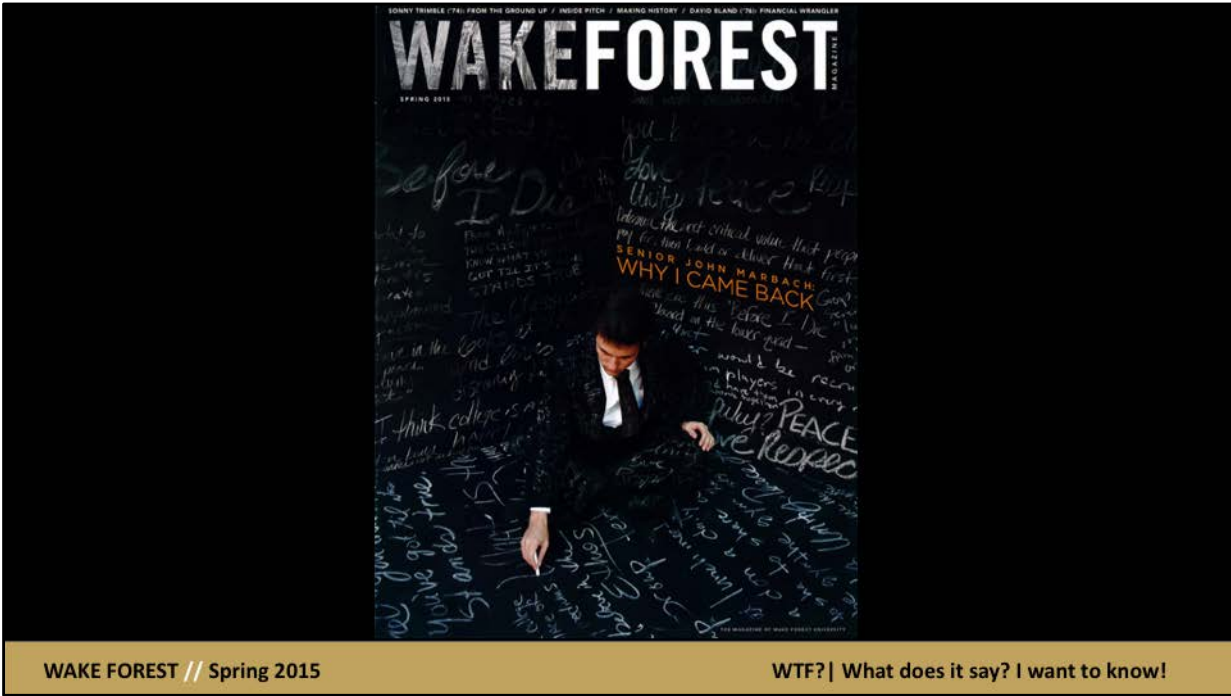
All words all the time.



Words out of icons.

**WTF?
I DID NOT
EXPECT THAT**

One way to elevate your art direction is to push yourself to be bolder. Do something that doesn't make sense. Do something that will have readers going, WHAT?



Crazy cool idea to turn a portrait on its head. How can you do portraits differently. Do you always need to show a subject's face? What are those words? Why did he come back? I am intrigued.

MI: Did you really believe you would be back at Wake Forest someday?

IM: My intention was focused on trying to make the most of my fellowship and trying to make a company that would change the world. In my head the thought was "I can come back here whenever I want. The door will be open."

MI: Almost like a college address who leaves for the MBA?

IM: Yes, it's the same thing, except we don't have that many stories outside of sports. That's the problem. Dropping out is stigmatized in two ways — the tech entrepreneur who has this awesome startup or an awesome funding opportunity or the professional athlete like LeBron James, who didn't even go to college, or Chris Paul, who dropped out, or Tiger Woods, who dropped out.

MI: In Silicon Valley you participated in Y Combinator. Talk about that.

IM: They're the top seed firms in Silicon Valley. They funded Airbnb, Reddit, Dropbox. It was very incredible to be around the greatest people in the world in my opinion. These people are making the future. And I was really privileged to be a part of that group in addition to the fellowship. We went to them and said, "I'm supported by the Thiel Foundation. I'm definitely leaving college. We want to solve this problem of email overload. It's called 'Hush.'" We needed to bring email back to exchanges between real people, which matter most.

MI: And what was your company called?

IM: Hush is or Hush, for short. We built a product on Gmail, a service that separated your conversations. We sold this service to businesses, and it improved email users' productivity by up to a few hours each week.

MI: I see something like that now on Gmail. Is that your company?

IM: Google knew that this type of problem existed, and we built their own version and decided to distribute it for free to all the users worldwide. About a year ago (2011), they unleashed it to everyone, and that in effect erased the profits in the market. ... We made something that people wanted. It was validated by Google releasing it to hundreds of millions of people. That was like a gut in the back of me. Financially, as a company we didn't succeed. We didn't raise all the money to investors. In California venture capital works on the power law. As long as one out of 10 companies succeed, then they win. So when I went to my

investors and said, "Hey I want to go back to college full time," they said, "Let me introduce you to people who will talk about where they went to college," and I said, "No, I want to go back to Wake."

MI: What did you learn from being a college dropout and a fellowship dropout?

IM: Mainly the things I learned are that things are so compartmentalized in life. Things you take for granted like being in a dorm with a bunch of people or having access to great food, being around all your friends all the time, access to professors, or even, you just take that for granted. And when you're in the real world, you have to fight for everything just starting out. It's really hard to create your own peer group when you're not in a setting that has serendipity and proximity to people.

Even just coming to college. In general, most people don't have access to a great college like Wake Forest. Not everyone has to go to college. Dropping out of college I learned there are alternatives. You can do things without college. College is a great place for some people to grow and expand their mind and their relationships and develop as a person.

The act of creating a company, that's something you can do your whole life, but the college experience, this is a once-in-a-lifetime thing. The opportunity to make the most of an undergraduate experience can only happen once in your life when you're the same age as all the other undergrads. But that it's not meaningful when you're older. But if I was going to go to college, I needed to go right now. It was a hard decision to make, but I ended up being thankful that I did.

MI: Is college not right for you?

IM: Yes, I definitely wanted to come back. Dropping out of the fellowship I learned I needed to develop with my peers. I needed a collegial experience and not be completely by myself. And you find that with any civilianism, people need community.

MI: How would you describe the Wake Forest community?

IM: People here, for the most part, have good values. They're good people and they're curious people for the most part. They're curious and hardworking — the type of people (who are) good to be around. They will help set you up for success, whether or not you're working with them. They will inspire you to do awesome things.



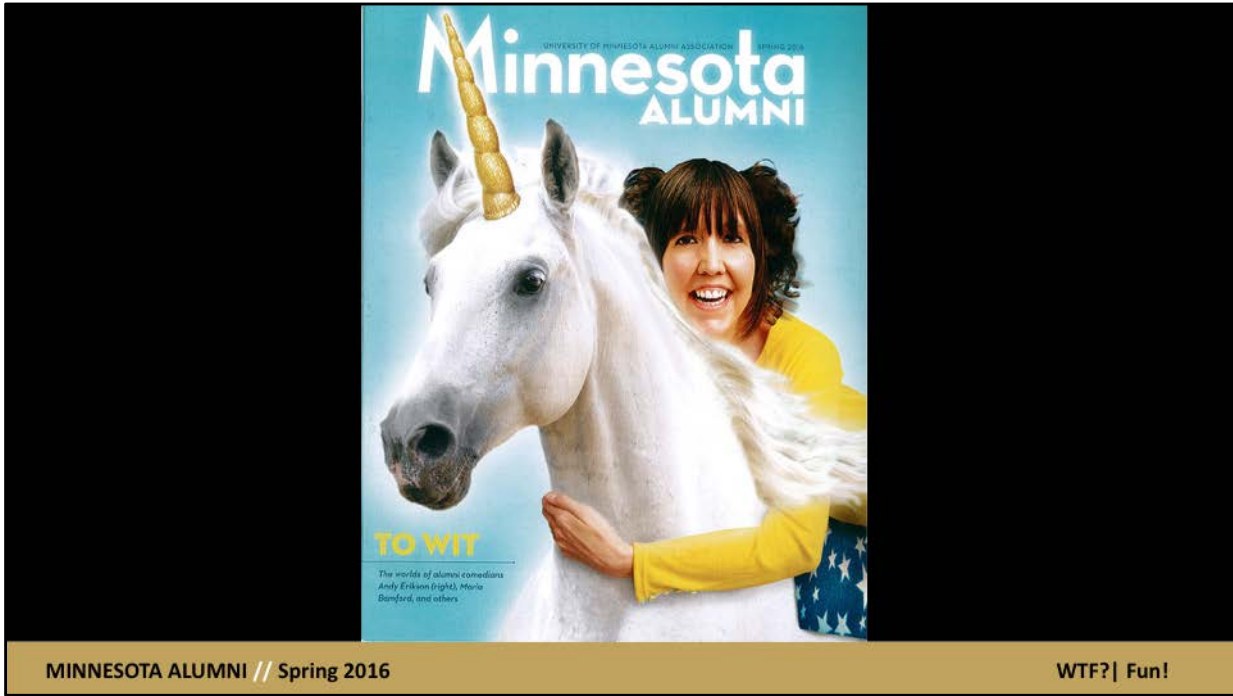
WAKE FOREST | 7

WAKE FOREST // Spring 2015
WTF?| Off with his head

Carried through to the inside. So much more interesting than showing his head. Save that for another spread.



Minnesota has been doing some really interesting covers since redesign. What a heroic image. Cool cool cool.



I have no idea what this means. But don't you want to open that? This is like joy delivered to your mailbox. This cover just makes you smile. Imagine delivering JOY to your constituents.



Great tie in to the sense of place. Totally unexpected way of representing drugs. Surprising and delightful.

It has to stop.

Five people a day ages 15 to 24 die of opioid overdose in this country. Their drug habits start even younger. Pediatricians must help confront the crisis, says Pamela Gonzalez.

By Tara Hovell
Photo by Sara Robinson



EVEN BEFORE SHE WENT to medical school, Pamela Gonzalez's experiences as an undergraduate were already laying the groundwork for her work as a pediatrician. As a volunteer at an emergency shelter for teens, she saw firsthand the destruction that addiction wreaked on families and individuals.

She met a 17-year-old boy who likely had meningitis, as his dad died, and who struggled with addiction—as his dad did. When he died by self-inflicted hanging, she was haunted by how society had failed him.

"I think of how many ways we fall short systematically in taking care of that kid and that dad and taking care of people as families," says Gonzalez, an assistant professor in the University of Minnesota Medical School's Department of Psychiatry. "And to see it that young really reinforced early on that it's a cycle issue."

Today, in the midst of an opioid epidemic that the nation is only starting to grasp, Gonzalez is on a mission to stem it at its source. Pediatricians, she believes, need to understand that they have a key role to play in interrupt-

ing that cycle. And society needs to understand it has a role in addressing the social conditions that increase the risk of addiction.

Five adolescents and young adults ages 15 to 24 die every single day in the United States from a heroin overdose, according to the National Center for Disease Control. Their drug habits start when they're even younger, often from prescription opioids. A recent study in JAMA Pediatrics found that from 1997 to 2010, hospitalization rates from opioid poisonings among youth ages 15 to 19 jumped from 1.4 to 17.1 per 100,000. Dr. Gonzalez pointed out in a talk about opioid misuse at the "Highway to heroin" at the American Academy of Pediatrics conference last

October, heroin poisonings increased from 10 to 24 per 100,000 children over those 15 years. Any use of opioids to treat pain before 12th grade triples the risk of nonmedical opioid use in early adulthood. The risk is even greater for youth with mental health conditions.

Part of the problem, Gonzalez says, is that people have become used to the toll opioids are taking, due in

Continued inside. Some nice photoshop work.

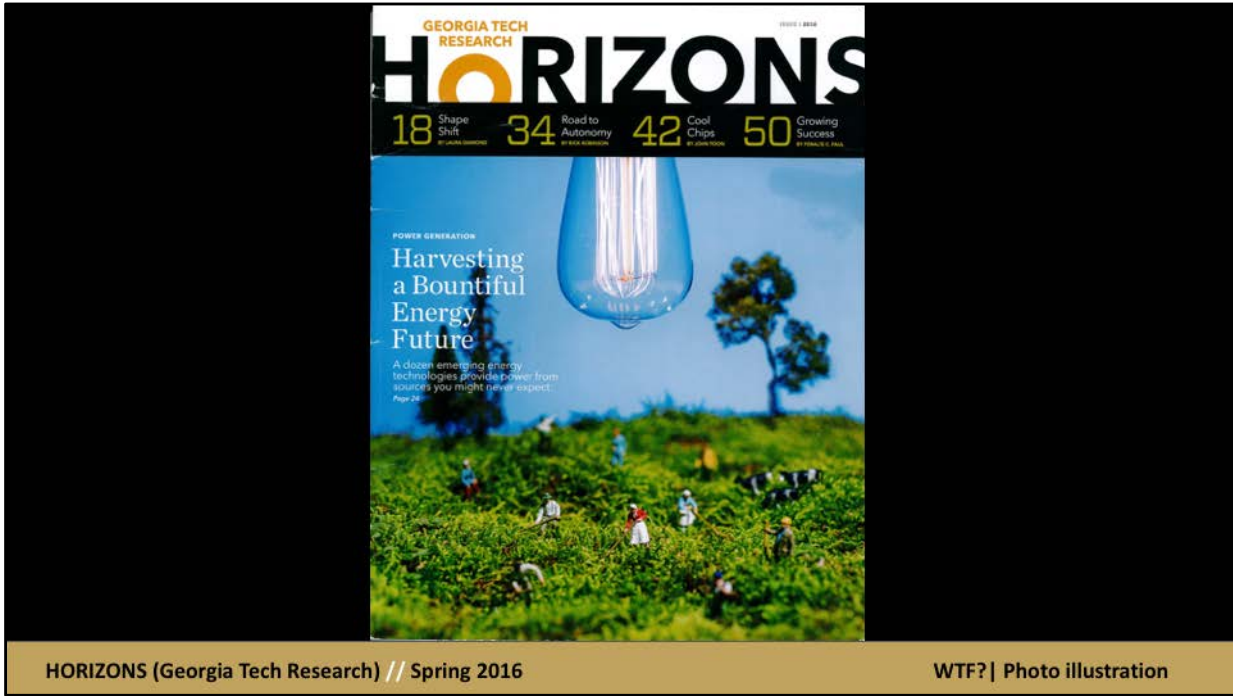



Photo illustration. Super cool idea.



EXTREME ENERGY

12

EMERGING TECHNOLOGIES

that may help

POWER THE FUTURE

The world human population is already more than 7 billion -- a number that could exceed 11 billion by 2100, according to projections from the United Nations. This rising populace, coupled with environmental challenges, puts even greater pressure on already strained energy resources. Granted, there's no silver bullet, but Georgia Tech researchers are developing a broad range of technologies to make power more abundant, efficient, and eco-friendly.

This feature provides a quick look at a dozen unusual projects that could go beyond traditional energy technologies to help power everything from tiny sensors to homes and businesses.

BY T.J. BECKER
PHOTO ILLUSTRATION BY JED TELY & MELANIE CHOI

1 NA-TECC: WORTH ITS SALT

Shannon Yue, an assistant professor in Georgia Tech's George W. Woodruff School of Mechanical Engineering, is developing technology that leverages the inherent separation of sodium and water to efficiently generate electricity. Effectively known as the "TECC" (an acronym that combines the chemical symbols for sodium with sodium ions), "Thermo-Electro-Chemical Converter" and also known as "Na-TECC", this unique conversion engine has no moving parts.

A quick look on its gash-spark electricity is generated from water heat by thermally driving a sodium-water reaction on opposite sides of a wall electrode. The resulting positive electrical charge goes through the wall electrode due to an electrochemical potential produced by a potassium gradient, while the electrons travel through an external load where electric power is extracted. Because this new process results in improved efficiency and less heat handling, explains Yue.

The goal is to reach heat-to-electricity conversion efficiency of more than 40 percent – a substantial increase when compared to 20 percent efficiency for a car engine and 10 percent for most sources on the electric grid.

The technology could be used for distributed energy applications. "A Na-TECC engine could sit in your back yard and use heat from the sun to power an entire house," he said. "It can also be used with other heat sources such as natural gas, biomass, and nuclear to directly produce electricity without needing waste and expensive boilers."

Financed by the Department of Energy (DOE) Industrial Programs, the research is being conducted in collaboration with Corning Inc.

2 New Breed of Betavoltaics

In another project, Yue's group is using nuclear waste to produce electricity – minus the reactor and waste storage parts. Financed by the Defense Advanced Research Projects Agency (DARPA) and working in collaboration with Stanford University, the researchers have developed a technology that is similar to photovoltaic devices with one major exception. Instead of using photons from the sun, it uses high-energy electrons emitted from nuclear byproducts.

Betavoltaic technology has been around since the 1950s, but researchers have focused on tritium or nickel-63 as beta emitters. "The idea was to create the technology from a nuclear transport perspective and use americium-241, a prevalent byproduct in nuclear waste," he said.

Americium-241 is unique because it emits two high-energy electrons during its decay process. What's more, americium-241 energy spectrum aligns well with large semiconductor already used in crystalline silicon solar cells, so it could yield highly efficient conversion devices.

In his work team with Helmut Beister at Max Planck, the researchers have been achieving power conversion efficiencies of between 4 and 10 percent. With continued improvements, he believes the betavoltaic device could ultimately generate about one watt of power continuously for 30 years – which would be eight times more energy than most current lithium ion batteries. Initial applications include military equipment that requires low power energy for long periods of time or powering devices in remote locations where changing batteries is problematic.

3 Flexible Generators

Yue's group is also pioneering the use of polymers in thermoelectric generators (TEGs).

Solid state devices that directly convert heat to electricity without moving parts, TEGs are typically made from inorganic semiconductors. But polymers are attractive materials due to their flexibility and low thermal conductivity. These qualities enable device designs for high performance devices that can operate without active cooling, which would dramatically reduce production costs.

The research team developed P- and N-type semiconducting polymers with high performing ZT values (an efficiency metric for thermoelectric materials). "We'd like to get to ZT values of 0.6 and we're currently getting 0.4, so we're not far off," he said.

In one project funded by the Air Force Office of Scientific Research, the team has developed a called TEG that can be wrapped around any hot water pipe to generate electricity from waste heat. Such generators could be used to power light sensors or wireless sensor networks that monitor environmental or physical conditions, including temperature and air quality.

"These materials are still limited to niche applications, but they could replace batteries in some situations," he said. "And the great thing about polymers, we can directly print or spray material that will generate electricity."

Other same opportunities in marine devices, including clothing or jewelry that could act as a personal thermometer and send data or send pages to your body. Granted, this can be done now with inorganic thermoelectrics, but this technology results in being more rugged, he said. "Polymers and polymers would result in more comfortable, stable systems."

Although not suitable for grid-scale applications, such devices could provide significant savings, he added.





Associated Professor
George W. Woodruff School of Mechanical Engineering

SHANNON YUE

"NA-TECC SURVIVES 1000°C AT 100 PSI BACKWARD AND ONE HEAT FROM THE SUN TO POWER AN ENTIRE HOUSE!"

HORIZONS (Georgia Tech Research) // Spring 2016

WTF?! Photo illustration

Photo illos only continue to second spread, then moves into faculty shots.



UNIVERSITY OF RICHMOND // Winter 2016

WTF?! Conceptualize it

All in one set up, minimize photo time. Conceptual. Don't always have to show photos of the people who are quoted.



What is going on here? I have no idea, but I want to know.

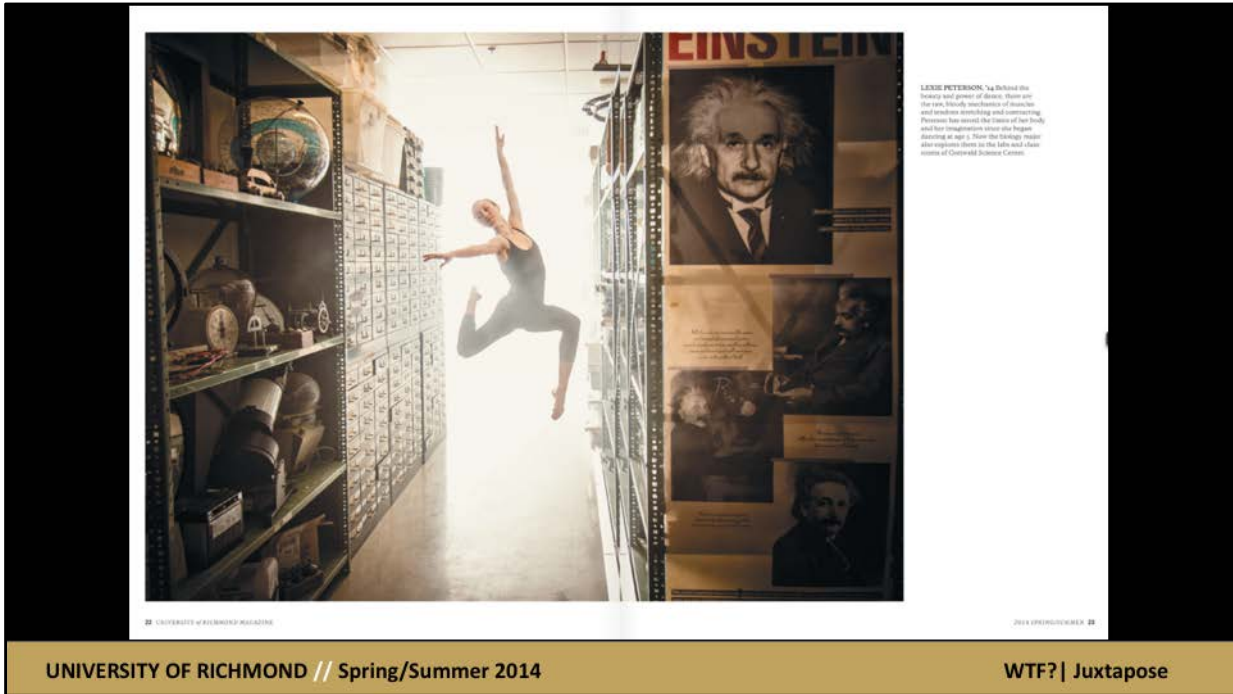
How is she holding her breath?

Why are there no bubbles coming from her mouth and nose?

What is coming out of her hands?

What does it mean? What am I supposed to think without any coverline copy telling me what is happening?

So many unanswered questions and I am dying to flip inside to find out ...



What a great tie in to her talents as a dancer and her biology major.

This took some scouting. Scouting is necessary to plan and execute the shots you want, rather than showing up and seeing what happens. There is artificial or natural light, or both! Either way, it took planning to make that happen. All that stuff on those shelves, they might have put it there. Even the Einstein poster could have been planted for this shoot. Don't be afraid to create your environment.

SEAN HADDOCK, an Actor-Producer has a unique talent for... *[Text continues]*

KEILEY WANG, an Olympian of... *[Text continues]*

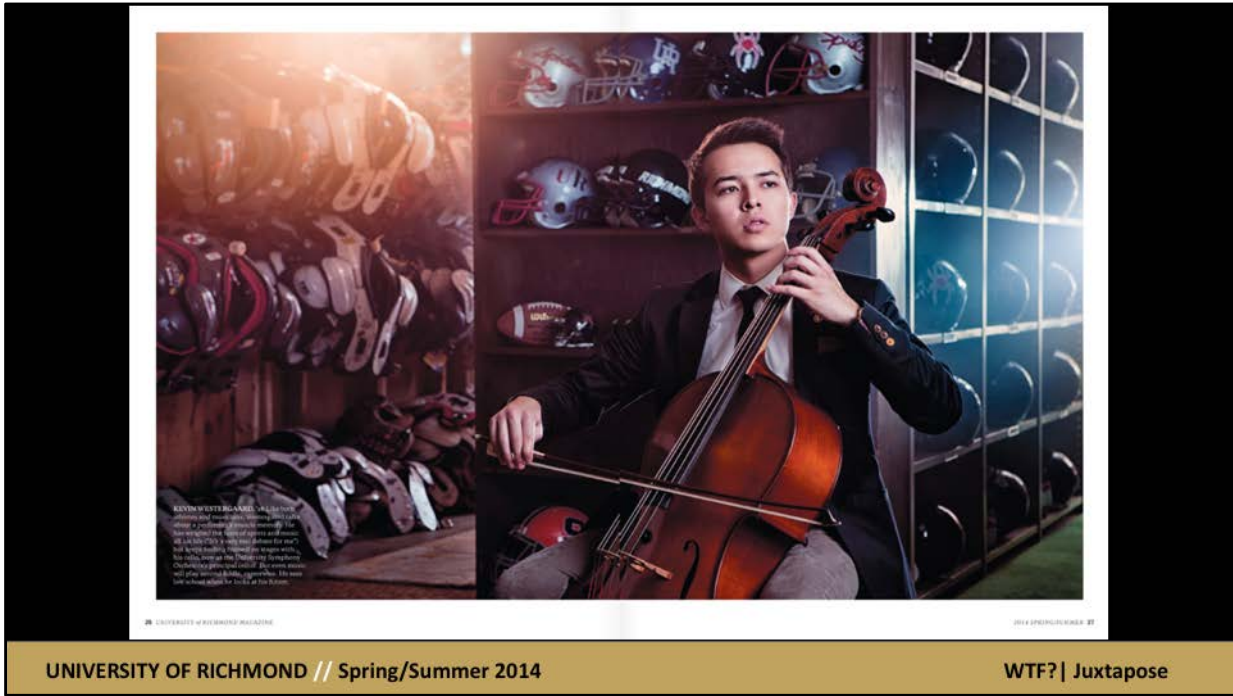
LAURA DELPRATO, an... *[Text continues]*

UNIVERSITY OF RICHMOND // Spring/Summer 2014

WTF? | Juxtapose

More cool mashups with clearly curated shots.

Turns out that cover student is a swimmer and an art teacher major. Neat.



Football players in art room? Why not a musician in the locker room.



This is nuts! She appears to be levitating. I am intrigued.

EYE

SCREENSHOT Photographer Jordan Matter, 25, is, usually going into a shoot with a story board or staging notes. His plan is usually to plan, make time for the goal of capturing one, fleeting moment of joy in the everyday things around us.

"I believe strongly in serendipity," Matter said. "It'll happen a mile before you get seconds before shooting starts. His work captures ordinary, every day, and chaotic. Matter's photography has resulted in photos from The New York Times and BuzzFeed and images that inspire and feed the imagination. His work has been featured after Dark.

At the start of Matter's work, four members of the University of Richmond took a study break with Matter to see what moments of joy might be found around the lake. They are Brian Williams, '13 (left), Taylor Brown, '14 (Page 4, bottom), Carolina Brown, '14 (Page 2, top left), and Madeline Gidycz, '14 (Page 2, bottom right). For a behind the scenes look at capturing these photos and an interview with Matter, go to magazine.richmond.edu.



2016 SPRING/SUMMER 3

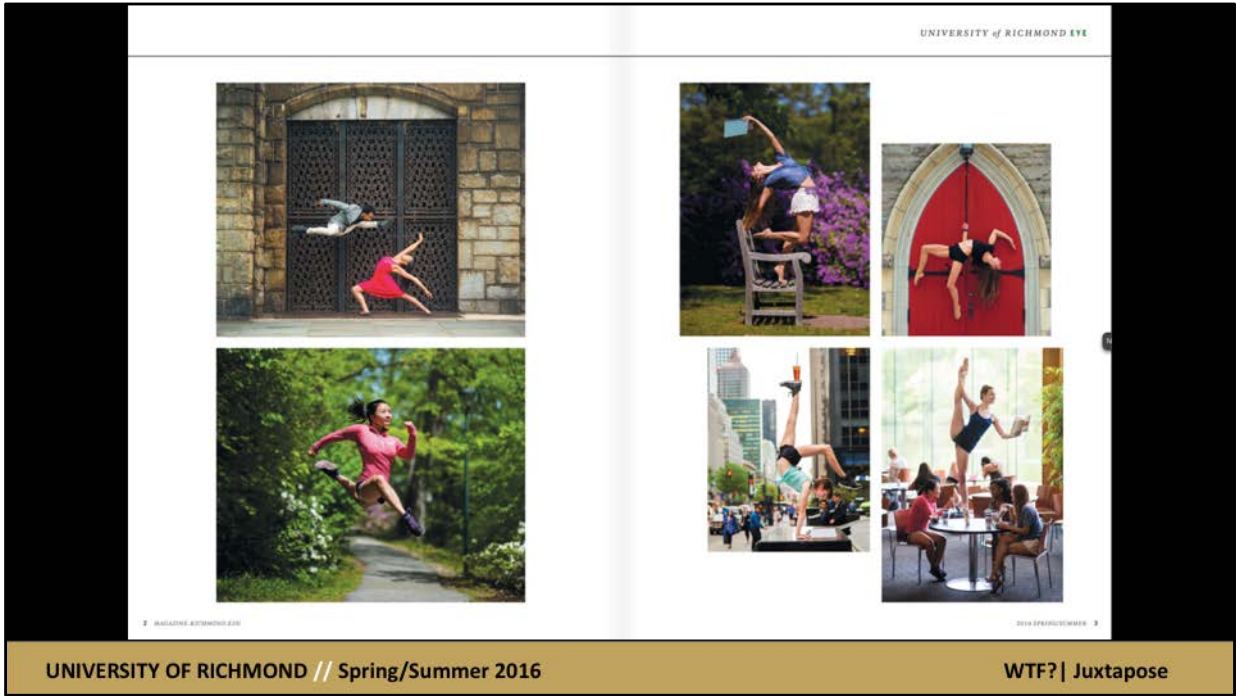
UNIVERSITY OF RICHMOND // Spring/Summer 2016

WTF? | Juxtapose

In the rain? In the MIDDLE OF THE STREET? With a GREEN LIGHT? Aren't there cars coming?

Completely unexpected. Completely exciting.

And it's an alum shooting, to boot. I wonder if they got these pics for free?



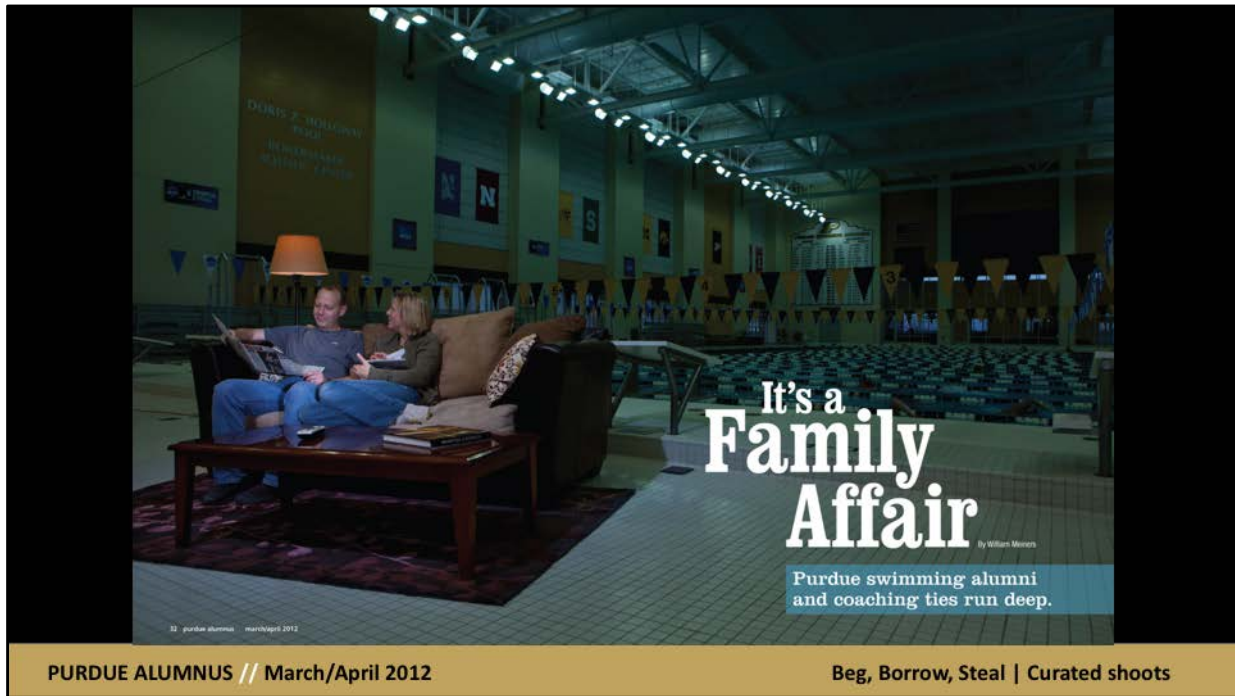
More interesting juxtaposition. This was their cover story and it's not a feature article, just a four-page photo story in the front of the book. Are you allowed to do that? Richmond says so.

BEG, BORROW, STEAL

We've been trying to pull off more curated, epic photos shoots over the years. Here, I will walk you through some of our early flops to our recent successes.



Our first attempt at an epic photo shoot. That's my grill. That's my friend's patio set. We loaded it all up into a truck and carried it onto the pool deck on a freezing cold February morning.



The story was about how a bunch of the swimming and diving coaches were also on the competitive swimming and diving teams as students. So we wanted to show how they were a family. Hence the familial scenes on the pool deck.

My rug. My lamp. My coffee table book. My remote control. Graphic designer's couch. Coffee table from our office.

There must be something in the water.

How do you account for the number of Purdue swimmers who marry each other? Both head coaches of the men's and women's swimming and diving teams are former Boilermaker swimmers who married Purdue swimmers. Another former assistant met, and eventually married, a Purdue swimmer after her senior All-American days. And her brother and two brothers-in-law are here because of the conventional training regimen of Purdue swimming pools.

Team of the moment — John Klinge (C'87), head coach of the women's team, and Pauline Renie (E'87), now supervisor of swimming and diving operations — intend to compete as coaches. Dan Ross (E'04), head coach of the men's team, never left.

Positive psychology

Not too terrible long ago, Ross walked on to the Purdue swimming team. He planned to follow in the footsteps of his father, a chemical engineer who graduated in 1913, but he switched to business management and sports science — a good move if you consider his current position. Ross scored one point in the Big Ten Championships at Michigan in 1988.

"I had that it was a slow year, but that one point means a lot to me," says Ross, whose eventual wife, the former Sally Johnson (E'81), was a two-event Big Ten champion the same year. A vocal leader, he was named team co-captain in 1984.

"My senior year, I had a heart arrhythmia and didn't swim the last half of the season," Ross says. "I became kind of a coach for the team. My roommate was a swimmer named Joe Best (E'83).

After graduation Ross quickly ran the racks from quarter three to half time as full-time assistant. He says he was in the right place at the right time when George King, then athletic director, offered him the head coaching position in 1985. He was only 25 years old.

Now in his 26th season on the job, Ross is associated with longevity. A three-time Big Ten Coach of the Year, he is the longest tenured of all 14 Boilermaker head coaches. He's also tied with Minnesota's Damon Dale for the most years as a head coach of any Big Ten sport.

"The hardest part was keeping out and swimming with these guys and then all of a sudden you're coaching them,"

Ross says of those early years. "I was strong and muscular as a person, so there was a big learning curve for me."

There also wasn't much money for Olympic sports in those days. As head coach, Ross says he was making less than \$20,000 a year. He looked all the way, did all the recruiting. "We had the worst facility in the conference, maybe the country for that matter."

Things began to change when Morgan Burke (M'73, MS '77), a former swim team captain himself, arrived as Purdue's athletic director in 1995. Graduate assistants, bumped-up scholarships, and the Boilermaker Aquatics Center, which opened in 2001, helped build both the men's and women's programs.

"Morgan may go down in history as the facility guy," Ross says. "That's for more recruiting than that. He's touched every facet of Purdue athletics. The number one factor was that every student athlete would be successful."

Swimming home

Renie remembers those days too. Then known as De Wirta, she trudged through a winter campus to get to swim practice at Lombard Fieldhouse. She says the "babe in the ground" was nevertheless a fun pool because of its overall depth. And she swam the butterfly faster than

John & Chris KLINGE

Years married: 13

What was your favorite childhood Lake or neighborhood?
 Lake Michigan. We lived in a small town near Chicago. We had a great lake house and a great neighborhood.

What did your first marriage almost cost?
 Chris' college tuition. I was a coach and he was a student. I had to pay for his tuition.

If you could describe your relationship in one word, what would it be?
 Supportive.

What was the best advice you've ever received?
 Just be yourself.



Jeff & Darlene RENIE

Years married: 20

What is a typical Sunday morning like at your house?
 Jeff is in the garage working on his car. Darlene is in the kitchen making coffee and getting the kids ready for school.

What is your favorite childhood neighborhood?
 We lived in a small town near Chicago. We had a great lake house and a great neighborhood.

What was the best advice you've ever received?
 Just be yourself.



Graphic designer's bistro table.

This was pre-redesign, so ignore everything else! You're only looking at the photos!



Dan & Sally
ROSS Years married: 25

Who made the wedding at home? Sally. Dan is in charge of partying. To get it done, they had to make plans, what would be best? Sally: Dan would be a little, he handles everything behind the scenes.

What is your favorite restaurant to eat at as a couple? Dan: The place I love to go to.

What's off? Dan: That one he has done? Dan: Everything from his bank to his car.

about anyone in there. Twice named team captain, she won two Big Ten titles in the 100 yard butterfly in 1988 and 1990. She became Purdue's first female individual All-American in 1989 after a fifth place finish in the event at the 1989 NCAA Championships. She reported those were All-America honors in 1990 and was part of an honorable mention-800-meter relay team.

Ross, whose husband had 18191 events for Ross in 1986-87, believes a dedication to an elite grad training regime could get swimming athletes on course for greatness. "Investing in such a mental quest," she says. "You have to be strong willed to get through some of the challenges you face. No one really likes jumping into the water at 5:30 a.m. Especially when it's cold outside."

Ross jumped at the chance to return to her alma mater in 1997 and assist Cathy Wright-Egan, her former head coach. For the 2011-12 season, she transitioned to the supervisory position for both the men's and women's teams. In

that administrative role, she's focused on the business of swimming, running the camps, and keeping coaches in compliance with the NCAA.

She's thrilled with the changes she's witnessed in Purdue swimming since her return, especially with the Indianapolis Aquatics Center. "Not a day goes by where I don't walk out on the deck and think, 'Wow, this is Purdue.' There's so much space to swim and train in. I'm grateful every day that I'm in this pool," she says.

Kings, according to Ross, his former coach, wanted to do nothing but train in the pool. The civil engineering student qualified for the 1992 US Olympic Trials and placed 11th in the 500-yard freestyle. A team captain himself, Kings earned All-America honors in 1991 with a fifth place finish in the same event. His collegiate career is bookended by All-Big Ten honors in 1990 and 1991.

Kings met his eventual wife, then swimmer Chris Anderson (L'Orléans), on their first day on campus, but they didn't

start dating until they reconnected in California a few years later. A former US Marine, Kings helped build a successful high school and club program in Rockton, Montana, before becoming an assistant at Ohio State for the men's program.

It's all been part of a formation path that has recently brought him home. Now in his fourth year at the helm of Purdue's women's program, Kings has already earned one Big Ten Coach of the Year honor for 2009-10, a year that saw historic breakthroughs for the program.

"When I was a student athlete, I would have never guessed that I would be back in this role," Kings says. "I'm so thankful to Dan, who was my coach, is a dream job. Having a wife who understands the sport, the school, and the area is also huge."

Swimmers grow up competing in cool water, so pressure could also lead to pressure rings. "In swimming, the training is so demanding that it limits your time away from the pool."

Kings says, "I've whole social structure revolves around the program. Both as an athlete and a coach."

In fact, those connections are a calling point for his budding program. "We promote the family atmosphere," says Kings. "We're fortunate because we have that on both the swimming and diving side since we try to separate those things. We take care of our kids outside of the pool, and I think we do that better than anyone else."

But one trend to continue is likely to have its roots here. "Every graduating class seems to have a couple of swimmers who get married," Ross says. "That as kids start dating, we have to tell them that we're here for them if they break up too."

Turning Big Ten titles
Despite the new world-class facilities, which now include re-vitalized training areas in the renowned Mackey Arena, it cannot be easy to recruit swimmers and divers to a winery Midwestern campus. But Purdue seems to be doing

that better and better on both the men's and women's fronts. Kings believes the recruiting class that'll reconnected to Purdue for 2012-13 is their best ever. And Ross credits men's assistant coach J. Agnew (consistently the grandson of a Purdue swim coach). Each Agnew with bringing in recruits from all over the nation and world.

For Ross, the recruiting success has to do with the type of athlete Purdue is looking for. "You have found a lot of former athletes in all sports that they picked Purdue because it was the right fit for what they needed to grow up at the time," Ross says. "We take student athletes and develop them into young men and women."

That may have been most evident when David Bouda, a 2008 Olympic diver, decided to become a Redemptorist. Perhaps the school's most celebrated and accomplished individual athlete, Bouda won six national championships before turning professional in his senior year to concentrate on training for the 2012 Games. Recruited by diving coach Adam Sedlak, Bouda chose Purdue for the college experience, Ross says, and he was the consensus team player in an individual sport.

"When Adam recruited David, he commented on a partial scholarship," Ross says. "We had to show him that not only is Adam a good coach, but he could make him believe. And that shows because he's still training with Adam for this summer's Olympics."

Diving has become a big part of the women's team, as well. This year, three Purdue women divers — Michelle Cabaud and Mary Beth Damschick, both freshmen, and Cary Matthews, a junior — are all taking Olympic-related years to train with Sedlak and a chance

to compete in the US Olympic Trials. So in a sport won by the best swimming teams and the highest diving scores, the timing could be right for Purdue swimming and diving. In January, the Indiana Purdue coach swimming and diving had most because the first time dual meet scheduled on the Big Ten Network. Purdue men and women were each ranked in the top 20, but they faced Indiana squads with a pair of top 10 rankings. The Hoosiers were both sides of the rivalry.

"We're trying to catch up with Minnesota and Indiana," Ross says. "The knock against you is that we haven't won a championship. Everyone has a facility now and it's tough, but the back with success. Ten 15 and might have 10 to 15 years left but I want to win."

It and when other swim teams win their first Big Ten Championship, the accomplishments will be all the more sweet because of all the family ties in Purdue swimming.

P Will Ross is a senior press officer in the Purdue Office of Marketing and Public Relations. He is also the founding editor of *Purdue Alumnae Magazine*. www.purduealumnae.org (Photo by Dan Ross)



This one looked SOOOO much better in my head. It was a SWELTERING August night. Everything went wrong. Clothes picked out at costume rental shop were given to someone else, fog machine didn't work in the humidity, I tried out a new photographer (WHAT WAS I THINKING?) and to top it all off, both the magazine editor AND the graphic designer were both on maternity leave that summer. So I was literally doing EVERYTHING myself.

THE SCIENCE OF THE SCARE

Proliferation of paranormal themes in media can have frightening effects
BY ADRI FURTNER/ALUMNUS

Halloween once marked the time of year when the latest experimental beings — like your ghouls, ghosts, vampires, werewolves, or other dark phenomena — were turned out by the Halloween machine for audience looking for some seasonal fun. Today, paranormal characters and creatures appear year-round on film and television, and they are enhanced with incredible special effects that make them seem undeniably real.

“Even on the television any time of day, and even if you were paranoid, programming on at any hour, Halloween themes are year-round,” says Glenn Sparks, professor in the Brian Lamb School of Communication.

The big bad, creepy supernatural beings on movies and television are meant to be frightening, right? The unknowns and suspense of the paranormal are intended to capture a viewer’s heart and compel them to look away from the screen. A good writer will tell you good lies. Some types of an adolescent’s rite of passage. But some that adolescents in special effects make these films appear as authentic, as one could not imagine, what happens when frightening images permeate the mainstream media and surpass the circle effect that old horror movies made nearly indestructible? Sparks says the answers can be, well... scary.

WHO YOU GONNA CALL?
 Professor Sparks, a media effects scholar — which means he studies all areas of mass media such as entertainment and news — is internationally known for his research on frightening images in media and how media depictions of the supernatural affect people’s belief in the paranormal. Over Halloween, news outlets seek his expertise on the latest stories or pop culture’s fascination with creep attacks, evil children in movies, or the proliferation of vampire

themes in movies and on TV.

Locally, Purdue students claim their personal tales of paranormal experiences, or seek his opinion on creepy paranormal lore. He once was asked to lend a hand to a ghost-hunting culture. He declined.

“This topic can be fun, but I prefer to bring a critical context,” he says. “You can enjoy it without affecting your basic worldview, but do realize that people are influenced by media depictions about the paranormal.”

Sparks began his research by studying children’s night terrors in film and television in the early 1980s. He came to Purdue in 1986, where he continued the work first inspired by parental questions of how violent film or television images might affect their children.

“The big topic at that time” he says, “was media violence, and we were exploring the potential harm of allowing children to watch violent programs and how these programs might contribute to children’s aggressive behavior.”

Being scared is one thing that you don’t want the light on or avoid the family hour after dark near some creepy, childish, but psychological effects can linger and cause anxiety in children. According to Sparks, these sorts of effects are much more likely to manifest themselves in the typical child than the aggressive, disturbing effects of media violence.

“I had young children myself at the time, and I found parents’ questions about how these images were affecting their children to be a concern,” Sparks says.

“Sparks’ work from three decades ago is still cited and often serves as the foundation of today’s recommendations for movie and television viewing. He advises parents to watch for changes in children’s behavior on sleep schedules, and to be aware of what they are viewing. That latter task has

24 purduealumnus september/october 2012

www.purduealumnus.org purduealumnus 25

PURDUE ALUMNUS // September/October 2012

Beg, Borrow, Steal | Curated shoots

And it totally showed. Not the best execution. Le sigh. But you get where I was going with it, right?

This prof studies popular media and the obsession with ghosts, vampires, zombies, supernatural. So we thought we'd shoot him in the oldest graveyard in town like he's hunting a specter. Faculty can be fun! Be brave enough to pitch your crazy ideas. They might go for it.

become more difficult as the availability of content has increased and as children's capacity for immediate access to video clips online or on video games.

"It is often presumed that older children are less affected with scary images, but most children typically lack the sophisticated emotional coping skills required to deal with gruesome images," he says. "The images that Hollywood producers have become more compelling, more vivid, and certainly more frequent in terms of their ability to trigger these kinds of reactions."

"Because the media landscape today is filled with frightening facts, this topic is even more relevant than when we started the research three decades ago."

THE OTHER DIMENSION

During the 1980s violent crime in Hollywood, Sparks expanded his research on children viewing frightening images to study how media images influence belief in the paranormal.

"Hollywood started showing out early produce ads content to maintain ratings, and one of the common themes was reality TV and the paranormal. The shows focused on people who claimed they had been abducted by space aliens, saw flying saucers, or spent time in haunted houses. It's really easy stuff to produce — get people to talk about being scared, their own feelings, and then you have an entertaining program."

Part of the entertainment factor is the scare, and the paranormal world is scary because it represents the unknown. From an evolutionary lens, covering haunted houses and ghosts, devils, spirits, and otherworldly beings objects.

"What does it say about us in this technological age of science that people are fascinated by this stuff?" asks Dr. Milder. "It's a very old myth and the linear television host of NBC's *The Color Field*. "It is an interesting question because it can be explained and content seems to be beyond our capacity to understand and explain the experience."

Milder and Sparks, who are co-authors of the book *Lightning Strikes: Counting Consensus and Restoring Relationships*, "stud" about 20-year-olds when they were both posted in a 1982 magazine article about the popularity of such themes. Back then, especially when Milder hosted *The Color Field* in 1981 and 1985, there was more of an optimistic and positive tone to people's beliefs in the unknown.



Prof. culture analyst Dr. Will Milder hosted NBC's *The Color Field* for two seasons in the 1980s. The former stand-up comedian says it was easy to connect with the show's premise, despite the skepticism. "As a comedian, I have never been a skeptic. I can't explain. And as a therapist, I could never demand anyone's experience."

"If someone said, 'I spoke to your father when he is here and everything is going to be OK,' it can be comforting in a time when people are being hooped," Milder says. "People are going to cling to something beyond us and the media feeds that."

"The news, news itself today — well that's a question for Glenn about why people have a fascination for the more unsettling content that as he will tell you, the filmmakers today depict these images in a way that is usually astounding."

And as some cases, just the national special effects can have a chilling effect. Hollywood has looked on a commercial approach with films such as *Paranormal Activity* and *The Blair Witch Project*, using subtle special effects or documentary style to create and build on a realistic unknown.

"It is a successful formula because people are entertained by and enjoy stories of the paranormal, and that is obvious with today's current trend of vampires from *Twilight* to *True Blood* and to Abraham Lincoln *Vampire Slayer*" he says. "There talk shows and news shows cover the supernatural because of the entertainment factor. It is not going away any time soon."

THE SCIENCE BEHIND A GOOD SCARE

According to *American Movie Classics!* *Blair Witch*.

"When there are unsettling films designed to frighten and panic, cause dread and alarm, and to create one hidden worst fears, often in a terrifying, shocking, and terrifying way, while capturing and entertaining us at the same time in a cathartic experience. These films effectively center on the dark side of life, the forbidden, and strange and alarming events. They deal with our most primal nature and in turn our nightmares, our vulnerability our obsessions, our realisms, our fears of the unknown, our loss of death and dismemberment, loss of identity, or loss of morality."

Over the years, Sparks has interviewed

hundreds of people to better understand what it means to be scared. While many shows cover the supernatural because of the entertainment factor. It is not going away any time soon.

But just like children, adults too can experience deep discomfort or anxiety for the short term. In comparison, others may still be holding on to vivid memories of being scared, and that is not healthy, Sparks says.

Another third of those polled report that frightening images scare them, and that can be measured in a study where a person's heart rate increases, muscles tense, or they begin sweating. Some people's minds are enticed with lasting memories of frightening scenes.

Sparks has talked to people who didn't want to cheer after watching Alfred Hitchcock's *Psycho* or didn't want to sit next to other viewers *The Silence of the Lambs*.

may affect those sitting in the parlor's box. Also Sparks' CIEI effect study used public, diverse of members, he interviewed more officers, and other public representatives sought information about the study. And of course, it can affect how people look on their windows.

Consistent with the early research by renowned media scholar George Gerbner, Sparks' studies show that this kind of television viewing can lead to "mean world syndrome," where people start to think about the world as a scary place.

"Some people develop a fear of victimization, and this belief can affect their feelings of comfort and security. A similar thing happens when a person is constantly consuming images that are dark, scary, frightening, and violent that depict things outside of one's ability to control," says Sparks. "People who view the world as scary and don't engage in it, I think this is a real problem for society."

Sparks is also studying how the frightening images of television, such as those from *W11* and the *Long War*, can affect people. Sparks has a colleague at the Brian Lamb School of Communication, Susan Maguire, whose research shows that people who watch television that portrays violent situations negatively are less likely to sign up as organ donors.

"Media effects can be powerful," Sparks says. "The way media depicts life does seem to make a difference in what people will do with in terms of their thoughts, feelings, beliefs, and intended behaviors."

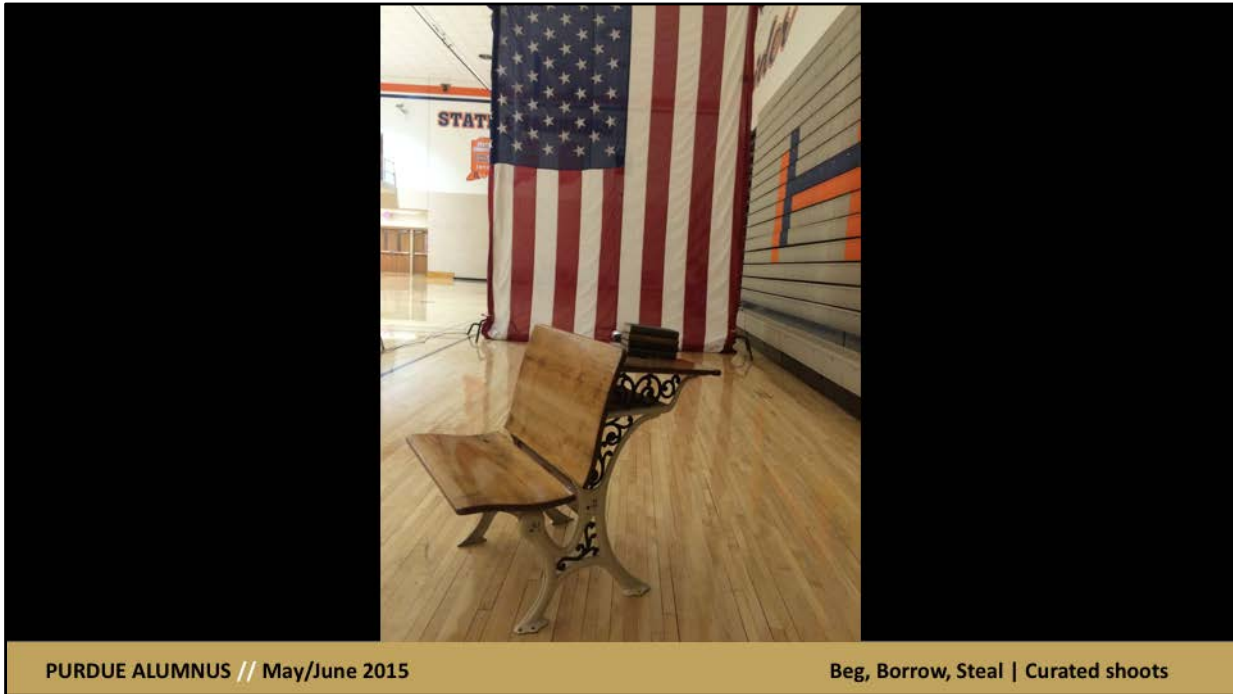
Next, Sparks would like to build on his work to see how media images affect what people believe about science. "I think the flip side of belief is the perception of how media depicts, tone influence perceptions of science, knowledge of scientific principles, and the way people think about what's going on in the world around them. There are incredibly important considerations today. There is a diversity of media voices and channels, and depending on what people are consuming, they may have different impressions. The study of media effects may have a real relevance on how society determines what is true and what isn't true."

Sparks' current work with his former doctoral student Susan Maguire (MA LAW, PhD LEJ) focuses on what he calls the "CIEI Effect." One study indicates that people who watch popular crime shows such as *CSI Crime Scene Investigation*, *Law & Order*, and *Cold Case* might have unrealistic perceptions of crime and the judicial system. The adults who watched these shows estimated murder occur two-and-a-half times more than they actually do in the real world, as well as other serious crimes. This type of TV programming also

Meh. Not as epic as I hoped it would turn out.



Get crafty! We washi taped these mortarboards, and had about 20 members of our staff dress up in caps and gowns. Set the camera on a tripod and just kept moving everybody into new rows and comped the whole thing together. Not the exactly vision I had, but it worked.

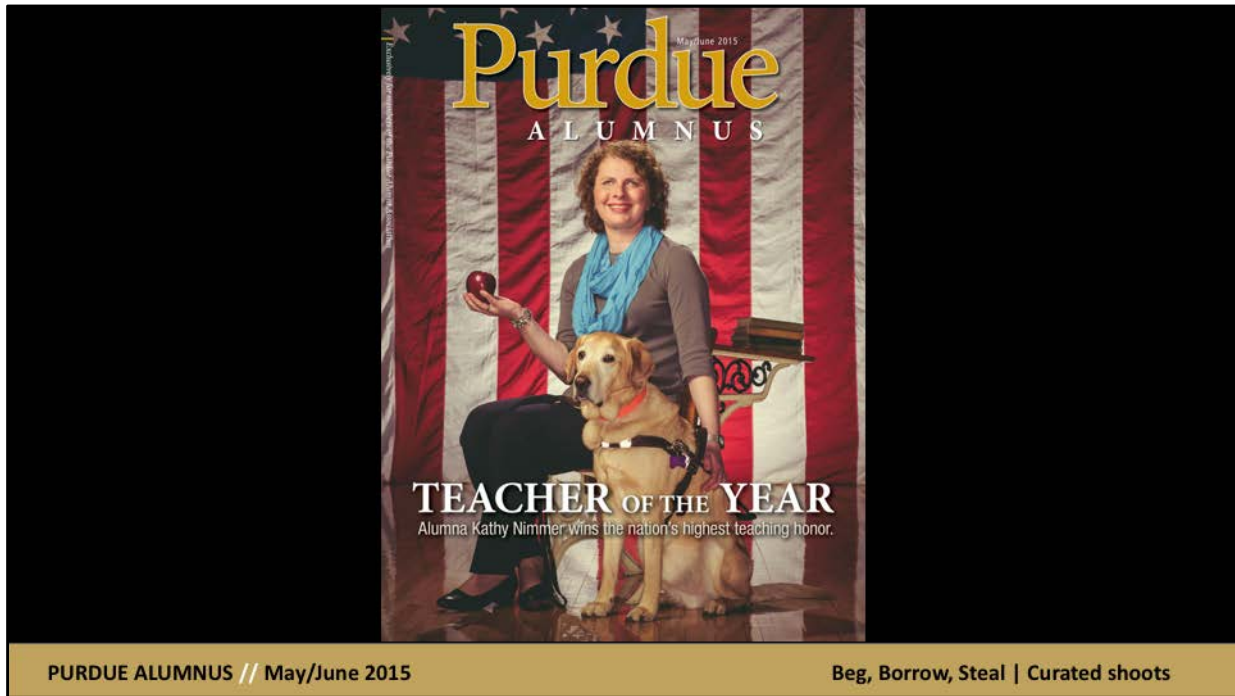


PURDUE ALUMNUS // May/June 2015

Beg, Borrow, Steal | Curated shoots

Borrowed the flag from the committee that puts on our community Fourth of July celebration. Shot on a weekend in a high school gym.

The old school desk and vintage school books are mine. I live in a veritable prop house. I have all kinds of cool old stuff in my house. That might not be you, but you know that person. Make friends with them, inventory their living room when you go over, and ask to borrow their stuff.



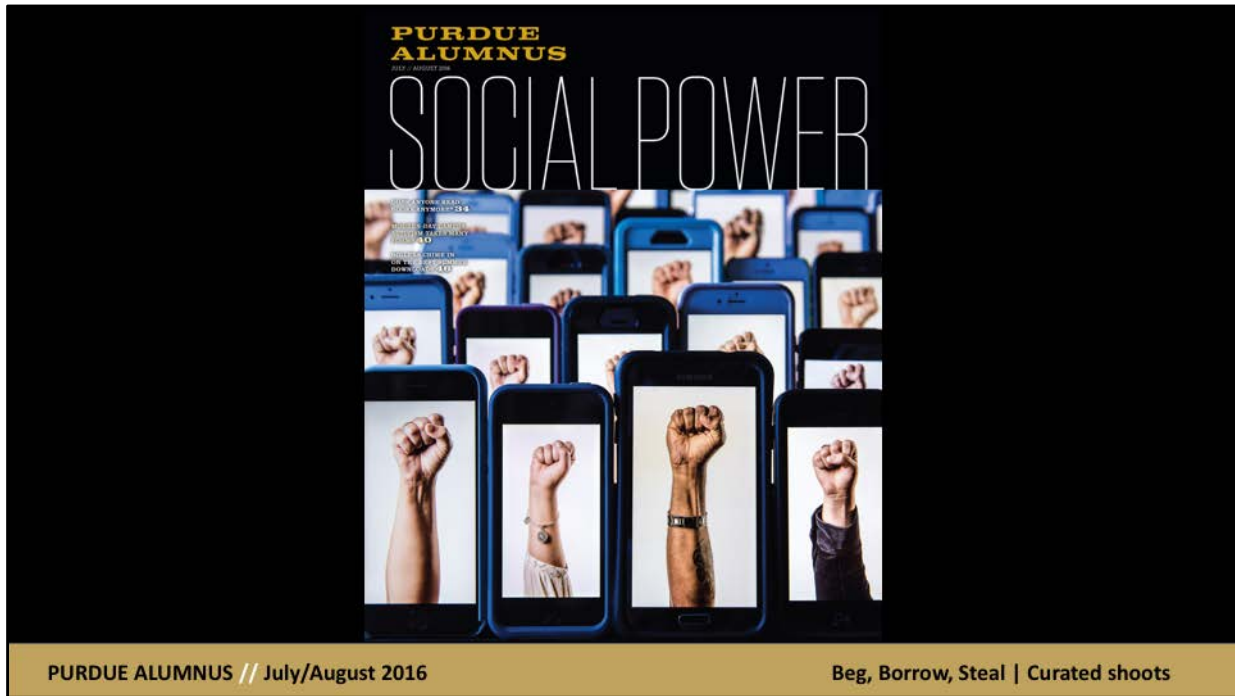
The Indiana Teacher of the year, an education grad, who is blind and uses a guide dog, was one of four finalists for National Teacher of the Year.

The magazine was going to mail right around the time of the announcement, so we had to be ready with a cover in case she got it. The cover art turned out GREAT.

... And she didn't get National Teacher of the Year. So we never used it.



And we ended up with this wanna be GQ cover instead. Our final cover before the redesign.



Lot of time to put together, but really cheap. Stalked people in the student union and asked to take pictures of their fists. Then had to send out an all building e-mail to ask to borrow about 40 phones. No small feat! People are hesitant to be parted from their phones, even for an hour. Texted each phone a fist.

Then the screens kept going dark with screen savers, so we had to keep waking them without toppling the entire display down. Ugh.

Propped them all up on a spice rack type thing, and bam! Got a lot of letters over this one. Created a lot of hoopla. And you have to consider the source. We're a land grant school in a Midwestern state with members that are mostly old white guys.

It's one of the proudest things I've ever done. We effectively communicated the role social media plays in the activism of current students.



Story about all the family heirloom crap Boomers have collected that Millennials don't want.

All of that came out of my house except for the sampler. Bought that on etsy for \$40. Now hangs on my office wall.

Here's a little secret. Sometimes if I have to buy a prop, but we don't really "use" it, I will return it for a refund. Like that shiny aluminum trash can. Shhhh! That is our little secret.



One of the most epic shoots we ever did. Required a lot of coordination. Grinching to all these households to pile up toys. But all that stuff came from friends and colleagues. That book shelf is from my attic. The work bench is my husband's. That's my pound puppy on the shelf. I drove to a farm a few miles south of town to borrow those old apple crates. We wrapped up extra boxes laying around the office to serve as presents.



GRINCHING // October 2016

Beg, Borrow, Steal | Curated shoots

One carload full of stuff I grinchied. Imagine this from about a dozen different households.



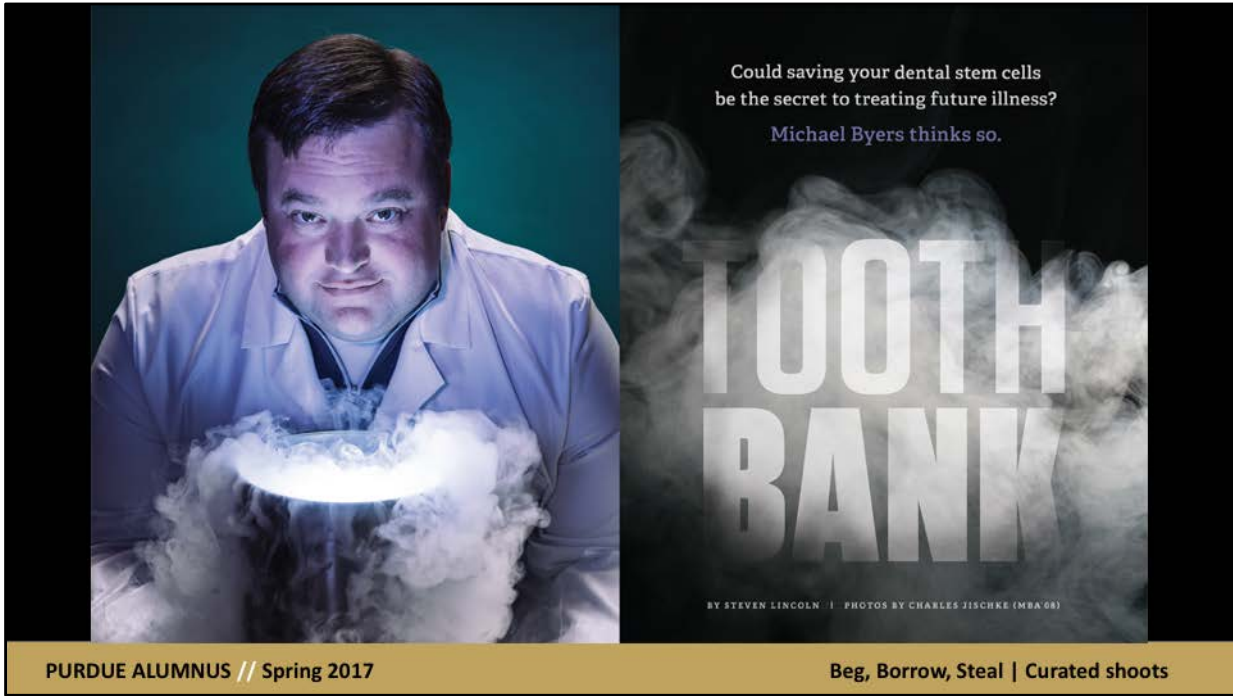
BEHIND-THE-SCENES // October 2016

Beg, Borrow, Steal | Curated shoots

Shot upstairs at a bar. In the corner. Wanted the cool worn wood floors.



Final result. Did have to rent the Santa for \$125. But that was the only additional expense.



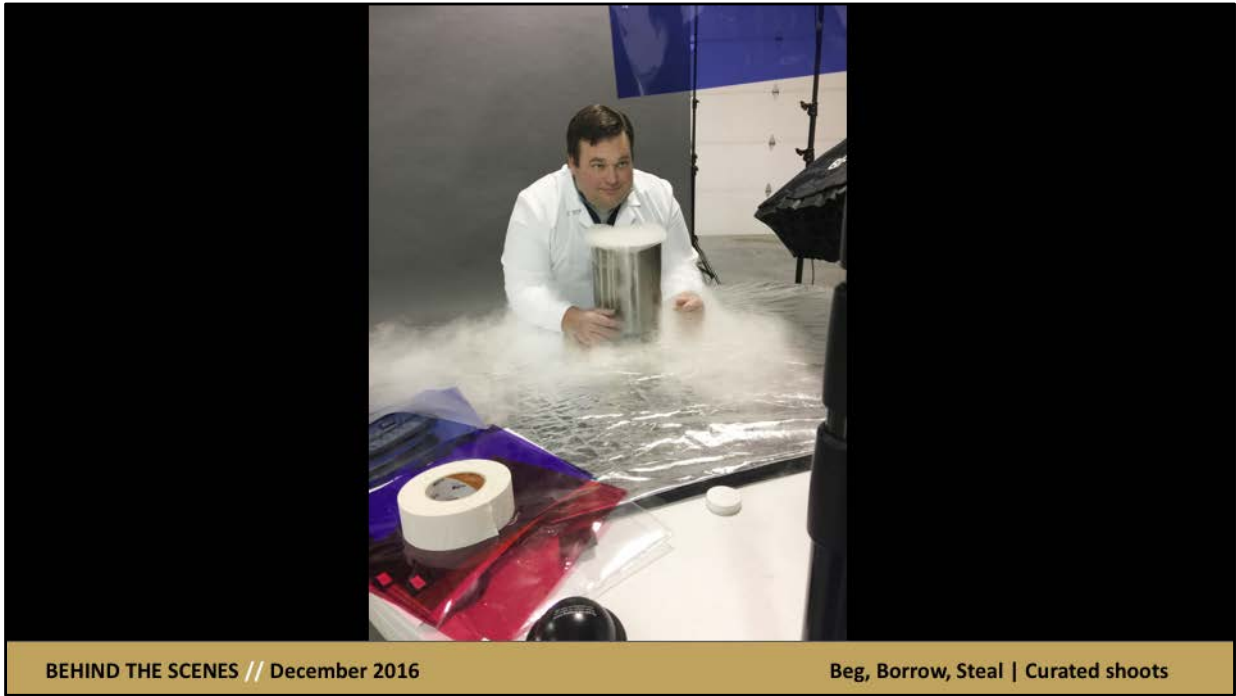
Cryo guy. Trash can, dry ice, cut a piece of screen fencing to create a grate to place over the bowl of dry ice so we could have a light down in trash can.



BEHIND THE SCENES // December 2016

Beg, Borrow, Steal | Curated shoots

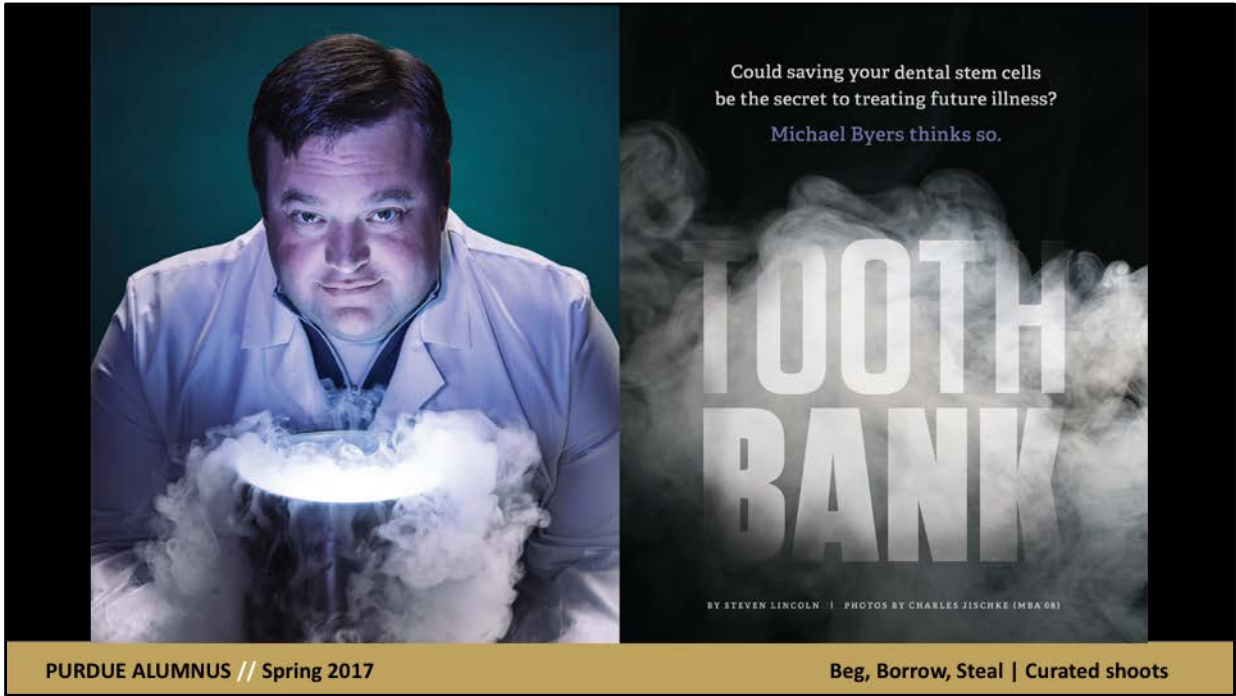
Set up in Cryo guy's freezing cold warehouse on a December day.



BEHIND THE SCENES // December 2016

Beg, Borrow, Steal | Curated shoots

He'd blow on it and it would smoke up.



Final result.

GET CRAFTY

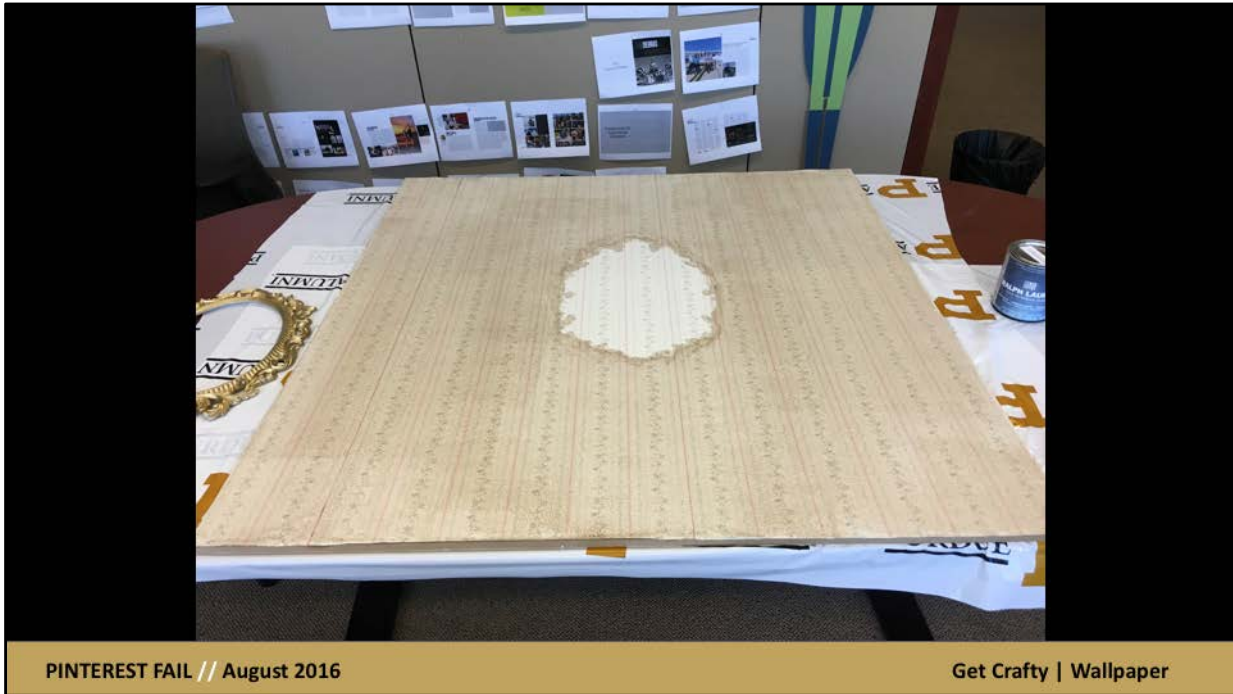
I make a lot of stuff for photoshoots. Whenever possible we try to make something "real" but when that doesn't pan out, we have a saying. "Fix it in post!"



Same story about Millennials not wanting their parents' stuff. That includes photos. Boomers have all these family photos on their walls, and younger people save everything digitally. So we wanted a conceptual way to illustrate that transition of personal family archiving.

I wall-papered that wall. It's just an MDF board with wall-paper on two sides.

I originally planned to tea-stain the wall with an interesting frame shape, but we ended up having to do it in photoshop, because ...



PINTEREST FAIL // August 2016

Get Crafty | Wallpaper

It was a total pintrest fail.

Good thing I wallpapered both sides.



Handpainted this ball for a photo we didn't even end up running on international athletes.



Beat up two apple boxes with chisels, hammer, and chains, then stained them to use for many photo shoots. Much more interesting vintage look. I've done this with pallets, too.

"The thing that I want them to know is that they're not going to an institution," she says. "They're going to the students. They're giving opportunities to people who might not have them otherwise. Even if you're funding toward faculty, you're still helping those faculty help the students. And no matter how small a gift is, all of the gifts together make a large difference."

"We've raised multiple millions of dollars," agrees Steinmeyer, who is a student leader for Rally Line, helping to coordinate conferences, games, and other team-building activities. "You raised almost \$60,000 — that's the amount of a full scholarship. It's nice to know that I might have helped another student get a college education."

ALUMNI ARTIST
While opportunity can be a challenge, it can also be fun — especially when colorful alumni personalities factor in.

"They're unexpected greetings can be pretty funny," Steinmeyer says. "There's one alum who always greets you something like, 'Welcome to Standby Rainbow' — so and so can't take your call right now, but please leave a message...". That cracks me up."

“I WANT ALUMNI TO KNOW THAT THEY'RE NOT GIVING TO AN INSTITUTION. THEY'RE GIVING TO THE STUDENTS. THEY'RE GIVING OPPORTUNITIES TO PEOPLE WHO MIGHT NOT HAVE THEM OTHERWISE.”

—Susan Adair

PURDUE PRIDE: A SOLID ASSET
Many alumni mistake Rally Line as being part of the Purdue Alumni Association, but Rally Line is actually a Purdue University organization. (Though the Purdue Alumni Association often partners with the university, it is separate.)

According to Sara Eldridge, the manager for Rally Line, members from 100-130 students are employed with Rally Line at a given time, depending on need. Students are paid hourly rates, and it's a good job for students who can't afford transportation and want a job on campus so they don't have to spend a lot of time getting to and from work.

Last fall, recently, the group was known as the Eldridge, but the university changed the name to better reflect the spirit behind the group.

"It is pretty funny when you think about it," says Eldridge. "We're not just about funding Purdue. We're rallying our alumni to help supporting it in a variety of ways, even if it's just being good about their time here."

Business one of the key aspects of the university's current goals is making a college education affordable, Rally Line focuses on letting alumni know how they can help.

"I've worked at other institutions, and seen how they've had to raise tuition and make huge budget cuts," Eldridge says. "Purdue hasn't had to do that. The state knows it has a great asset in Purdue. But still, there's a budget gap, the state can only fund so much. One of the things we try to do is get the word out about that to donors. The state appropriation has declined in recent years as a percentage of the university's expenses. The next is to make up from a variety of sources, including tuition and private donations."

If she could tell alumni anything about the students she manages, it's that they're there because they truly want to help Purdue, and help maintain its connection with alumni. But not only that, the students themselves appreciate connecting privately with alumni.

"The students see the alumni as valuable sources of information and experience," she says. "They want alumni to be involved in Purdue emotionally, as much as anything else. The more alumni feel their grade in Purdue, the better off the university will be overall. The benefits aren't just funding related. They can be anything — helping the university attract more legacy students, furthering its reputation, or creating a larger sweet tightly knit community."

"Okay, recall another business greeting. 'One alum apparently had his phone stolen, so he used his voice greeting to say something like, 'To the person who stole my phone: You are a... and then went on to say some things I'm not going to repeat.'"

Sometimes students accidentally reach people during happy hours with amusing results. "One of the alumni I called several years ago (and that I was creeped up into making phone calls instead of out at the 'have having fun'), recalls Steinmeyer. "I want you to know what to say to that."

Sometimes students accidentally reach people during happy hours with amusing results. "One of the alumni I called several years ago (and that I was creeped up into making phone calls instead of out at the 'have having fun'), recalls Steinmeyer. "I want you to know what to say to that."

Another alum says her traditional Purdue song that still never faded before. "There are all these little things about the university that no one knows now, it's fun to hear about them from people who were here before," she says.



CONNECTIONS VS. 'COLD CALLS'
Alum doesn't want alumni to think of the station as "cold calling," because it doesn't accurately describe the intent behind the calls.

"When I talk to them, I'm not just calling to get them to donate to Purdue," she says. "I just like to talk to them. I want to know more about them. I want to hear their stories about their days at Purdue, how they got where they are, and their tips for being successful."

"I never called an alum who was a member of my country, Alpha Chi Omega," says Steinmeyer. "She graduated in the 1960s and was in the first pledge class who lived in our current house. We talked for 45 minutes." The two even discussed meeting when the alum came to campus next.

"A lot of alumni tell us to make the most of our college experience — not just the classes, but everything. They also give suggestions for how to get into grad school, or which grad schools to look at. We get good advice on how to get internships, and which companies are the best ones to intern at. One of my friends even had an alum who promised to give her a job."

In fact, connecting with the alumni at a

personal level is the main reason all these students love their job.

"When you call an alum who's having a bad day, at first the conversation is kind of tense," Okra says. "But a lot of times, once we talk for awhile, their mood can turn around and it ends up being one of the best conversations you've had. There are some of the best calls."

And it goes both ways.

"I've come to be reconnected, distracted with things I have to do or whatever's going on, and then one of the alumni calls me a home away or give me some advice, and I just forget how I was feeling," says Adair.

"Our goal isn't necessarily to get alumni to give money to Purdue," Eldridge says. "We measure success in a lot of different ways. Sometimes, we celebrate that someone had a great phone call or got really helpful advice. The main focus is keeping the connection to Purdue."

—Steinmeyer puts it. "We just want them to love Purdue and remember that we've been doing our best like they were once, and that we care about them, too."

When Steve Okra starts a rotation, he always knows what to expect on the other end of the line. But every call has the potential to have a strong impact on students across campus.

30 purduealumni.org may/june 2014

www.purduealumni.org purduealumni 31

GO GOLD // February 2015

Get Crafty | Spraypaint

Spray-painted this bad boy gold for a Rally Line shoot.



This was for a story on stuff made by Boilermakers. Piled all this stuff on a white sweep and recruited a few coworkers to serve as hand models. If only I had noticed that the shopped in bees don't have consistent shadows. Grrr.



This was our cover shot plan for the STEM toy story. SLAM DUNK! Until the CEO saw it. Santa wasn't relatable and would disenfranchise readers. So ... plan b.



I was amused to have this arrive in my inbox! Mississippi State believes in Santa Claus, but Purdue doesn't.

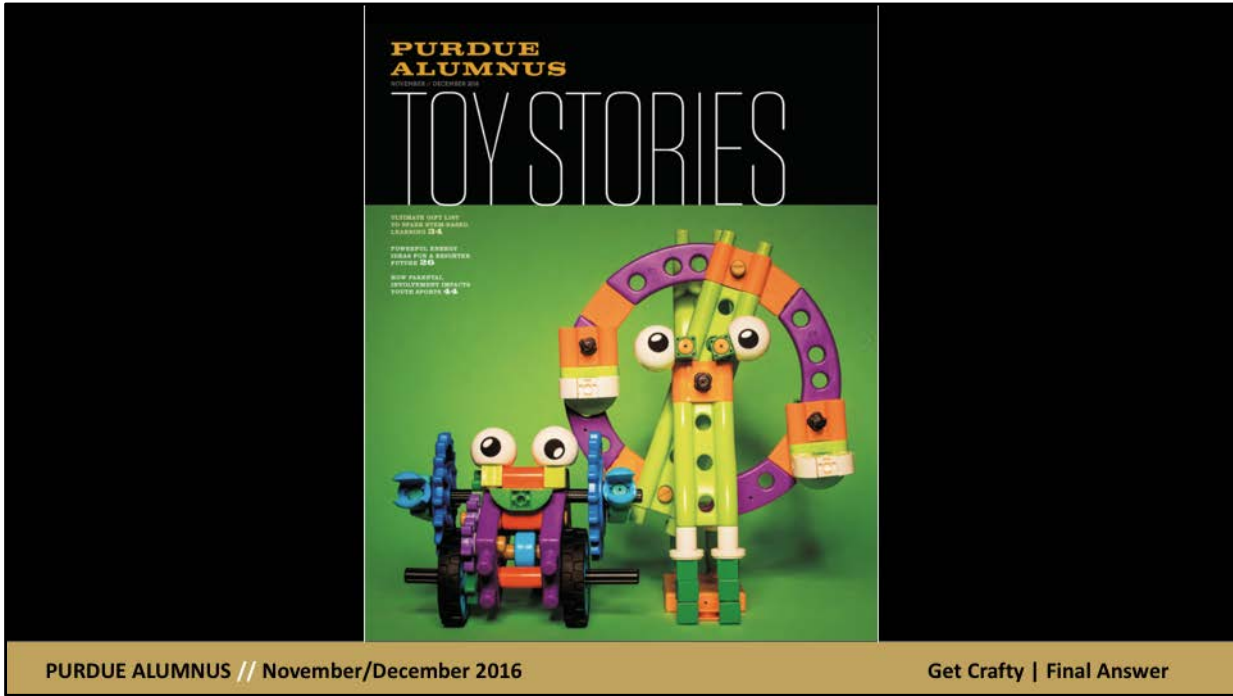


So then we tried having this high tech STEM toy crawling out of the present, looking like it busted through the edge of the box. Shredded up tissue and paper. Wasn't working.



Maybe just the toy? Maybe we weren't looking at the right toy? It doesn't really read like its active or a robotic animal. Was I too focused on the gecko?

Red is tough for us because of our neighbors to the south. I'm forbidden to do a Crimson cover, but this red looks too much like blood.



This was the cover we ended up with. The eyes gave it some personality. In the end, it's a more interesting cover than the Santa idea. Sometimes it's about letting go of things you really love to make way for something better.



GONE MISSING // October 2016

Get Crafty | Paint & Stencil

Did a paint and stencil job on this cute little thing (setting type in illustrator and then cutting it out with an X-acto knife to use as a stencil) it was going to have the numbers 48 on little pieces of wood on hooks below, because that was about the number of days before Christmas when these issues would hit mailboxes. But ... we got to the shoot and **COULD NOT** find my stupid hand-painted sign ANYWHERE.

Turns out I put it on top of my truck and it it blew off and never made it to the photo shoot. It was found by colleagues a few days later on a bridge. Now hangs on my wall all muddy and covered with tire tracks. Le sigh.



That pocket square was made out of a piece of vinyl and we had a mom sew a fake pocket slit in the jersey. Moms are often willing to help! And moms don't charge a thing!



PURDUE ALUMNUS // Summer 2017

Get Crafty | Build It

Behind the scenes pic shows the set up for our new football coach cover. We built the table out of barnwood and a simple plywood base



PURDUE ALUMNUS // Summer 2017

Get Crafty | Paint It

My team hand-painting the little football figurines. There was a sale on the San Diego Chargers cause they were moving cities. We cut out a square grid of paper to use as a stencil to spraypaint the grass, which is model railroad scenery grass.



How the final shot turned out. Epic. I was so excited to not have a football coach holding a football or standing on the football field.



This cover was for a story about researchers hopes' for the future. One of which is living on Mars, so we built a fun photo illustration for the cover.



PURDUE ALUMNUS // Fall 2017

Get Crafty | Curated shoots

Turned this MatchBox car into a Martian rover.



Set up in the library area in our office ... no fancy studio.



PURDUE ALUMNUS // Fall 2017

Get Crafty | Curated shoots

The Mars landscape is just three pieces of cut construction paper. Punched a bunch of holes in the black sweep, put the camera on a tripod, and had a staffer move a light behind the sweep shining through all the holes, which we then comped together to get the final.



Another look at how the final shot turned out. Epic.



8 REASONS FOR OPTIMISM

It's easy to be cynical these days.

And yet despite the very real problems we face in our world — war, pandemics, climate change — an enormous amount of exceptionally powerful and positive work is happening across the country and around the world. We may live in challenging times, but human ingenuity remains high.

In fact, many Purdue researchers are remarkably optimistic about the potential of the work they and others are doing within their fields. For this story, we asked eight Purdue faculty members to share — in their own words — the work that they see in their fields that makes them hopeful.

BY ERIN PETERSON

Photo illustration by Virginia Reynolds (IT'04), Jason Behrens (IT'04), Stephanie Morde (L'04), Ron Bratt (L'04), and Charles Zurbak (MS'04)

PURDUE ALUMNUS // Fall 2017 Get Crafty | Curated shoots

We carried the photo illustration theme inside.



1 The push to go to Mars is revitalizing the desire to explore the universe.

Brian Horgan is an assistant professor in the Department of Earth, Atmospheric, and Planetary Sciences.

NASA'S APOLLO PROGRAM WAS INCREDIBLY INSPIRATIONAL. IT put humans on the moon and brought back thousands of kilograms of lunar rocks that revolutionized our understanding of the solar system. When that program shut down in the 1970s — with very limited organization and record keeping — we lost a lot of essential knowledge that has taken decades to rebuild.

But the growth of the private space industry including Elon Musk's SpaceX and Jeff Bezos's Blue Origin, is big news. These companies are making tremendous advances in reusable rockets and other technology that will enable space exploration. And Musk is thinking big. He's telling the world that his company will be putting people into space, putting spacecraft on Mars, and eventually sending people to Mars. Putting humans on Mars is a huge goal, and it's an important one for both private companies and government agencies. This kind of grand vision helps push NASA and other government space agencies — which do the slow and steady work of moving forward in some of the roughest situations — move further and faster. Government organizations and private companies are all working together on many of these hard problems, but they're pushing each other too.

This is good in a lot of different ways. It helps us create amazing new technology and jobs that will benefit us here on Earth. Mars likely holds secrets to how life evolved on a planet like Earth.

And perhaps most important: as Americans, exploration is part of our DNA. It's who we are. We're people who put themselves out there and push the boundaries. It makes sense that we're making big goals to explore the final frontier of space.



2 We're discovering repeatable processes to solve seemingly intractable conflicts.

Stacy Conroy is a director of the Peabody Peace Project.

AS PART OF THE PEABODY PEACE PROJECT, I WORK WITH EVERYDAY CITIZENS IN PLACES INCLUDING LIBERIA, GHANA, AND SIERRA LEONE. THESE ARE COUNTRIES WITH AN ARRAY OF REPEATING ISSUES. THERE ARE LARGE NUMBERS OF EMPLOYERLESS PEOPLE. FOR EXAMPLE, IN LIBERIA AND SIERRA LEONE, COMMUNITIES ARE DEALING WITH THE AFTER EFFECTS OF CIVIL WARS. IN NORTHERN GHANA, THERE ARE INTER-RELIGIOUS TENSIONS BETWEEN CHRISTIANS AND MUSLIMS.

These are all difficult problems, but our teams have developed a four-part process to address conflicts in communities in ways that are making a positive difference.

First, we spend a lot of time talking with various stakeholder groups about the problems — seeing them from their perspectives. Then we want to see if they would like to collaborate with us.

If they do, then we develop a really inclusive group of people who have a stake in the issue and literally get them around the table for dialogue. It varies by issue, but this could include representatives of government and industry groups, women's groups and religious groups, and youth.

That collaboration eventually leads to action. These discussions can be tense and conflictual, but over time — typically multiple meetings — the stakeholders themselves develop strategies and tactics that can prevent political violence and other problems. Sometimes we can lend them our expertise.

It's an approach that works. We've seen it work to resolve a fisheries dispute in Ghana. We've seen it in helping to improve relationships between ex-combatants in Liberia and the Liberian National Police.

But the larger — and more important — point is that this type of inclusive model can work in a lot of different places. It's a process that can be refined for conflicts here in the United States. This work is teaching us a lot about solving disputes and other tensions effectively.

3 We're learning to enhance the benefits and limit the drawbacks of screens in our lives.

Glenn Sparks is a professor in the Brian Lamb School of Communication.

THERE'S NO QUESTION THAT SCREENS DOMINATE MANY PEOPLE'S LIVES THESE DAYS. BUT WE'RE FINALLY LEARNING HOW TO USE THEM MOST EFFECTIVELY. HERE ARE TWO EXAMPLES.

We're learning to set rules about screens in social after-school events. Families are making rules like "no phones at the dinner table." Party hosts are asking guests to keep their phones in a bin when they arrive at the door. Board game nights are becoming more popular. In fact, this signals that our culture is becoming more receptive to the isolation effects of this technology. We're seeing the human connection, and we're finding ways to make sure we maximize those connections.

We're starting to use technology for the right reasons. I do a lot of work with elderly people, and they're using Skype and FaceTime to keep in touch with family members who they could not see very easily otherwise. Technology is tremendously positive when it helps us keep established relationships warm and close.

PURDUE ALUMNUS 34

PURDUEALUMNUS.ORG

FALL 2017 35

Printed an airline tag for a bag headed to Mars. Split a little table, stained one half and rejoined it with staples and “thread” to show conflicting parties coming together around a table.

4

We're generating more renewable energy than ever before.

Jeffrey Duke is a professor in the Department of Biological Sciences.

Carbon tax discussions are one of the most recent iterations of climate change, and much of that is caused by the burning of fossil fuels, like coal.

But in many places, the use of coal is declining — including in some of the most populous countries on the planet. For example, in China, coal use is on the decline, according to a study in *Nature* *Geoscience*. The country is also making major investments in renewable energy. India, too, is in the middle of a transformation, in part, India has doubled its annual wind and solar capacity in coal.

And despite the political controversies, we're having nationally renewable energy is taking hold in the United States in a major way. In fact, states, and the corporate world, in America, new solar electric generating facilities added more capacity to the grid in 2016 than any other resource — including natural gas, nuclear energy and petroleum combined.

The great part is that what once drove this momentum — politics and economic incentives — is no longer the primary driver of this change.

Instead, the costs have plummeted. The price of solar panels and installation has dropped by more than half in the past decade.

There are all sorts of other benefits, too. Renewables can be a lifesaver for countries to be a little bit more independent in their energy supply in developing countries. It's often much easier to use renewables than depending on massive and often unstable grids.

There is still much work to do, but these are promising trends, and they're really helping us start to address climate change.

5

A tiny portion of web users are helping make the world a better place.

Scott Adam Mott is director of the Purdue Data Storytelling Network.

One of the reasons that our world really needs better access to the Internet was the idea that there would be a wide variety of participation. Sites like Wikipedia and Twitter, for example, provide a platform for anyone who wants to contribute. There was reason to believe that more voices would be heard.

But the actual statistics were somewhat troubling. Our study found that more than 90 percent of all Wikipedia edits are done by 10 percent of the users. More troubling still, they tend to fix a very specific problem as a whole rather than a targeted edit. Another study found that 10 percent of Twitter users contribute 90 percent of the content. The last overly inclusive as it could be, and we might reasonably be concerned that people with their own specific agendas are controlling what we know.

But I don't think we need to be troubled yet. I would

argue that you actually want to have a relatively small group of people who are really invested to show leadership in this work. These leaders can help us do these jobs a little bit better and more efficiently. And the reality is the people who contribute most aren't "hogging" resources. They're performing a service, in fact — and we shouldn't — expect everyone to contribute equally. Nothing would get done!

To be clear, I do think it is important to try to pull everybody in and not to deny anyone who is talented the right to be part of and participate in those groups. There are certainly costs that come along with the benefits of a tiny fraction of people doing most of the work. But is the glass half full? Do these resources provide a net benefit to the world? I think yes.



36 PURDUE ALUMNUS

PURDUEALUMNUS.ORG

FALL 2017 37

Made those pinwheels, used railroad grass leftover from our football coach shoot. That little house was a model railroad house that we returned.



We're continuing to invest heavily in lifesaving scientific research.

Phyllis Aulthouse is associate head of the School of Nursing, College of Health and Human Sciences.

There has been a lot of political talk about cutting the National Institutes of Health budget over the past year — in one proposal, the suggested cuts were almost \$5 billion. In the end, though, Congress ultimately authorized a \$1 billion increase.

Why does that matter? The NIH provides funding to scientists who do everything from bench research, which advances fundamental knowledge about the world, to clinical research, which advances that tests the safety and effectiveness of treatments for disease and other conditions.

In the bill, much of the funding was allocated to clearly pressing issues: cancer, Alzheimer's, and "precision medicine" — that "custom-tailors treatment to a patient's genetic makeup, for example.

Of course, there are lots of different ways that scientists can get funding, including private philanthropy and corporations. But there can be conflicts of interest in those funding sources, and the findings of those studies can stay private.

Governmental funding is often viewed as more neutral. Also, the outcomes of the research have to become available to the public, which means we all can benefit from the progress that NIH-funded scientists make.

More money to do research in healthcare will lead to progress in our approach to disease and healthcare.

We're finding ways to use online education to help America maintain its edge.

Ann Harber is director of digital education at Purdue. In April, Purdue acquired the assets of Kaplan University on online college.

SOME NATIONAL ANALYSES SUGGEST THAT FOR America to continue to be economically secure and at the forefront of development, about 60 percent of the population should have some type of higher education credential. Unfortunately, we're currently stuck at about 40 percent.

One of the biggest issues for improvement is people in their 20s, 30s, and 40s who didn't get a higher education credential but could significantly improve their lives and careers if they did.

Online education may be a powerful way to do that. For example, if you're living and working on a farm in rural Indiana, you're unlikely to relate to West Lafayette or one of Purdue's other campuses. But online education might be a way for that person to get certain kinds of agricultural education that can benefit them.

There are also ways that online education can effectively serve more people than a traditional class format. What I first started teaching, I came up with a great writing assignment — but then I realized I had too students. Grading that many papers wasn't really practical. But with a digital format, I can give every student a writing assignment and then follow it up with sample answers and a grading rubric. I can have each student read the answers of three other students — which have been anonymized — and evaluate that writing. They can also self-evaluate. The result? This past spring, I had seven writing assignments and 70 students. In some ways, they learned in ways that were more useful, because they were doing the work of evaluating the work of themselves and of others.

Online education will never replace brick-and-mortar campuses. But it can complement what traditional colleges and universities are already doing and provide an effective way to reach out to the working adult population.

There's a secret stress reliever: sounds of the natural world.

Ryan Pflanzowski is a professor in the Department of Forestry and Natural Resources.

Many of us spend our days in environments full of noisy man-made sounds: machines, cars on the highway outside our windows. Studies in human psychology show that this kind of noise stresses us out, even if we don't consciously realize it.

But if we add listening — even from just one bird — people will suddenly feel more relaxed. In a Children for Science project called *Sound the Earth*, we discovered that water is a universally pleasing sound.

Scientists have shown that hearing sounds from nature reduce hypertension. It has a positive influence on our behavior, our psychology, and our physiology. In some ways, it makes sensitive music before all commercial music. But we often don't pay as much attention to the natural sounds around us as much as we should or in ways that really benefit us.

I often encourage people to go outside to nature and listen to the rhythms of sounds around them: the crickets, the frogs, the cicadas, the katydids. If you can tap your foot to the sounds of nature, it almost guarantees that you're living in a healthy environment. Those sounds are the base of the food chain making their presence known.

And these sounds benefit us on an individual level quite a bit. Natural sounds make us happy. All we need to do is notice them. **■**

38 PURDUE ALUMNUS

PURDUEALUMNUS.ORG

FALL 2017 39

Made "penny juice" out of beer components (our multimedia guy is a home brewer). Put out a call on Facebook for a Victrola and some friends had this modern replica, so we stuffed it with \$15 worth of greenery from Hobby Lobby to show "sounds of the natural world."



We use photo illustrations for research a lot, because often times the process of research is not visually interesting and so much of it is done on computers. It was really hard to break these lightbulbs artfully without destroying them completely.

In an unassuming office tucked away in the Veterinary Pathology Building, assistant professor Tiffany Lyle is dreaming big.



52 PURDUE ALUMNUS

SHE SPENT HER ENTIRE CAREER TRYING TO crack cancer's code and right now she's working on a project linked to one of the most devastating slices of the disease: brain metastases.

Once a metastatic tumor has metastasized and reached the brain, the prognosis for a patient is grim: typically they live less than a year after diagnosis.

Due to its almost impenetrable structure known as the blood-brain barrier, treating these tumors has proved exceptionally difficult. "We're trying to find a way to deliver drugs into the brain," says Lyle (PhD '04) of her lab's work. It's a goal that, if achieved, could be the gateway that restores the lives of millions of cancer patients.

Lyle's one-sentence description of her work is both technically accurate and refreshingly unscientific: it obscures the million bits of processes and details that she and her team must get exactly right to make progress.

She and her lab members prepare "brain-mimicking" cells in a sterile culture bowl that prevents biological contamination, then deliver the cells via syringe into a small number of anesthetized mice. Later they study tiny sections of the mouse brains with light and fluorescence microscopes. With the help of assays — procedures that help measure the presence of and activity of certain proteins, for example — they can see whether they have been able to breach the blood-brain barrier.

Every step has its perils. The high-tech and occasionally finicky lab equipment can break down with no warning. Sometimes, all it takes is a humid business afternoon to wreak havoc on the sensitive antibodies essential for her team to complete their complex protocols. "You can work really hard and sometimes things don't go the way that you want them to," Lyle says, pausing for a moment before hearing the frustration with optimism. "But you can always apply what you learned in the process to the next thing."

Lyle is still early in her career, but she thinks no question her work has the potential to be transformative. It is also very hard.

Purdue ambitious researchers are lacking none of the world's biggest and most important problems. They're landing grants, publishing in prestigious journals, and making real progress that helps us live healthier lives and makes the world a better place. But behind every media headline trumpeting a groundbreaking finding are years of quiet, painstaking toil.

Often, what makes researchers' work so remarkable is not just the advances themselves but the grit and ingenuity that these men and women bring to bear every day.



PURDUE ALUMNUS // Fall 2018
Get Crafty | Curated shoots

Carried the photo illustration theme throughout, lining up with the faculty photos.



Answering the right questions with rigor

As an associate professor of human-animal interaction within Purdue Center for the Human-Animal Bond, Maggie O'Hare has heard countless stories about how a relationship with an animal has transformed someone's life for the better. They're the kind of tales that move anyone with a beating heart.

But as a scientist, O'Hare's job is to research data that can help verify or disprove the larger truths that individuals may experience. "With science, we can determine whether or not an effect is real. If it is real, we can see what we can do to enhance it," she says.

Last year, she landed a prestigious National Institutes of Health grant to study whether service dogs reduce the stress of veterans with post-traumatic stress disorder. As part of the study she and her team are working with hundreds of veterans across the country. They want to collect rich data that will help them draw meaningful conclusions, and they're left no detail to chance. Three times a day, at exact intervals verified by a smartphone app, the study participants must collect their own saliva, which will later be tested for the stress hormone cortisol.

On specific days, participants overnight those samples back to the lab. There, they are analyzed by someone who has no details of the study and therefore won't introduce any potential bias to the data.

That's just the beginning; participants must also wear technologically advanced wristbands, not unlike Fitbits, to track their sleep and activities. Researchers test par-

icipants four times a day to find out where they are and how they're feeling. Their dogs, too, must wear devices on their collars that collect information. Participants will carry out this work for four weeks, two weeks at the outset, and another two weeks after three months.

Insurer? Absolutely.

But this sort of thoroughness is essential to collect data that matters. If a connection is established between animals and lower rates of stress, for example, that can be foundational research that leads to the creation of funded programs to provide service animals for veterans.

If the research doesn't find a strong link? That's OK, too. "We always want to talk about the findings that are significant as well as those that are not," O'Hare says. "We don't want someone to get a service animal and assume everything will be more pleasant if that's not the case."

That scientist's lens — constantly trying to think of a problem from every angle — helps give every study its strength. "There are so many checks and balances built into the work," she says. "Researchers spend their lives figuring out these details."

Associate professor of library science Lawrence Mikytuk understands O'Hare's commitment. He has spent much of his life trying to show whether the people who were written about in the Hebrew Bible actually existed in the world. His process has been to undertake a thorough analysis of ancient inscriptions and texts that bear the names of these figures.

It's a task made all the more difficult by the presence of hundreds who have tried to piece off these inscriptions as the real thing. How would you sort at least 100, some scholarship in the field was slippery at best. "It used to be that people could get away with sloppy thinking and circular logic," he says.

Mikytuk has spent a lifetime learning to suss out the fakes. Subtle details must be just right for an inscription to potentially be authentic. The language and wording must be of the exact variant that existed at the time, for example. And for real inscriptions, claimed to be from Jerusalem, the day must be a certain variety and texture found in that locale.

Over the course of decades, he's identified more than 100 individuals named in the Hebrew Bible that, by all the evidence collected, appear to have existed in the world. In arriving at that total, he's also had to scrub a few names from his list when more conclusive evidence proved an inscription's inauthenticity.

It's both proud of his lifetime of work and is thankful to use a scientist's precise language to describe his findings. "Archaeology can show historic connections," he says. "But it can't prove spiritual truths."

This is, of course, the dilemma of researchers. They can spend a lifetime pursuing important work, and they can make real progress in their fields. But the ethical code of their work also means that they can't make a researcher's

promise. They can use every tool at their disposal to understand the world better, but they can't always give the people what they want.

U-turns, scientific humility, and new directions

Researchers often come to their field with a passion for the subject and a hunch or two about how to address some of the most pressing problems within it. But what happens when the data don't bear out expectations or the world demands that you rethink your most basic assumptions? Few understand this idea as intimately as entomology professor Catherine Hill. For more than two decades, she has been laser-focused on ridding the world of vector-borne diseases — think malaria, Zika, and other diseases carried by certain mosquitoes. These are insects and ticks that are responsible for a very high number of human deaths and infections in our quality of life, she notes.

But over the years, at Hill and her team meant thousands of mosquitoes in an inventory to more deeply understand their biology, she wondered if simply killing the insects was the right approach. Only a tiny percentage of the bugs were causing the problems, and there was telling what larger troubles could be stirred up by removing a species from an ecosystem. The acknowledgment, one that she'd developed something of an affection for the insects over her years of work. "When you look at mosquitoes under the microscope or see them go through their life cycle, you realize what amazing organisms they are," Hill says.

At outreach events and even in her own family-guying questions kept popping up: Could she really justify wiping out huge populations of mosquitoes? What would happen to the environment? Was there another way?

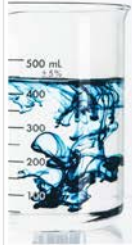
"There are so many checks and balances built into the work. Researchers spend their lives figuring out these details."

—LAWRENCE MIKYTUK



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We shot the dog and the researcher separately, both facing to the right so that we had a consistent background to comp together. And we elected to crop in tight!



Hill could have ignored the question — after all, she was a recognized expert who had made significant contributions to the field. But in addition to her expertise, she brought a sense of scientific humility to her work. She was open to the possibility that she was wrong. And like a true scientist, she kept asking questions.

Eventually Hill became so concerned that the others she carried with her as a person didn't line up with the others of her research that she changed her focus.

Instead of finding ways to precisely kill disease-carrying bugs, she has begun to look for ways to make it harder for insects to transmit disease to humans. If successful, the approach would offer even larger benefits to the world. In addition to keeping humans safe from disease, it would preserve essential biodiversity.

Hill, making a shift like this was anything but easy. "It takes quite a bit to get you out of traditional approaches and make you want to think a little differently," Hill says. "It was important to me to rethink what we were doing and how we might do it."

Lyle has had plenty of research experiences that haven't gone the way she thought they would — and that have led her in new directions.

For example, when mice started showing unexpected problems in the research project linked to brain metastases, she and a student researcher worried that an infection had gone awry.

But further investigation led to a discovery. The cells that had a certain appearance in the primary tumor had a different appearance in the metastases, and that's what was causing the problems. Moreover, the patterns they saw might help them predict other aspects of brain metastases.

For Lyle, that seemingly every result was actually something of a revelation. "That we not dug into that story — at least, as it was initially perceived — we wouldn't have had another exciting area of our work," she says.

56 PURDUE ALUMNUS

Beyond the breakthroughs

Many researchers pursue their work with the dream of changing the world through science, but the hard reality is that even the very best researchers struggle daily. They pursue promising ideas that lead to dead ends. They are, like all of us, human.

In at Purdue and beyond, researchers often bring a sense of resiliability, curiosity and joy to the process that propels them beyond any single difficult result or experience.

Talk Yilmaz, an associate professor of chemical engineering, for years, has been chasing down the idea of creating safer batteries. His experimental approaches — adapting the architecture of a battery itself — could prevent the increasingly common issue of battery fires sparked in cell phones, laptops, and electric vehicles.

Every day his research team works with battery safety testing, and he knows that the wrong combination of steps in testing protocols could lead to potentially dangerous thermal runaway.

So what keeps him coming back, day after day? For him, those moments are never really to be revisited. "When we leave this world, all the scientific discoveries will still be here, and people will benefit from them," he says. "We come to this world to give something back."

The idea of giving back fuels chemistry professor Dean Miller, too. Miller develops adhesives that can be used in environments, which could eventually help surgeons replace arteries, ligaments, and screws with lightweight and effective glue. He has made real progress in his field, but he also sees his work as more than just the final result. Every piece of his job has meaning.

"Sometimes, it's in hours every day a week," he admits. "But seeing students in the lab mature — seeing them become breakthrough independent scientists — that feels like a real privilege."

Lyle acknowledges that some days, research can seem hopeless. Even in the most successful research, finding answers to questions often leads to more questions.

That, though, is the joy of it. Every careful step and double-checked procedure, every data point and unexpected result, she hopes, takes her further along a path toward making a real difference in people's lives.

All research offers a sense of both satisfaction and progress. "It's easy to feel like you've asked questions that you'll never find an answer to," Lyle says. "But we really are getting closer and closer to delivering things that will improve patients' quality of life. That's what drives me. We're continuing to work to help up the hill."



"When we leave this world, all the scientific discoveries will still be here, and people will benefit from them. We come to this world to give something back."
—DEAN MILLER

FALL 2018 07



And for the cover, we built shelving brackets out of crap lumber, found a plastics place in town to purchase some acrylic shelves, borrowed 60 flasks from the chemistry department and mixed up food coloring. Could we have just taken a photo of one flask and photo shopped it? Sure. But there is something special about the integrity of an actual photo and it adds some interest with the alignment of the flasks not being quite perfect and the shadows cast in different ways between the flasks.

KAT BRAZ

Purdue Alumni Association

Senior Director, Creative Communications

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The ESC Plan

Extra. Super. Creative.

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Here I am posing for a lighting test for a photo that appears in our Spring 2017 issue. Makes good use of my RBF.

If you use any of these suggestions, hit me up @purdue.edu. I'd love to see how they turn out!

If you need help conceiving of ideas, or executing photo illustrations, me and a couple of buddies have a consulting side hustle where we do mag critiques, photo illustration, portrait photography, writing/editing, and redesigns. Hit me up at The ESC Plan — skatbraz@gmail.com. Website coming soon ... too busy doing work for other people to get our own act together.