AtBuffalo

Making sense of Miley **p10** Crystallography 101 **p30** Marry me! UB proposals **p42**

The magazine for alumni and friends of the State University of New York at Buffalo

Spring 2014

In 1998, a jury sentenced Douglas Prade to life in prison for killing his wife, a conviction based largely on a single piece of evidence.

A bite mark.

Story on page 22





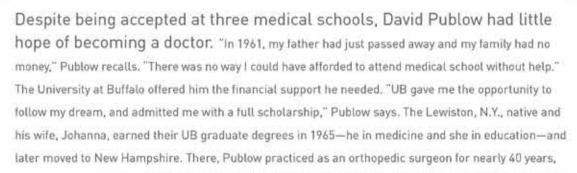
The "glitterbombs" attached to SWE's robot are a club tradition; when popped, the balloons spray the arena with sparkle. Each win went to the robot that stayed in Where's duct tape when you need it? one piece—or had the most successful Glittersaurus was built using a moves. The UB Robotics team won this remote-controlled car protected by a round, but SWE placed a respectable wooden frame. Two wicked kitchen sixth overall for the week. knives in front kept foes at bay—but they couldn't keep the wheels on. "E" is for Engineering: 16 teams competed this year, including one engineering fraternity, Theta Tau.

FIRST LOOK

Battle Bots and Bottle Rockets

It must be National Engineers Week! For six days in February, students from UB engineering clubs performed feats of calculus and physics-including pumpkin-chucking and circuitbuilding—while thousands of students passing through the Student Union marveled at their handiwork. Leading up to the annual event, students burned the midnight oil to design, test and finally demo their creations, which included robotic warriors programmed for destruction, spacecraft built from Legos, and a weird pool of cornstarch and water that allowed the curious to hop barefoot across its liquidlike surface. Teams competed in engineering challenges throughout the week to earn the most "E points," illustrating how an education in STEM (science, technology, engineering and math) fields can not only make a positive impact on the world, but also lead to a seriously fun career.

Photograph by Douglas Levere



calling it "a labor of love." Now the couple has given back, establishing a scholarship fund for UB medical students through private giving and a bequest.

"I hope to pass the torch to a student in need, to give someone else a chance to become a physician."

-DAVID PUBLOW, MD



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EDITOR'S ESSAY

Entwined Histories

As I was putting together a timeline for the College of Arts and Sciences centennial for this issue, I was startled to realize how much of it, as a 35-year UB employee, I had experienced personally. In theory, this should have made it easier, as I could pull out moments of the College's history I had covered for various campus media, including this magazine. I soon realized it wasn't so easy, however, as news releases and my own published reporting collided with hazy memories and impressions.

I was reminded of this experience, strangely enough, after seeing the movie "Saving Mr. Banks," with its back story about the making of the 1964 Walt Disney classic "Mary Poppins." How illuminating, yet jarring, to see the fictional English governess interpreted in light of author P.L. Travers' own anguished childhood. Even stranger was to realize that



Samuel Capen at his desk in Hayes Hall, c. 1930.

one's lived experience—watching this confectionary tale with my grandmother and siblings at Shea's Buffalo (then a movie theater)—is now part of a historical tableau. Observations like these come more frequently with age, but that doesn't make them any less unsettling.

At the same time, there's something wondrous about being able to look at historical events that align with one's life. I've been thinking of my family and their interconnections with UB's College of Arts and Sciences over several decades. My father was one of those returning World War II veterans who took advantage of the GI Bill to earn a bachelor's in history and a law degree from UB. My parents met through UB when my father's law school classmate,

Thomas D. Perry (later professor of philosophy here), introduced his sister to my dad at his wedding. My brother Mike followed a similar academic route, obtaining history and law degrees at UB during the 1980s. And this year, Mike's youngest son, Billy, is a UB freshman pursuing a history major with hopes of carving out a career in sports media.

I have no doubt that UB's breadth of opportunity will give Billy the flexibility to organize almost any course of study he wishes. The only requirements, as the legendary UB chancellor Samuel Capen made clear to students back in the 1940-41 student handbook, are individual application and commitment. "The University offers you the opportunity for a rich life and a useful one," Capen wrote in his letter displayed in a recent centennial exhibition for the College. "But it does not make you take the opportunity. Whether you will or not is for you to say." My father once told me he saw Capen walking around campus. So with this slim connection, I feel justified invoking his words as possible inspiration for my nephew.

And just as I now view "Mary Poppins" with an adult's understanding, I can look at the College of Arts and Sciences—so important to my own family—as part of my personal history to savor and reflect upon, as it is for so many of you with similar stories of lifelong UB allegiances.

Ann Whitcher Gentzke, Editor

A Whateler Centile

Question: If you could give one bit of advice to every student at UB, what would it be?

e have extraordinary students at UB, representing an incredible range of perspectives, talents and interests. So it's hard to find "one size fits all" words of wisdom for such a wonderfully diverse group.

But I would like to share a simple guiding principle that has served me well: Whatever your field of study, always seek out new ways of connecting what you have learned in the classroom with the world around you. If you can do this—whether you are studying to be an aerospace engineer, an architect or an archaeologist-your life will be richer and so will those of countless others.

I believe strongly that nothing can be learned or taught in a vacuum. Meaningful knowledge is created through dialogue and collaboration. And this knowledge comes to life only when it is shared with the world around us.

While my own field is computer science and statistics, I've had a lifelong interest in trying to draw connections and build bridges across disciplines. Throughout my academic career-first as a student, then as a faculty member and administrator, and now as president-I've had the opportunity to engage with increasingly broad groups of scholars, faculty and students, all working together in very different ways.

This experience has taught me that the truly big ideas and important discoveries take place at the intersection of fields. They involve many minds working together and many points of view approaching the same challenge from different angles. The result is transformative, not

just for those directly involved in the work but for all those whose lives are enriched as a result.

Take Google, for example—part of the daily fabric of life for many of us. The company was founded by two young computer scientists while they were graduate students at Stanford University. But to turn it into the global phenomenon it is today, they needed the collaboration of many minds and hands-not only other computer scientists, but also artists, educators, engineers, business professionals and experts from countless other fields.

These collaborative principles are at the heart of what makes our university a distinctive national leader. Our faculty come together across the disciplines to solve the most pressing issues of our time. And our students reap the benefits through a rigorous, relevant curriculum that prepares them for leadership in responding to whatever unimaginable challenges await us in the 21st century.

We want you, as a student, to have firsthand research experience in the lab and field, working alongside faculty at the forefront of their disciplines. We want you to bring your classroom learning to life through vital real-world experience-whether through study abroad, clinical experience, internships or community service.

So, my best advice to you and all of our students is to make the most of these opportunities-and turn them into new ones, for yourselves and others. As our alumni prove every day, lives will be richer, communities will be stronger and the world will be a better place because of the ideas and discoveries you share. #

OUR STUDENT

Alex Detlef

Detlef, a freshman aerospace engineering major, was second in his class of 250 at Buffalo's **Hutchinson Central** Technical High School. A commuter student, he takes a combination of buses to get to and from classes (his family doesn't own a car). When he mentioned at the photo shoot that he hopes to work for NASA or an aerospace company one day, Tripathi informed him of summer internship opportunities at the Goddard Space Flight Center. Later, the two chatted about the Italian restaurant where Detlef works as a busboy. "Is the food good?" the president asked with a smile. Detlef offered a classically diplomatic response: "It depends on what you get."







Alex Detlef



We want to hear from you!

Send letters and comments to atbuffalomagazine@buffalo.edu with the subject heading "Letters." Or mail to Editor, At Buffalo, 330 Crofts Bldg., Buffalo, N.Y. 14260. Letters are subject to editing for length and clarity. Please include a daytime phone number for verification.



Clues to a mysterious key

The Editor's Essay ("Unlocking a better magazine") unlocked many of my own memories of the organ loft at Temple Beth El, where my father, the late Abraham Cohen, served occasionally as substitute organist, and later as Samuel Luskin's successor as choir director in the late '50s and early '60s. At that time, the congregation was transitioning from its former location on Richmond Avenue (it became a Baptist church) to the Eggert Road location in the Town of Tonawanda, following the migration of the Buffalo Jewish community from North Buffalo to the inner suburbs.

I can't say for certain because I was very young back then, but the key in the photo looks like the one which unlocked the door to the organ loft at the Richmond Avenue location. Peter Van Dyck, who was the organist at Kenmore Presbyterian Church, was also the organist for Temple Beth El, and it was my observations of him at the organ console that led me to become an organist, too. On a number of occasions, I accompanied Cantor Gerald DeBruin at Beth El, utilizing photocopies of Mr. Luskin's manuscripts. I'm now the assistant music director and organist at United Hebrew Congregation in St. Louis, Mo., the oldest Jewish congregation west of the Mississippi River (est. 1837). And like my father and Samuel Luskin, I compose and arrange music for the synagogue.

Thank you for this wonderful essay, and thank you to UB for the musical education and experiences which gave me the skills to continue the legacy of Jewish music which Samuel Luskin and my father loved so passionately.

David Cohen (MusB '90, BA '77) Maryland Heights, Mo.

Grain elevators tied to reader's past

I read with much enthusiasm Patricia Donovan's essay on the Buffalo grain elevators ("On the Waterfront"). My wife, who grew up on West Delavan not far from Niagara Street, saw those grain elevators daily. I grew up in the Tonawandas and became aware of these industrial giants while attending college and eventually moving to the city. I graduated from UB in 1976 with an MFA in painting and enjoyed the industrial scenery of the elevators and old train stations as well. Again, a most enjoyable article.

Jack Knight (MFA '76) Long Neck, Del.

Swimmer's move had major impact

I was delighted to see your feature on Brittney Kuras in the Locker Room section ("Pregame Rituals"). I was one of the timers for her lane during the 2013 MAC Championships' 200-yard freestyle final, and witnessed her prerace ritual firsthand. She pounded the starting block with such vigor it dislodged a wire from the timing system on the block, which I quickly re-inserted prior to the race! Thank you for featuring the UB Swimming and Diving program.

Kelly Darlak (PharmD '04) North Tonawanda, N.Y.

Where are the women?

I received my latest copy of At Buffalo. As I went through it, almost every picture was a man. Every major article was about a man. The one devoted to a woman was titled "Queen for a Day." There were two tiny articles, "60 seconds with Lora Park," which is about how long it took to read it, and another tiny article featuring Amy Richardson.

While I like men, as an educated woman who graduated from UB, I want to see more of us in the magazine, with substantive articles. We need to be sending messages to young women that their accomplishments will be recognized, too.

Karen Fitzgerald (BA '74) New York, N.Y.

Editor's response: We hear you—look for more stories about UB women who are making an impact in future issues of the magazine.

Reaction to our redesign

Congrats on the redesign of UB Today into At Buffalo. Great look that really bridges the paper and online editions, and the editorial content continues its high standards.

Blair Boone (PhD '84) Williamsville, N.Y. I was happy to arrive home to find the new UB magazine At Buffalo. Great job! It is dynamic, informative, varied and aesthetically pleasing. I am sure the young alums will be eager to peruse the pages (even if most of them have sworn off print), and the older ones will be welcomed into the mix.

Sharon Cramer Lancaster, N.Y.

The writer is SUNY Distinguished Service Professor Emerita at SUNY Buffalo State. I love the new format! It's obvious how much work went into the overhaul, so I just wanted to let you know that you did a wonderful job. It was a fun, engaging read, and I even ended up discussing a couple of the features with my sister (another UB alum).

Aimee Woznick (BA '05) Buffalo, N.Y. What an impressive inaugural issue! Kudos to all who had a hand in its creation. Proud to have been "At Buffalo"—went here, worked here, played here!

Mary Anne Rokitka (PhD '73, MA '72, MS '71) Amherst, N.Y.



By Lauren Newkirk Maynard » A giant, yellow songbird perches on a garage door. World flags peek through a solid brick wall. Hip-hop carrots and tomatoes-stars of the kids' cartoon "VeggieTales"-dance off the side of a

SOUTH CAMPUS

building. Brakes, Rusker, OGRE and other Buffalo street artists made their mark on more than a dozen buildings in the University Heights neighborhood last fall, but not with your typical graffiti in mind.

On Oct. 26, 2013, about a dozen writers, as graffiti artists are called, used a rainbow of spray cans to cover up existing tags with colorful, complex "pieces" (short for

> "masterpieces") at 16 sites along Main Street near the South Campus. Neighborhood kids helped them fill in the lines, while other volunteers, including many UB students, scrubbed old graffiti from wood and vinyl siding.

Their efforts were part of "Heighten

the Heights," a recent anti-graffiti event bankrolled by a grant from Keep America Beautiful, the nation's leading nonprofit for community development. Organizers included local public arts group Community Canvases, the University Heights Collaborative and the University Heights Tool Library, a tool rental shop co-founded by architecture and urban planning alumnus Darren Cotton (MUP '12, BA '10).

The grant, says Cotton, gave organizers the opportunity "to test the theory that public art is the best abatement to graffiti. These long-forgotten back alleys and buildings have become neighborhood assets and help people appreciate the beauty that already surrounds them."

With new funding from Awesome Without Borders, an international micro-grant agency, Community Canvases plans to continue Heighten the Heights' work beyond the neighborhood, spreading art and beauty throughout the area, one city block at a time. #

Stay connected! Share your photos and stories on the UB Alumni Association Facebook page, facebook.com/buffaloalumni, or follow us on Twitter @UB_Alumni.

On Campus



We look back on our recent past with pride, or shame



PASS

A fair to remember

Last semester, campus greenies and more than 30 Buffalo environmental groups hosted the largest-ever UB Sustainable Living Fair. Hundreds gathered in the Student Union in their best hemp necklaces to raise awareness, or to grab free home-energy-saving kits for their drafty apartments.



Finally, a place to park the Tesla (or electric car of your choice). UB has installed three charging stations on the North and South campuses—just one more step toward our goal of climate neutrality by 2030.

Sustainability smarts

The UB Academies added its fifth academy last fall: sustainability. Now students can learn why it's important to shut off the lights and turn down their music—and start making their apologies to mom for ignoring her all those years.

FAIL

Winter 1, Trees O

Soon after they were planted, catalpa and red maple trees along the Flint entrance of the North Campus began dying, thanks to Buffalo's

harsh weather. Replacement trees—hopefully a heartier breed—are due this spring.

Blowing smoke

In 2009, UB joined 300 colleges in banning smoking on their campuses, and established smoking-cessation programs to help people quit. But many are still sneaking a drag outside buildings, leaving butts on the ground where receptacles used to be.



The CCR helped create images for MTV2's Video Mods TV show.

Big Brains

Massive computing power drives genetic medicine, and much more

By Lauren Newkirk Maynard » Gigaflops and server discs may sound drier than dust, but UB's Center for Computational Research (CCR) is anything but. The data-crunching power behind the center has played a role in everything from editing MTV music videos to assisting "shape-shifting materials research" funded by the U.S. Air Force. The CCR may soon be instrumental in revolutionizing the management and treatment of major diseases, like diabetes and cancer.

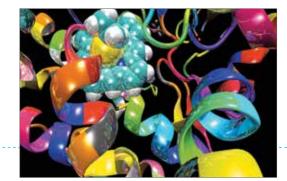
DOWNTOWN CAMPUS

During his State of the State address in January, New York Governor Andrew Cuomo announced a \$105-million investment in genomics (the study of human

genetic information, or DNA). Thanks to its supercomputing muscle and experience in bioinformatics and genomic research, UB was chosen to partner with the Manhattan-based New York Genome Center to form the UB-New York Genome Center Initiative—an effort to put the Empire State at the leading edge of personalized medicine.

If approved by the legislature (still pending at press time), \$50 million of this state funding will help the CCR improve its supercomputing infrastructure and store the massive amounts of data gathered by researchers at UB and across the state. Ultimately it will lead to increased collaboration between the CCR and innovative start-ups, giving a boost to the local economy.

The CCR, housed on UB's Downtown Campus, has been a key component of UB 2020, the university's strategic plan. Center experts help faculty researchers harness the emerging discipline of computational science, combining heavy-duty quantitative analysis with experiments in everything from biotechnology to pharmaceutical drug discovery, materials science, physics and global climate change. \$\pm\$



Cytochrome P450, an enzyme responsible for drug metabolism in the body, as modeled on CCR's computers.



Tweetable: This spring, Bruce Jackson's new graduate English course explores narrative structures in the hit TV series "Breaking Bad."

Rm 126, Diefendorf Hall, South Campus

The office of Doug McCallum, Web services manager, School of **Architecture and Planning**



Ensconced with his coworkers in temporary digs as Hayes Hall gets a facelift, McCallum (BPS '94), who oversees his

school's Web development projects, has gracefully met the challenge of fitting his eclectic collection of stuff into tight quarters. An unapologetic IT and design geek, he loves gadgets, plants and anything having to do with computers. His latest toy: Leap, a palm-sized, biometric device he's testing out for his department that allows a person to control a computer's operating system with a wave of his hand or fingers.

- A Jade plant in aquarium: I call it my "Shrek" jade, because of its green, ear-shaped leaves. I like to rescue plants; this and the philodendron [not pictured] were saved from the old architecture library in Hayes.
- B Server discs, large and small: We techies love the older ones, as you just don't see them this size anymore. They've gone from 40 pounds and 600 megabytes down to a few ounces and 120 gigs.
- C Lego figurines and Transformers: I've been spurred on to collect these by various staff and faculty

- members. The black and red Lego figure came from Associate Dean Beth Tauke. I suppose I also collect them because of my two sons, who are 5 and 3.
- **D** Metal sculptures: I picked up welding in architecture school and like to do metalwork as a hobby. The floral sculpture I made for the late Magda McHale—she was this wonderful, flamboyant futurist and a great professor here. I made the guy out of scraps that were sitting around the band saw one day.



- E "Architect Barbie": Everyone in the school has one of these! [Editor's note: It was designed by Mattel in 2011, in consultation with UB professor Despina Stratigakos and UB architect Kelly Hayes McAlonie.]
- little gift from my team. I was having what they called a "crabby" year.
- G "Semper Fi" bulldog: My brother is a Marine. He's going up now for gunner.



Grandfather clock: McCallum's grandfather clock, tucked into a corner of his office, miraculously survived a fire at his parents' house, despite having all-wooden gears. It has been passed down through the generations to the first-born sons in McCallum's family. "We have no idea how old it is, but I hope to get it working someday," he says.



On Campus

POLL POSITION

An unofficial survey of 100 UB students



How did you spend your spring break?

61% Working or hanging out

32% Having fun in the sun

7% Volunteering

THE WEIGH-IN

Faculty experts shed light on news that makes us go, "wha?"

The News: When Buffalo's first Popeyes Louisiana Kitchen franchise opened this past December, there were drivethru lines 25 cars deep for months. Why would people endure such long lines for fast-food chicken?

The Expert: Charles Lindsey, associate professor of marketing in the School of **Management**

"Certain consumers eagerly anticipate the arrival of popular businesses or servicesa phenomenon called 'pent-up demand' (in the case of Popeyes, due to the product being previously inaccessible). I know people who frequented Popeyes when it first opened, because they had tried it elsewhere and craved the offerings—lines or no lines. This type of consumer behavior can create a snowball effect that influences others to see what all the fuss is about."



A Valentine's Day kissing protest in Beijing was aimed at Russia's controversial anti-homosexuality laws.

Hot Topics

A new campus forum debates current events

By Lauren Newkirk Maynard » The Syrian chemical weapons attack. Gun control in America. The "Miley effect." In Focus, a new monthly discussion forum held on the North Campus, brings students and faculty together to have intelligent conversations about a chosen theme, whether it be a political event or a pop culture phenomenon.

Hosted in the Honors College in Capen Hall during the fall and spring semesters, In Focus sessions are led by faculty experts, who often incorporate their own scholarly work into the discussion.

The rules are simple: Feel free to voice your opinions, but be respectful. So far, an average of 40 students of all creeds, colors, ages, majors, nationalities and personal backgrounds are showing up at each session to do just that.

Last semester, October's topic was Miley Cyrus' and Robin Thicke's controversial performance at the Video Music Awards. Social work professor and Honors College mentor Laina Bay-Cheng came up with the topic and based the discussion around race and gender.

NORTH CAMPUS

The resulting debate went into double overtime that day, moving beyond Cyrus' twerking and Thicke's lyrics. "It was a springboard into double standards and other gender roles," says Chris Bragdon, an adviser in International Student and Scholar Services, who developed the series along with colleagues in the Honors College and the Intercultural and Diversity Center.

In early February, Jonathan Katz, a nationally prominent scholar in queer art and history who directs UB's doctoral program in visual studies, led a debate on the Sochi Olympics and Russia's anti-gay laws, asking students to think about broader views of GLBTQ issues, including local versus national models of queer and gender identity.

Freshman Meghan Capeling, a presidential scholar and Honors College member, was first attracted to the series by the Miley discussion. "My roommate and I were talking about her one day, and then I noticed the posters [advertising the In Focus session] around campus," Capeling says. Both she and her roomie have since attended other sessions, including the one on Sochi. "It's good to talk about these issues facing us today," she adds. "I think differently about them now that I have heard other perspectives." #

Objectology

A BRIEF HISTORY >>

Blast from the Past

UB houses a rare piece of engineering history

By Julie Wesolowski

Of the five rocket belts created by Bell Aerosystems, four remain in existence. There's one at the Ira G. Ross Aerospace Museum in Niagara Falls, N.Y.; one at the U.S. Army Transportation Museum in Fort Eustis, Va.; and one at an annex of the Smithsonian Institution's National Air and Space Museum. As for the fourth, it's right here on UB's North Campus, in the corner of a Bell Hall engineering

Preparing for liftoff

provide thrust.

After experimenting in the mid-1950s, Bell Aerosystems engineer Wendell F. Moore built the first rocket belt, also called the "manrocket," for the U.S. Army. Developed to transport soldiers across difficult terrain, the belt used a combination of nitrogen pressure and hydrogen peroxide fuel to

So how did it land here?

While working at Bell Aerosystems, UB engineering alum David Coe (MS '73) learned the company was getting out of the rocket belt business. He thought one of the prototypes might be available and that Bell Hallwhich houses UB's Department of Industrial and Systems Engineering and was named after Lawrence D. Bell, the founder of Bell Aerosystems—would be an ideal place to keep it. The efforts of Coe and UB engineering professor Warren Thomas (now emeritus) led to the donation of the belt to the department in the late '70s.

Not quite Wright

In 1961, in an open field outside the Niagara Falls International Airport, the first outdoor, tether-free flight soared a distance of 112 feet (the Wright Brothers flew 120 feet at Kitty Hawk). More practice flights proved the rocket could carry a person over obstacles almost 32 feet high and reach a speed of 34 miles per hour, but flight times were a problem. A maximum of 21 seconds in



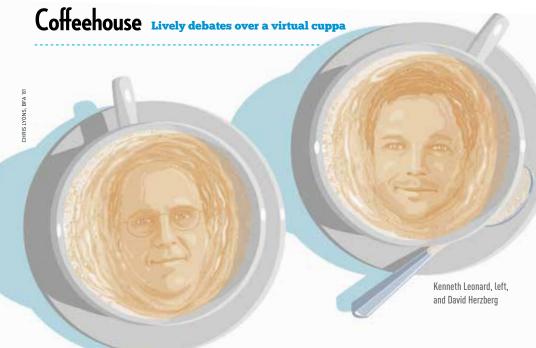
Still pretty cool... decades later

From a private demonstration for JFK in 1961 to a Pentagon courtyard flight before a large military audience in 1962, the original rocket belt captivated viewers from the start. More recently, improved versions have been used in presentations at Disneyland, and at the 1986 and 1996 Summer Olympics opening ceremonies.

Aiming for the stars

classroom.

We can't say whether it was the one belonging to UB, but the 1965 James Bond film "Thunderball" used a rocket belt as one of its 007 props. One of the five prototype belts was also featured on the "Lost in Space" television series in the 1960s and on "Ark ll," a Saturday morning show on CBS in the late '70s.



Legalizing Marijuana: **Obvious Next Step or** Pandora's Box?

he debate over whether to legalize marijuana is one of the hottest topics in our current national dialogue. Several states have legal-

ized medical use of the drug, and two have decriminalized recreational use. To help make sense of the many issues tied to the debate, we reached out to Kenneth Leonard, director of UB's Research Institute on Addictions, and history professor David Herzberg, author of "Happy Pills in America: From Miltown to Prozac."

Kenneth Leonard: Our approach to marijuana over the past half century has been wrongheaded in many ways. It has created more problems than people would have imagined. Legalization will probably alleviate some of those problems, but we have to be prepared for it to create others.

David Herzberg: I will add that seeing this in Manichaean terms of good or bad is incredibly unrealistic. It's widely agreed that alcohol prohibition was a failure as a policy, but drinking-and drinking-related harms-went down dramatically. The reality is, life is messy, and we choose to do a lot of things that carry risks. What we should be focusing on are regulatory issues. Let's think about how you make a drug

available to people in ways that minimize the harm that comes from that.

KL: David's exactly right. We have lots of experience with alcohol and tobacco. There are lessons to be learned in terms of how we can go about regulating marijuana.

DH: We did have something close to a rational drug policy with Nixon's 1970 laws, which set up the DEA and the schedule of controlled substances. The law included money for treatment, it set up methadone maintenance, it put cocaine and barbiturates in the same law, as opposed to saying some [drugs] are good and some are bad.

KL: That structure makes sense, but the specifics don't always make sense. Marijuana is a Schedule 1 drug, which means it's a high risk for psychological or physical dependence. There is a risk, but I don't know that it's a high risk. The overall abuse liability of marijuana is not up there with the opiates or the amphetamines.

DH: I was just reading this morning that the American Society of Addiction Medicine came out against medical marijuana. One of their points was that there isn't the kind of rigorous clinical research that we need. I'm thinking, "Well, it's a Schedule 1 substance. That tends to put a hamper on producing the kind of clinical research that vou need."

KL: We've only just started looking at potential medical uses. I think that was a place where researchers didn't go easily. Sometimes they're caught by both sides of the argument, the "how can you possibly be looking for any medical benefits from this Schedule 1 drug" and the "how can you possibly think that any harm is associated with something that is being used so widely."

DH: That's where you have the trouble with drugs, in that so many of the decisions we make are not scientific but cultural. The hard part I see for actors like you in history is to try to persuade people that the information actually matters.

KL: There are harms we can anticipate with regard to driving, for example. The evidence is fairly clear that it creates perceptual cognitive problems that increase the likelihood of an accident. And while we have a very good sense of how alcohol influences driving—we know the time course, we know the parameters-we don't with marijuana. There are strain differences as well. You know how much alcohol is in a shot of whiskey, in a general sense. With regard to marijuana, it's kind of a crapshoot.

DH: It seems that what's needed is the time to develop a culture of understanding. I know what's in a bottle of whiskey, partly because of regulations, partly because it says 80 proof and I know what that means. This could be an argument in favor of rolling out decriminalization very slowly to give the culture time to catch up.

KL: There's a paradoxical aspect to this, which is that while regulations make the drugs safer, we also know that people's perception of harm inhibits their use. Lots of people are taking prescription painkillers because they're given out by doctors. We're seeing major increases in deaths from that because people view them as harmless. There is this paradox of making these things safer and then people ignoring the fact that there's still harm involved.

DH: This goes back to what we were saying earlier about black-and-white dichotomies. What we want is a society where we make decisions that make sense about what benefits we want from drugs and what risks we want to guard against. And the errors come on both sides. It's either, this pill is totally safe, or this weed is going to drive you insane and make you kill your mother.

KL: At that level there's no room for a rational compromise. If we take this more rational approach, there will be places where I think that we need more regulation and David might think that we need less. Or the reverse. But we're going to be talking in this middle range and not at the extremes. #

How do you take your coffee?

David: In extremely small doses: about a half-inch of coffee, with milk and sugar. Kenneth: I prefer a strong Italian roast with double cream and double sugar.



Eureka!

a process in which an organism's entire genome gets duplicated. It happened about 170-200 million years ago, Albert explains, and because redundant copies of genes can evolve to develop new functions, this ancient doubling may have sparked the explosion in plant variety that came soon after.

This twinning, fantastic as it may seem, happens in animals, too.

"The lineage leading to all vertebrates—including humans—underwent two wholegenome duplications in the ancient past," Albert says. "In some cases, polyploid individuals can mate with diploids—which, like humans, have two versions of every gene—to produce triploids, which have a third set. North American gray tree frogs are one such example."

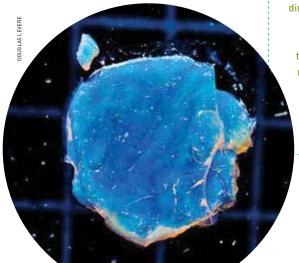
Further research on *Amborella* should continue to illuminate the history of flowers. Studies comparing the plant's genetic material to that of other species could reveal how traits, such as drought resistance and fruit maturation, developed, and how genome-doubling may have encouraged that evolution. \$\phi\$

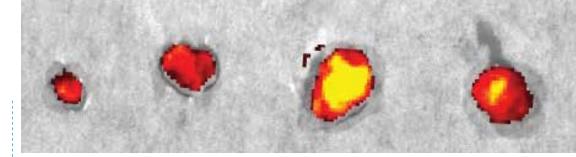


WONDERS

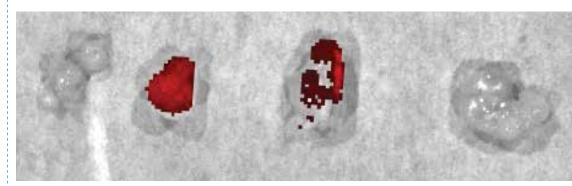
MALL

The brilliant blue of this polymer comes not from pigment but from its architecture. Look closely under a microscope and you'll see a repeating, geometric structure that reflects blue light. It's the same principle that gives color to the wings of butterflies. UB chemist Javid Rzayev studies the special bottlebrush-shaped molecules that make up this material.





Lovell's nanoballoons open and flood mouse tumors with chemo when they're exposed to laser light.



In the absence of laser light, the balloons stay closed, releasing only tiny amounts of the drug.



60 Seconds with

Jonathan Lovell



Tiny capsules called nanoballoons are 10,000 times smaller than a grain of sand, but they can pack an awesome punch. Just ask UB biomedical engineer Jonathan Lovell. He is studying how the diminutive devices could deliver anti-cancer medicine directly to tumors, precluding the need to blitz the entire body with toxic drugs.

What's a nanoballoon?

It's essentially a little container, and you can put stuff inside of it—in our case, anti-cancer drugs. Then, you inject the balloons into the body, and they navigate through various environments in the blood.

How do you get them to pop open and deliver their payload?

The ones we're working on are triggered by light. So if there's a tumor in the pancreas, we shine a laser on the pancreas, and the balloons open up. Whatever's on the inside of them will go outside.

Wouldn't that involve surgery?

It might involve putting a fiber-optic cable into the tumor, but this can be done with minimal invasion.

Why is this better than traditional ways of fighting cancer?

With chemotherapy, there are a lot of side effects: nausea, vomiting, hair loss. The drugs go everywhere in the body. With nanoballoons, we'll be able to use a much smaller dose and dump all of the drug in the tumor.

Under a microscope, the nanoballoons are green. Why?

There's chlorophyll in them. We take chlorophyll from algae, chemically alter it and attach it to a fat molecule that's used to make the nanoballoons.

Why do you do that?

If something looks green, that means it's absorbing red and blue light. This is what you want when you work on light-activated treatments, because red light penetrates tissue the deepest. If you hold a flashlight to your hand, your palm glows red because the red light can pass through your body. The lasers we shine on the nanoballoons use near-infrared light, which is similar to red light.

What's next for the research?

We're presently testing the nanoballoons in mice and getting very promising results. Once we get some further validation data in mouse models of cancer, the next big step is to bring this technology to a human clinical trial.



Tweetable: Computers at UB's Center for Computational Research (CCR) are named after various rock 'n' roll Hall of Famers. Get it?

DEEP-OCEAN





Lava pillars in Iceland's Skaelingar Valley.

UB geologist Tracy Gregg was hiking in Iceland's Skaelingar Valley when she stumbled upon minarets of rock, dark and mysterious, rising from the grassy terrain. Having seen such structures on the ocean floor, she knew immediately what they were: pillars of lava, cooled into stone. But while they made

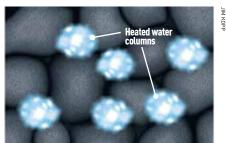
sense deep underwater, where high pressure prevents the explosion that would normally occur when lava meets water, she was mystified by their presence on land.

In a new study, Gregg proposes her theory of how the Skaelingar towers formed:

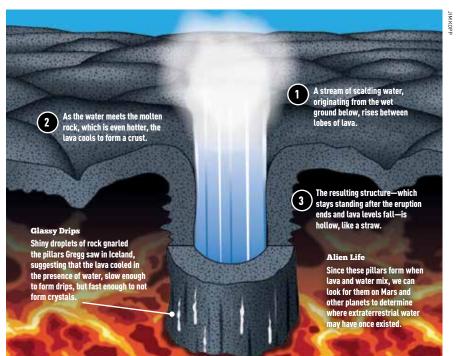
When water and lava meet on land, there's usually an explosion as water vaporizes into steam. But on the ocean floor, where high pressure prevents combustion, no such boom occurs. Instead, hollow rock pillars form as columns of heated water rise between lobes

of lava (see below and right). Gregg thinks lava pillars in Iceland's Skaelingar Valley formed the same way. The area may have been covered by a pond when a nearby volcano erupted in the 1700s. She proposes that the lava was moving so slowly, it was able to react with the water in a "gentler way."

Bird's-eye view



Side view



Beaker Briefs



Research highlights from the desk, lab and field

WHAT THEY'RE **WORKING ON**

WHAT IT'S ALL ABOUT, IN 50 WORDS OR LESS

WHO'S **LEADING IT**

Mind-Controlled Robots

It's not the plot of a sci-fi movie. UB engineers are exploring the practical applications of braincomputer interfaces (BCI), which let people operate robots using only thoughts. The device they're testing—a low-cost, non-invasive headset-might one day enable factory workers to drill, weld and assemble products hands-free.

Engineering researcher Thenkurussi "Kesh" Kesavadas

Children's Literacy

The country in which a child is born matters more than traits like cognitive ability in determining whether he or she will have basic reading skills, according to a study analyzing test scores from 186,725 fourth-graders in 38 nations. It's a case of nurture trumping nature, the project director says.

Learning and instruction researcher Ming Ming Chiu

The Future of

In parts of the Caribbean, divers have noticed that tree-like corals called gorgonians seem to be thriving even as other species struggle. A new, \$1-million study looks to quantify this phenomenon and determine why it's happening, providing clues as to how reefs may change as our planet warms. 💓

UB geology researcher Howard Lasker, together with Cal State Northridge colleague Peter **Edmunds**





Teen Spirits

Using Buffalo as a backdrop, Helen Boswell pens an urban fantasy series for young adults



>> UB musicians launch eclectic art space

>> Funny man Alan Zweibel

>> What we're reading and writing

By Lauren Newkirk Maynard » Move over, Bella. Meet Hope.

Hope is the protagonist of the Mythology series, a highly acclaimed new entry into young adult fantasy by author/biology professor Helen C. Boswell (PhD '99, BS '94). Like her Twilight counterpart, Hope is a sensitive, thoughtful teen, grappling

with good and evil—and burgeoning adolescent feelings of love—against the

backdrop of an uncertain world.

Unlike Bella, Hope has supernatural powers and plays out her particular adventures on the East Coast—specifically, Buffalo. "It's a perfect setting for an urban fantasy," says Boswell, who published her first book, "Mythology," in 2012, and a follow-up, "The Wicked," last October.

Hailing from Clifton Park, N.Y., Boswell now teaches at Southern Utah University in Cedar City, Utah, where she lives with her husband and two sons.

Why young adult (YA) fiction? YA fiction allows greater potential for characters to grow and learn. I love the challenge of making my characters develop throughout the course of a story to reach that potential. Or perhaps they don't reach it. I like to have my characters constantly go through struggles along the way—it keeps my readers on their toes.

When did you first start writing fantasy? I began my first fantasy story when I was in middle school. It was a high fantasy, set in a different world that was made of dreams. I still have that old notebook somewhere with my character outlines and part of the story. It serves as a good reminder to never give up writing, no matter how difficult it seems.

What inspired you to write "Mythology"? My two main characters, Hope and Micah, go to Delaware Park in one scene to people-watch, and it was there that they question what they see in people. I suppose that I was inspired to write "Mythology" by my own similar experiences. I have always wondered what truly underlies what I see in people. I took this concept and ran with it.

The cover art features Shea's Performing Arts Center and other downtown landmarks. Tell us about the Buffalo setting. I lived in Buffalo during my late teens and 20s, and had rich experiences that have always stuck with me. The main characters attend Sweet Home High School, which is a real school. While some of the settings are fictional, readers will recognize locations such as Elmwood Avenue and Shea's. There are even several scenes that take place at UB.

The cover artist, Brian Hoover (MFA '90), also attended UB. How did you and Brian meet?

We both attended UB but at different times, and we both wound up teaching at Southern Utah. Brian's art contains fantastical themes, so I approached him when I was working on "Mythology" and asked if he knew of anyone who could design the cover art. He volunteered to do it and I was thrilled.

Does your education in the sciences factor into your writing fantasy at all? If you had asked me that prior to my writing fantasy, I would have said no, because science and fantasy are so different. But I actually find myself using my scientific background to come up with rules and parameters for some of the magical elements. In "Mythology," especially, I discuss scientific themes such as the classic "nature versus nurture" debate and the impact of genetics and environment on people's characteristics.

Did you write fiction while at UB? I dabbled but I never completed writing a full story. Although I was a biology major, one of my favorite professors was Dr. Mac S. Hammond, a professor emeritus of English who died in 1997. I took his honors English elective called "The Imagination and Dreams." He was impressed by my writing and encouraged me to keep at it. I have never forgotten that.

How many more books can we expect from the Mythology series? I plan on writing at least three with the possibility of more. I set up "Mythology" as a story that could work either as a stand-alone or as part of a series, and as I kept writing, I realized there was a lot more story to tell.

Why do you think serial fantasy and sci-fi novels are so popular with adults as well as teens?

I think that everybody needs a little escape now and then, writers included. Regardless of your age, fantasy allows you to "suspend disbelief" for the few hours that you read a book. You can believe that people can fly, that angels exist, that there are other magical worlds within your own. I think serials are so popular because people get attached to characters. One of my characters, Micah, was even nominated for a "YA Crush" tournament this past summer, which was an honor for him. And for me. 4

UB Bookshelf WHAT WE'RE WRITING

Toxicology in a Box

Brian Kloss (JD '07) and Travis Bruce

Kloss, an emergency medicine physician at SUNY Upstate Medical University, and artist/illustrator Travis Bruce created 150 cheekily illustrated medical education flashcards that cover key terminology in medical toxicology (the study of chemicals' adverse effects). Kloss has appeared on AMC's "Comic Book Men," and he and Bruce are now working on their second set of flashcards, "Infectious Disease in a Box." (McGraw-Hill, 2013)

The Smithsonian's History of America in 101 Objects

Richard Kurin (BA '72)

pologist and the Smithsonian Institution's Under Secretary for History, Art and Culture, Kurin, together with a team assembled a literary exhibition of 101 objects from across the famous museums. Kurin sheds new light on objects we think we know top hat to Dorothy's ruby slippers and Julia Child's kitchen. (Penguin Press HC, 20131

Maniac. the Model and the

Harold Schechter (PhD '75)

Schechter is a professor of American literature and popular culture at CUNY's Queens College, and a protitles to his name. His latest true-crime book is the tale of a sensational triple murder committed at Beekman Place, one of Manhattan's most exclusive addresses, in 1937. (New Harvest, 2014)

An American cultural anthroof curators and scholars, has well, from Abraham Lincoln's

The Mad Sculptor: The Murder that Shook the Nation

lific writer, with more than 30

The Divorce Organizer and Planner, Second Edition

Brette Sember (JD '94, BA '901

This updated guide, now with a CD of forms and checklists la personal property inventory, a tracker for recording child support payments, a budget form, etc.), helps the newly separated get organized, save money on legal fees and feel in control of the process. (McGraw-Hill, 2013)

My Mother Has the Finest Eyes

Lois Zachary (BA '66)

Zachary's bucket list included publishing this compelling collection of poetry and family reflections, recorded over a decade ago while her mother "was descending into the hell of Alzheimer's." (CreateSpace Independent Publishing Platform, 2013)

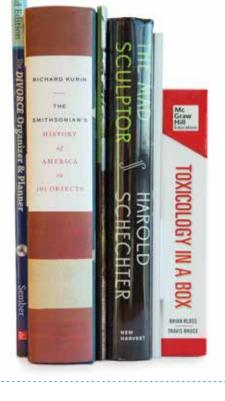
Why Read Thoreau's "Walden"?

Daniel G. Payne (PhD '93)

This "guide for the 21stcentury student of Thoreau" is a lively, accessible look at the famous naturalist and hermit. Payne, an English professor at SUNY Oneonta, specializes in nature writing and environmental literature. (New Street Communications, 2013)

Calling alumni authors

Send us your latest novel, mystery thriller or other published work! Mail a review copy to At Buffalo, 330 Crofts Hall, Buffalo, N.Y. 14260.



WHAT WE'RE READING

Ken Ilgunas (BA '06), author, featured on page 26

"The Days of Henry Thoreau: A Biography" by Walter Harding

"Harding adds dimensions to his subject—a Thoreau who ice skates and dances, who loves his neighborhood of man as much as his dear woods and hills.'



Tweetable: "Buffalove" made it to the IN side of The Washington Post's 2013 *In/Out list, pushing the Texas tagline "Keep Austin Weird" OUT.*





Above: A packed house at PAUSA in downtown Buffalo. Right: Jon and Lázara Nelson.

In the Mix

PAUSA Art House adds flavor to the Allentown music scene

By Lauren Newkirk Maynard » Though there's plenty of live music in Buffalo's historic Allentown neighborhood, there's nothing quite like PAUSA Art House, the brainchild of UB music professor Jon Nelson and his musician wife, Lázara.

Opened in 2012, PAUSA, which is Latin for "respite," offers a break from the usual in all kinds of ways. Equal parts live-performance club, art gallery and café, it is intimate and eclectic. On a given night, you might hear avant-garde chamber music, Argentinian tango or an Indian jam band.

"We cater to an audience that wants to sit down, enjoy a glass of wine and listen to world-class musicians or view dynamic art without the fuss of large crowds and other distractions," says Jon, who plays trumpet and directs UB's undergraduate music program and concert band. He's also founder of the UB-affiliated electro-acoustic chamber ensemble the Genkin Philharmonic, whose influences range from Stravinsky to Radiohead. Lázara, a violinist, is a long-time Genkin member.

PAUSA is the realization of a long-term goal for the couple. Both spent years working as freelance musicians, plying their trade on Broadway and with various bands and orchestras in New York, Mexico City and Boston, among other cities.

Opening an art house in any of those locations, where the competition is intense and real estate ex-

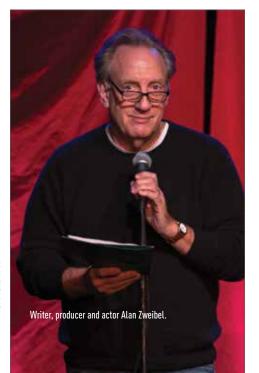
pensive, would have been difficult, says Jon. So they focused on Buffalo, a city where they felt they could settle down, raise a family and afford the right space.

They spent a year working with an architect and contractors to renovate the turn-of-the-century house, located steps away from Allen Street restaurants and bars. A rotating gallery of work by local artists hangs on the walls. Guests can nibble on small plates of olives or salami sandwiches.

Not surprisingly, the venue has become an unofficial satellite of UB's Department of Music, and a great place for music students to earn their chops.

The Nelsons also bring to PAUSA out-of-town musicians, including Cuban-born percussionist Dafnis Prieto, a MacArthur Fellow who visited the club last fall.

"These are people who would normally not be playing Buffalo," Jon says. Now Allentown—and the entire city—sound all the better for it. \$\display\$



Laugh Track

Award-winning humor writer Alan Zweibel keeps the plates spinning By Kevin Purdy » On a Friday night last December, Alan Zweibel (BA '72) stared at long slabs of lime green, chartreuse and other loud colors on his bulletin board, trying to determine which one needed the most attention. The colors help the Emmy Award-, Tony Award- and Thurber Prize-winning writer organize the numerous projects on his plate. Television, film, theater, books, speaking engagements—Zweibel

always has something due. But the multipronged pressure suits him.

Zweibel, who began his career as an original writer for "Saturday Night Live," has been working with Pulitzer Prize-winning humorist Dave Barry on the film adaptation of "Lunatics," their critically acclaimed 2012 novel about two New Jersey suburban dads who go bonkers after one, a soccer referee, invalidates a potentially game-winning goal by the daughter of the other. Zweibel wrote the part of referee Philip Horkman, while Barry penned the role of disgruntled plumber Jeffrey Peckerman. The two writers alternated chapters, giving each other no rules other than to avoid renaming people or excessively killing supporting characters.

Zweibel's recent projects also include helping his friend Billy Crystal make a film version of his one-man Broadway show, "700 Sundays," which Zweibel co-wrote; working on a sitcom with Whoopi Goldberg; and playing himself on the upcoming season of "Curb Your Enthusiasm."

"I'm collaborating more than ever," says Zweibel. "But that's also a way of socializing. It's so lonely... sitting here, trying to be funny, by myself, in a room. You can go crazy."

Enter the color-coded board, which helps keep him sane. #



The UB women's tennis team, from left: Marta Stoyanova, Anamaria Candanoza, Tanvi Shah, Miranda Podlas, Margarita Kotok, Laura Fernandez, Laura Holterbosch.

By Rachel Raimondi » If the UB women's tennis team were fluent in any one language, it would be food. And despite the fact that none of the seven players is from China, their top pick for a team dinner is P.F. Chang's. "We love Chinese food because it has a little bit of everyone's culture," says Miranda Podlas, a senior communication major from Buffalo, N.Y.

Racking Up The Miles

Miles each player traveled to get to UB, from most to least

Tanvi Shah	Mumbai, India	7,803 4,864	
Marta Stoyanova	Ruse, Bulgaria		
Laura Holterbosch	Krefeld, Germany	3,828 3,752 2,760 76	
Laura Fernandez	Madrid, Spain		
Anamaria Candanoza	Santa Marta, Colombia		
Margarita Kotok	Macedon, N.Y.		
Miranda Podlas	Buffalo, N.Y.	6	

The players-who hail from India, Bulgaria, Spain, Germany, Colombia and the U.S.-view themselves as ordinary American college girls. It's a fairly easy outlook to adopt at UB, where approximately 1,880 new international students enrolled last fall. Even so, Marta Stoyanova, a senior business major from Ruse, Bulgaria, was initially concerned that she would be the lone international player on the team. When she found out how diverse the team was, she felt right at home.

Now, she and the three other seniors on the team share an apartment, often inviting the remaining players over for movie nights. Their tight bond helps in their tennis matches, says Anamaria Candanoza, a senior business major from Santa Marta, Colombia, who won the Charlie Flight singles championship at the USAFA Women's Tennis Invitational in September 2013. "Being so close makes you feel more comfortable on the court."

The players do have a few simple team rules. There's no judging one another for eating ice cream before and/or after practice, and the road trip soundtrack is primarily Spanish and reggae music.

"We're such a small group," says head coach Kristen Ortman Maines (EdM '08, BA '06), a former student-athlete. "We eat all our meals together and learn so much about each other so quickly that I don't think about it as 'Anamaria is from Colombia and Tanvi is from India."

In fact, the women say they rarely notice their cultural differences. "We'll talk about things from home, but mostly we don't see ourselves as individuals," says Stoyanova. "We're the UB Bulls!" #

Pregame Rituals

of UB's student-athletes

Miles Lewis With a MAC championship to his credit, senior sprinter Miles Lewis is no sleeper pick to win a race though his prerace ritual might make his competitors think otherwise.

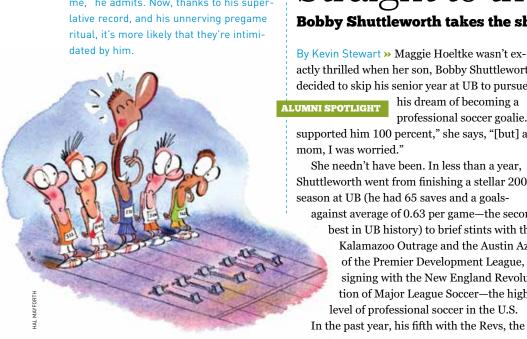
Classical piano music still running through his head from his morning jog, Lewis steps up for his race, but before he casually settles into the starting blocks there's one

thing he must do: yawn.

It's not that Lewis is bored. He actually doesn't know where the urge comes from, and he doesn't care. "This is just something

I do," says the 22-year-old senior from Coram. N.Y.

Run fast is something else he does, which you wouldn't necessarily know from looking at him. At 5-foot-7, he stands a full head shorter than most of the sprinters lined up on either side of him. "I used to be really intimidated by the guys next to me," he admits. Now, thanks to his super-





UB product Bobby Shuttleworth earned the starting goalkeeper job for the New England Revolution and helped lead them to the playoffs.

Straight to the Top

Bobby Shuttleworth takes the short path from UB star to MLS starter

By Kevin Stewart » Maggie Hoeltke wasn't exactly thrilled when her son, Bobby Shuttleworth, decided to skip his senior year at UB to pursue

his dream of becoming a ALUMNI SPOTLIGHT professional soccer goalie. "I

supported him 100 percent," she says, "[but] as a mom, I was worried."

She needn't have been. In less than a year, Shuttleworth went from finishing a stellar 2008 season at UB (he had 65 saves and a goalsagainst average of 0.63 per game-the second

> best in UB history) to brief stints with the Kalamazoo Outrage and the Austin Aztex of the Premier Development League, to signing with the New England Revolution of Major League Soccer-the highest level of professional soccer in the U.S.

26-year-old goalkeeper has asserted himself as a starter, recording 64 saves and nine shutouts, while helping New England reach the MLS playoffs for the first time since 2009.

Shuttleworth, a native of Tonawanda, N.Y. (a Buffalo suburb), attributes much of his success as a pro to his time at UB. "I was lucky that I got to play with so many great players, and we played some really good teams," he remembers. "I think that was really important. It made the transition to the next level a lot easier."

The most difficult part of his transition may have been leaving his hometown for Beantown. He likes Boston—and loves his neighborhood but there are some cravings that charming cul-desacs and winning sports teams can't satisfy. "One thing about Buffalo is that everyone is spoiled," Shuttleworth says. "The food is so good." #



TweetaBULL: Junior Kristen Sharkey scored 36 points—the third-highest point total in UB women's basketball history—in a Jan. 26 win at Ball State.

Stats from right, center and left field

Compiled by Kevin Stewart

Painting the town red

UB's Paintball Club—which has won a national title and come in second twice since 2011-blasts 400,000 paintballs a year at its competitors.

Now 25% less itchy

A filtration system cleans UB's Olympic-size pool, reducing the chlorine needed to around 35 gallons a week and infinitely improving the luster of our swimmers' hair.

Packin' the house

While some Big Ten football teams draw this many in one game, the 110,192 fans who attended Bulls games in 2013 set a UB single-season attendance record.

More singlets!

First-year Bulls head wrestling coach John Stutzman signed 10 freshmen this season, ranging from the lowest weight class (125 lbs.) to the highest (285 lbs.).

Field of Dreams

After a long absence, and then a sputtering start, Bulls baseball enjoys a steady rise to prominence

By David J. Hill » In many ways, Jason Kanzler (BS '13) was a perfect fit for UB's baseball program.

Kanzler began his collegiate career at Northeastern University. He was soon cut from the team. Transferring to Buffalo as a walk-on, he played sparingly as a freshman and just a bit more the following year. But then something happened. After his junior season, he was an All-MAC player and a Rawlings Gold Glove Award recipient. Last year, as a senior, he batted .330, hit 12 home runs and drove in 53 runs. He won the Gold Glove Award again, becoming the first

> repeat recipient in the award's sevenyear history, and was the MAC Player of the Year. Then he was drafted by the Minnesota Twins.

Bulls baseball has experienced a similar ragsto-riches trajectory. After a 12-year hiatus, the program was reinstated in



Coach Torgalski

2000 and slogged through several dismal seasons. But then, just as with Kanzler's career, something happened. After winning just three conference games in 2011, UB won 10 the following season and last year went 19-7 in the MAC, claiming the No. 2 seed in the MAC tournament. The Bulls lost to Toledo in the consolation round.

What made the difference? Partially the players themselves-people like Kanzler and his teammate Tom Murphy, who won numerous awards

and broke program records before being selected by the Colorado Rockies in the third round of the 2012 first-year player draft.

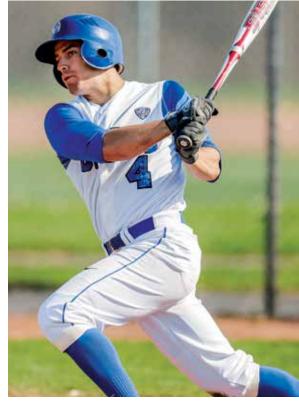
Equally important has been the ability of head coach Ron Torgalski and his coaching staff to recruit largely unheralded players and develop them into Major League prospects. "We've gotten some pretty good players that have developed into great players," says the 2013 MAC Coach of the Year, who credits a rigorous training program, the time his assistant coaches put in and "the players' own commitment to work their tails off."

Torgalski also gives props to former head coach Bill Breene, who guided the team from 2000 until Torgalski, who served as his assistant, took over in 2007. "When we started this program again, we were so far behind all these other programs that have been around for 70, 80 years," Torgalski says. "It's not easy to throw a team of 30 guys together and compete at the level we're playing at. It is a process."

One of Torgalski's former players, Joe Mihalics (BA '06), knew it was only a matter of time. "It's very rewarding to see how far the program has come. It makes me proud to be connected with it," says Mihalics, a UB Athletics Hall of Fame inductee and former Mets draft pick.

The Bulls hope to continue building on their recent success. Torgalski sees the signs. "I like the way our guys are working," he says. "The program's going in the right direction, and recruiting is going well."

Soon, the coach may have another souvenir baseball to add to the collection that sits on a shelf in his office: the MAC championship ball. "Hopefully, that's next," he says. #



The Minnesota Twins drafted Jason Kanzler in June 2013.

Torgalski's Track Record

2013 MAC Coach of the Year

	>>	4	Freshman All-Americans
	>>	3	Academic All-MAC honorees
	>>	4	MLB draft picks
	>>	2	MAC Players of the Year

11 Pro contract signees





STORY UPDATE

On March 19, 2014, after At Buffalo went to press, Ohio's Ninth District Court of Appeals reversed the decision exonerating Douglas Prade. His lawyers have filed a notice of appeal in the Ohio Supreme Court.

FALSE IMPRESSIONS

Mary and Peter Bush of the UB dental school

had no intention of entering the controversial bite mark debate.

Now they're at the forefront of a movement to free wrongfully convicted prisoners and banish bite mark evidence from the courtroom.

Story by Nicole Peradotto



Margo Prade, a prominent doctor in Akron, Ohio, was found slumped behind the wheel of her minivan in a

parking lot outside her medical office. She had been shot six times.

There were no witnesses. Investigators didn't find fingerprints at the scene or locate the gun. But the killer in one of Akron's most notorious crimes left behind physical evidence that would become central to the

state's case against Prade's ex-husband: a bite mark imprinted on her left arm.

During the trial, a forensic dentist testified that Douglas Prade's teeth matched the impression made through his ex-wife's blouse and lab coat. Based largely on the bite mark evidence, the former police captain was convicted and sentenced to life in prison.

CONTINUED

Photograph by Douglas Levere





Above: Former Akron Police Capt. Douglas Prade gets emotional while answering questions during an interview with the Columbus Dispatch before being released from prison. Right: Prade hugs Jodi Shorr, administrative director for the Ohio Innocence Project, following a news conference after his release from the Madison Correctional Institution.

Fourteen years later, as Prade continued to maintain his innocence from inside the Madison Correctional Institution, Mary Bush (DDS '99), associate professor of restorative dentistry at UB's School of Dental Medicine, received a call that would propel her into the campaign to overturn his conviction.

When she and her husband, Peter, began reporting the results of their research on bite marks in 2009, they anticipated that their findings would reverberate beyond academic circles. What they didn't foresee was how quickly it would happen—or how deeply enmeshed they'd become in the high-stakes debate over the validity of bite mark analysis.

"The impact of any research can take years to realize, so we thought it would be some time before we'd see that impact," says Peter, a microscopy expert who directs the South Campus In-

> strumentation Center at the dental school. "We were contacted to testify in our first trial a year after the first study was published. It all happened very quickly and had some unintended consequences."

The Bushes' findings spilled off the pages of scholarly journals and into the criminal courts because they challenged two essential assumptions on which the forensic discipline of bite mark analysis rests: first, that human skin reliably records the patterns of one's teeth, and second, that dental impressions, like fingerprints,

are distinct enough to be linked to specific individuals.

When he read the Bushes' work, Chris Fabricant, director of strategic litigation at the Innocence Project, recognized it as powerful ammunition in the organization's efforts to exonerate wrongfully convicted people through DNA testing.

"This is groundbreaking and desperately needed foundational research in an area of forensic science that previously had none, despite its admissibility in criminal courts," says Fabricant, who recruited Mary Bush to testify in the Prade hearing in 2012 and helped coordinate her testimony in a pivotal New York City case that same year. "Their findings call into doubt convictions that rest entirely on bite mark evidence and underscore the steady drumbeat of wrongful convictions based on bite mark evidence that are later overturned based on DNA evidence. There are at least one, two, three cases a year."



Ithough bite mark analysis—the practice of comparing dental impressions made on a victim's flesh with a suspect's dentition—has not been subjected to rigorous

scientific scrutiny, it has been allowed in criminal courts for more than 40 years. It was most famously used to prosecute Ted Bundy, the 1970s serial killer responsible for the deaths of at least 30 women.

Forensic odontologists who analyze bite marks point to cases like Bundy's, arguing that the practice has led to the conviction of many notorious criminals. When done by well-qualified, highly trained experts, they say, bite mark analysis can play a critical role in cases of abuse and murder—not only to determine culpability but to exclude suspects as well.

In recent years, however, increasingly sophisticated DNA testing has resulted in numerous exonerations of people convicted on bite mark evidence, bolstering critics' claims that it's junk science and should be cast out of criminal proceedings.

Against this backdrop, the Bushes and their research team initiated their first forensic studies in 2006, not in bite mark analysis, but in the field of victim identification. Their efforts resulted in an innovative database that helps identify dead people by the chemical compounds in their dental fillings, technology first applied after the crash of Flight 3407 in Clarence, N.Y., in 2009.

"We always said that we were never going to get involved in bite mark analysis because it is such a contentious issue," Mary says. "But in 2007, a student in the dental school's summer research project wanted to conduct bite mark research and asked us to serve as his mentors. That's what got us started."

During that summer, the research team set out to determine how long fabric patterns remain imprinted on the skin after someone has been bitten through clothing. Prior to the Bushes' experiments, scientists had conducted these types of investigations with dental molds engineered to bite into a surface that serves as a surrogate for human skin—such as pig skin or dog skin—or a

In recent years, increasingly sophisticated DNA testing has resulted in numerous exonerations of people convicted on bite mark evidence.

non-elastic biting substrate, such as Styrofoam or wax. The UB researchers were among the first to seek answers to their questions using human skin, from cadavers donated for approved academic research.

"As opposed to animals, the cadaver model has advantageous aspects in that you're studying human skin, but it doesn't bruise or swell," Mary explains. "So you're able to isolate some variables and look at clear indentations."

The Bushes never intended to extend their research into bite mark analysis beyond the fabric study. But what Mary saw in that initial experiment made her realize they were only at the beginning of their inquiry.

"We made 23 impressions in the skin, and they all looked different," she says. "There wasn't any consistency, even though we were using the same model. And the model we used was one of my own teeth. I know what my pattern looks like, and these impressions didn't look anything like it."

In January of 2009, the Bushes published their first study on dental impressions in the Journal of Forensic Sciences, the peer-reviewed journal on whose editorial board Mary now serves.

A month later, a committee of the National Academy of Sciences (NAS) issued a report on forensic sciences that found significant deficiencies in the field of bite mark analysis. These included the pressure on forensic odontologists to match a bite mark to a suspect and, as with other experience-based forensic methods, the potential for "large bias" among experts in evaluating such marks.

The paper underscored the lack of rigorous research in the field, particularly large population studies to establish the uniqueness of bite marks-coincidentally, the very research the Bushes had by then started conducting, using computer analyses of dental shapes. "Our research actually anticipated the questions the NAS had," Peter says. Those studies, also published in the Journal of Forensic Sciences, found a "significant match rate" among the dentitions of 1,100 people. In other words, a single bite mark could point to many different individuals.

"We don't know whether people are innocent or guilty, but we know that to put someone away for years based on bite mark evidence is unjust."

Peter Bush

n 2010, the Bushes received their first request to testify about their bite mark research. In an admissibility hearing in Alabama, the defense was challenging bite mark evidence introduced in a capital murder case against a man accused of killing his girlfriend's 1-month-old son.

Peter Bush describes his testimony as "the most stressful two hours of my life." Ultimately, the judge did not have to rule on the matter; the defendant pleaded guilty.

Two years later, Mary Bush testified in a potentially precedent-setting pretrial challenge in New York City. Because it was one of the firstever hearings on the admissibility of bite mark evidence, opponents believed that a successful argument could help expel the practice from courtrooms nationwide.

The case involved the murder of 33-year-old Kristine Yitref, whose beaten and strangled body was found under a bed in a hotel near Times Square. A forensic dentist concluded that a bite mark on her body matched the teeth of Clarence Dean, a fugitive sex offender.

"I knew the opposing attorney would try to challenge my research and look for ways to dis-

credit me," Bush says of her two days on the stand. "But it's still hard to be spoken to in a derogatory manner. You're treated like you don't know what you're doing. The

opposing side used language that denigrated our work, like saying that we were pinching dead skin using Home Depot vice grips. That's difficult to hear."

In a decision that the Innocence Project's Fabricant decried as "a victory for the Flat Earth Society," the judge ruled that the bite mark evidence would be allowed at the trial.



fter returning from New York City, Mary Bush looked forward to an ebb in the bite mark controversy. It didn't happen. Instead, criticism of both her credentials and her

research methodology-initiated by advocates of bite mark analysis unhappy with her testimony in the Dean case-intensified and grew increasingly mean-spirited.

After a heated exchange that occurred in February 2013, in front of 200 scientists gathered to hear her research presentation at a session of the American Academy of Forensic Sciences' annual meeting, Bush didn't want to look at bite marks or accept an attorney's call for a while.

"I didn't anticipate that the backlash would be so vicious," she says. "I thought I would have my professional opinion, and it would differ with the other side's. I thought, 'We're professional individuals, and we'll act in a professional manner.' But then I was handling these nasty letters and public attacks. I guess we were naïve going into this."

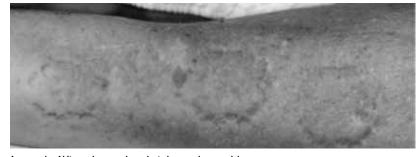
When they testify, the Bushes do so pro bono. If they accept a fee, it's only to cover travel expenses. They never address the bite mark evidence in question, instead presenting the nature and findings of their research.

"We don't know whether people are innocent or guilty, but we know that to put someone away for years based on bite mark evidence is unjust," Peter says. "Are you going to convict someone on evidence that's shaky at best? That's always been a motivating factor for me."

So, too, for the Bushes, is this statistic, from an Associated Press investigative report released last year: Since 2000, at least 24 men convicted or charged with murder or rape based on bite marks have been exonerated, largely as a result of DNA testing.

On the afternoon of Jan. 29, 2013, three months after Mary Bush testified in his postconviction hearing, former police captain Douglas Prade made that list. #

Nicole Peradotto is a writer and editor in UB's School of Medicine and Biomedical Sciences.



An example of bite mark research conducted on a cadaver model.

Illustration by Scott Bakal

SEVERAL Story by Ann Whitcher Gentzke

In his determination to live debt-free, 30-year-old 'Walden on Wheels' author Ken Ilgunas has racked up an impressive array of life experiences

or three years, Ken Ilgunas (BA '06) trekked across North America, taking on various odd jobs in an effort to cancel \$32,000 of student debt, mostly acquired during his freshman year at a private university. Determined to pay it all back without embarking on a conventional (read: soul-deadening) career path, Ilgunas worked as a tour guide and night cook in Alaska, a modern-day *voyageur* in Canada and an AmeriCorps trail crew member in Mississippi, among other occupations.

After finally wiping the slate clean, Ilgunas was accepted into a master's program at Duke University. Intent on not racking up a second round of debt, he decided, instead, to drastically reduce his expenses.

He purchased a 1994 Econoline van for \$1,500, outfitted it for survival and drove his new home onto a Duke parking lot, where he lived for the next two years.

Ilgunas graduated from Duke in 2011. Two years later he published "Walden on Wheels," a critically acclaimed memoir that casts his offbeat travel adventures and social experiment with van-living as a tribute to Thoreau's evocation of simplicity and frugality at Walden Pond.

Now 30, Ilgunas lives and works on a farm in Stokes County, N.C., where he's writing a second book, an account of his 1,700-mile hike along the pathway of the planned Keystone XL Pipeline. We caught up with the inveterate adventurer while he was in Western New York to visit his parents and give two lectures at UB.

CONTINUED ON PAGE 28





Walden on Wheels

AN EXCERPT

I'd been living in my van for four weeks, and the experiment, so far, had been a complete success. I was debt-free, the van was still a secret, and my brain felt like it'd



been properly exercised for the first time in years. In my Biodiversity course, I was reading wilderness philosophers: Aldo Leopold, Roderick Nash, William Cronon, and Jack Turner. In Self in the World, I was having stirring debates over Blackboard and doing everything I could to prepare for class discussions. To give myself a creative outlet, I started a blog called The Spartan Student, which no one read except for friends from back home (if just out of kind-hearted support), but in case some stranger happened upon it, I kept my school and identity a secret. All compartments of my brain were on fire.

Yet my experiment was no peaceful sojourn on Walden Pond. I spent nearly every moment in a state of anxiety about my financial situation. I only had about \$800 left from my savings, yet I still had to pay tuition.

I knew I'd have to cut back on all costs until I found work. The only bill that I had any control over at this point was food, so I decided that I'd eat as little as possible-just cereal or oatmeal for breakfast, a banana and peanut butter sandwich for lunch, and a light pasta dish for dinner.

But after the first week on my new diet, my hunger was constant. And my light, meager meals did nothing to calm the gurgling, clawing, "I'm going to put you through a world of pain if you don't feed me" feeling in my gut. After just a week at Duke, upon weighing myself at the gym, I noted how I was already five pounds lighter. While I shaved in front of the mirror in the locker room, I saw how my ribs rubbed against my skin for the first time in years. And while I thought it might be nice to one day admire a set of chiseled, baby-smooth abs, I knew I had to start eating more when I saw a bunny on campus and was tempted to hurl a rock at it so I could devour it raw....

I got a part-time job as a research assistant for **CONTINUED ON PAGE 29**

Indebtedness is a big theme in "Walden on Wheels." What would you say to a young person who's thinking of going to college but has doubts about the costs? There's this unusual pressure among U.S. high school graduates to go to college. In places like the U.K. there's this thing called the gap year. I think American kids could really benefit from embracing this idea—go on a journey, travel, join AmeriCorps. Just work. Whatever. I really don't think you should go to college unless you want to go to college.

Do you think some high school seniors go the college route without giving it enough thought?

Yes. I think if you take some time off and have different experiences, you're going to be passionate about something. You might learn about a field of study that interests you. You'll know about debt and the value of a dollar. When you go straight from high school to college, you miss a lot of essential ingredients—not only to be a good student but also to be a financially responsible one.

You have a BA in English and history from UB, plus an MA in liberal studies from Duke. What are the drawbacks and benefits of a liberal arts education in your view? I think it's hard to justify a liberal arts education on monetary terms. But I think it's something you carry with you for the rest of your life, even if it doesn't impact you on a financial level. You're going to be smarter and wiser. You're going to be thinking more critically. You're going to be less likely to be propagandized. I think it's worth it.

It sounds like you're happy with your choices.

Oh, very much so. It's tough to even place a finger on what exactly my liberal arts education did for me at UB. But I came in a slacker and came out someone with dreams and values and ideas and goals.

What is your financial situation now? Are you making money? I don't really have any incoming revenues right now. I do work on the farm. I trade, I barter labor for room and board, so I have very few expenses.

What kind of labor? I take care of chickens, garden, bake bread. I live with another guy there—we're both working on literary projects.



"I think it's hard to justify a liberal arts education on monetary terms. But it's something you carry with you for the rest of your life. ... You're going to be smarter and wiser."

We're out in the woods, pretty far from any town or village. The place is called "Acorn Abbey" and we call ourselves monks.

In the book, it seems that the further you are from a conventional lifestyle, the happier you are. Is it your goal to eventually live off the grid?

I've lived that off-the-grid lifestyle in remote parts of Alaska. And while I'm still on the grid in rural North Carolina where I live now, I'm beginning to have cravings for a greater sense of community—for strong social networks. I do think those off-the-grid experiences are valuable because they allow you to see what's missing in your life.

Speaking of what's missing, do you ever think about settling down, getting married, having a family? Eventually, yeah. I'm done living out of homes with wheels. I would like to have some property and a house someday; it can't all be travel and adventure. Like Thoreau said, "I had several more lives to live." And that's why he left

the Walden Pond cabin [after two years]. I just believe in phases of life. I'm open to the next one when I feel the longing for it.

What are you reading these days? Lately, it's been pretty boring stuff. I've been reading a lot on the heartland, the pipelines, oil, just to prepare for the book I'm writing now. But I recently went on a biography binge. I read "Team of Rivals: The Political Genius of Abraham Lincoln" by Doris Kearns Goodwin. I read a biography of Ulysses S. Grant, and "Che Guevara: A Revolutionary Life" by Jon Anderson. I went on a biography binge when I was at UB as well.

So it's a bit of a thread? Yes. I was really into early American history and read biographies of all the Founding Fathers. What you had to notice after a while is that any successful person has had failure in his life. I'm not putting myself on a level with any of those men, but I've had a lot of failure in my life as well. When I was paying off my debt,

I applied to ten graduate schools-this was before I applied to Duke—and I got rejected by all ten.

But you kept at it. Yes. And I think I mention in the book that right when I was graduating from UB, I applied to 25 newspaper jobs and got rejected by all of them. I'm not good at many things, but getting rejected is something I'm good at. I mean that seriously. I'm good at getting rejected.

You mean, at handling it well. Yes. I think part of it is not taking it personally. Like when someone is assessing if you're not good for the job, they don't see you. They see a piece of paper. They might see you for 10 minutes but they don't see that reservoir of tenacity in you. So when someone rejects you, they're rejecting a piece of paper. They're not rejecting you.

How did you end up becoming a writer?

I started writing when I was 16 and my parents bought a computer. That was when I started trading emails with Josh [Ilgunas' friend and a main character, largely through emails, in the book], and as I describe it in the book it became this online diary except that I was telling my story to someone else. I remember picking up The Spectrum one day at UB and reading a movie review and thinking, "You know, I think I can write better than this." So that's when I decided to join The Spectrum and just fell in love with writing for an audience.

Obviously, your parents have read the book. **How do they feel about it?** I think for the most part, they liked it. I was very, what's the word, uninhibited. [laughs] And that may have made them momentarily uncomfortable, but they've been nothing but supportive.

At the end of the book, you're about to sell the van. Did you succeed? No. I did intend to sell it and I put it up on Craigslist for \$1,700. No offers. \$1,500. No offers. \$1,200. Some guy in rural North Carolina offered to trade me his automatic weapons for it. [laughs] That was the most I could get, so I declined and put it in my friend's driveway.

So it lives on as a souvenir... It's the largest sentimental object you can think of. I still drive it every now and then when I need to get around. I feel like I'm destroying the environment when I turn the ignition—the gas mileage is terrible. But I can't get rid of it. #

CONTINUED FROM PAGE 27

AN EXCERPT

Walden on Wheels

a professor in the business school. For six hours a week at \$11 dollars an hour, I made copies, fetched library books, and performed other menial office tasks. I also had to scroll through and assemble data from about five thousand businesses on a Microsoft Excel worksheet, which caused red lines to web across my sclera and my vision to blur. But the money wasn't enough. Once, upon walking to the van in the middle of the night, I saw an old pizza box on the lawn—how long it had been there, I wasn't sure. I opened it and saw a few mangled slices. Has it come to this already?

My mother, still in denial about my van plan, began to grow suspicious when, in our email correspondence, I repeatedly failed to address her question regarding the whereabouts of my new home. I thought it would be silly to have to sustain a lie like this for the whole semester, so I resolved to mention the van casually, sandwiching my admission between mundane, everyday details, hoping she might think living in a vehicle was a mundane, everyday thing, too. "Hello mom," I wrote. "I've been playing basketball every day. It's been a lot of fun. I've been eating quite well, and I've been sleeping in my van-which is quite spacious. All is well, Ken."

Her response—evidently restrained—communicated to me her most prominent concerns.

To: Ken Ilgunas From: Sistine Ilgunas Subject: Re: check

how do you clean yourself? Where do you park

the van?

To: Sistine Ilgunas From: Ken Ilgunas Subject: Re: check Hey mom,

I park the van in the parking lot, silly. I've been taking showers at the gym. Classes are going well—the professors brought cheese and wine. Everyone has been really nice. Too-te-loo.

To: Ken Ilgunas From: Sistine Ilgunas Subject: Re: check

how many people are in your class. What will u say when someone asks, hey ken, where do you live? how many other students live in their van? just interested.

To: Sistine Ilgunas From: Ken Ilgunas Subject: Re: check

There are about 16 in my class. When people ask where I live, I say I'm still looking. I doubt few if any other students sleep in their van. Later.

To: Ken Ilgunas From: Sistine Ilgunas Subject: Re: check Hi Ken,

You worry me & you know it. Please let me give you some money. If you are so upset about it you can pay me back. Please get an apart. or roommate or something. Your life must be so stressful the way you are living. How do u form friendships when u live the way you do? I feel so sorry for you. You go to this fantastic school & you are living like a homeless person. How do u explain your life to new acquaintances? Dont you have any self worth? You are always welcome to borrow money or have money from me. Why cant u take help from your family? I am always here for you.

Love, momxxxooo

PS: Do you want me to pay your cell phone bill it came in today? I will.

My poor mother. None of this made any sense to her. And of course I understood why. My mom, as a girl, shared a small apartment with her parents and two siblings in blue-collar North Tonawanda, New York, My dad grew up in a house crowded with seven brothers and a sister in Motherwell, Scotland, an industrial town. My mom was embarrassed that her mom had a chicken coop in the backyard. My dad got fruit for Christmas. They grew up in industrious middle-class families who knew that you could make it by working ha<mark>rd. S</mark>he and my father had spent their lives working so they could provide better lives for my brother and me. They upgraded from apartment to home, from city to suburb, from middle class to a few echelons higher in the middle class. All that hard work. All that climbing. All that moving up. And all that time and money invested in me, so that I could move up, too. And this is what their son lives in...

Excerpt from WALDEN ON WHEELS by Ken Ilgunas, published in the United States by Amazon Publishing, 2013. Text copyright © 2013 by Ken Ilgunas. Used with permission of Amazon Publishing, www.apub.com, all rights reserved.

Crystal Clear

UB's groundbreaking research in the field of crystallography comes into focus

Story by Julie Wesolowski

The first high-resolution diffraction pattern results from the X-ray, free electron laser at Stanford University.

you're not in the field of structural biology, you probably have no idea what crystallography is. But you should, and this is why: (1) Almost every drug that's gone on the market in the past 30 years was developed through crystallography; (2) It's a fascinating science-in a sci-fi movie kind of way-involving the shooting of X-ray beams at crystals; and (3) UB is at the forefront of the field.

Now UB, representing a consortium of eight research universities and institutes (see "Our Partners," p. 33), is poised to make even greater strides, thanks to a prestigious \$25-million award from the National Science Foundation (NSF). The award, a Science and Technology Center grant, is given out every four years and is the first of its kind for UB. Out of hundreds of applicants, UB was one of only three institutions to receive the grant; the other two recipients were Harvard and MIT.

The money will go toward the establishment of the BioXFEL research center at the Hauptman-Woodward Medical Research Institute in **Buffalo (XFEL is short for "X-ray, free-electron** laser"-more on that below). UB and its partner institutions will be focusing on developing X-ray bioimaging techniques-including a next-generation form of crystallography called serial femtosecond crystallography-with the ultimate goal of developing new drugs and/or other methods to treat disease.



Eaton Lattman, at the Hauptman-Woodward Medical Research Institute.

Crystallography: A Primer

Eaton E. Lattman, professor of structural biology, chief executive officer of the Hauptman-Woodward Medical Research Institute (HWI) and director of the BioXFEL research center, breaks down the science.

What is a crystal?

Crystals are solids that contain a repeated arrangement of millions of atoms or molecules.

What is crystallography?

Crystallography is a kind of microscopy that lets us see atoms and molecules in crystals and the distances between them. With crystallography we can make 3-D pictures of molecules so we can understand how they work.

For example, in the molecular form of water, the oxygen atom is bigger and hydrogen atoms are smaller, and it's arranged in space like a boomerang. That's a real picture of what a water molecule looks like.

Proteins, the big molecules that do all the work in our bodies, have thousands or tens of thousands of atoms.

Each atom is connected to other atoms by little links called bonds that hold a molecule together.

Why use crystals?

We use crystals because the experiments involve shooting X-rays at the molecules. If we tried to shoot X-rays at one molecule, it would get so damaged it would never give us a picture. Since each crystal has millions of the same molecules in it, the damage gets divided up.

What happens when a crystal is X-rayed?

X-rays are a form of light that shows a very fine detail of a molecule. When the X-rays bounce off the molecules, they form a pattern. With that pattern, a picture of what's in that molecule can be recreated.

CONTINUED

How is crystallography involved in developing drugs?

Drugs interact with particular protein molecules in our bodies. You develop drugs by understanding the biology of a particular protein molecule and then finding a way to control that protein by designing a drug that interacts with it.

What is serial femtosecond crystallography?

In femtosecond crystallography, we X-ray a series of many small crystals until we have sampled all the orientations that we would have taken with one X-ray of a larger crystal.

We use the X-ray, free-electron laser (XFEL), an extremely powerful new kind of X-ray beam, which is actually an intense string of very short pulses. These pulses are femtoseconds long (less than a millionth of a millionth of a second), allowing us to get a picture of a crystal before it is damaged. This enables us to do experiments we couldn't do before.

What kind of new experiments can you do?

The XFEL will let us see motions of molecules for the first time. Moving pictures will show how these proteins really work so we can understand biological processes in greater depth.

And how does that impact drug development?

Serial femtosecond crystallography will give us the ability to create more drugs at the beginning stages of the drug-development pipeline so we can design drugs without side effects. Specifically, we can observe the motions of the molecules and design a drug to bind to a target (protein) we want, while also designing it not to bind to a target we don't want. It will also allow us to gain a new understanding of basic biological processes, which will eventually lead to new ideas about drugs. #

The Challenges

As with any cutting-edge science, there are obstacles to overcome before rewards can be reaped.

According to Lattman, the biggest hurdle in crystallography is growing crystals that are large enough for experiments. It's all trial and error—and the failure rate is 80 to 90 percent. Consequently, crystallographers spend most of their time growing the crystals rather than making the images. (See "Why It's So Hard to Grow Crystals," below.)

With an XFEL beam, researchers can use crystals that are 1,000 times smaller than the crystals used now. That, says Lattman, would push the success rate above 50 percent. However, femtosecond crystallography brings its own set of challenges.

For one, there's only one XFEL laser in the world, and it's not in Buffalo. It's in a lab at Stanford University in California, and competition for its use—from researchers in a whole range of fields—is stiff. UB's track record with femtosecond crystallography hasn't helped matters. "We've been so successful that there are other people in the field who want to use it too," Lattman says.

Other complications involve learning how to grow the tiny crystals (though it's easier than growing large crystals, it's still a difficult process), shipping them across the country and getting them into the beam at the right time. At this point, researchers are far from solving any of these issues. On the plus side, HWI's decades of expertise in X-ray crystallography clearly convinced the NSF that if anyone can figure it out, they can.

Why It's So Hard to Grow Crystals

Crystals are a complicated business. Dr. Lattman explains why.

- At this moment growing crystals is a trial-and-error process. This is because each protein is different, so that the recipe for one does not work for the next. Our steps in growing are:
- Dissolve the protein, usually in a solution that contains water and small amounts of other chemicals.
- Add something to the protein 2 ● solution that makes the protein less soluble. These additives are quite varied, and range from salt to organic polymers. When the solubility is reduced, the protein 'comes out.' It might fall out as a crystal, but much more often it comes out as an amorphous precipitate also known as 'glop.'
- Try steps 1 and 2 in hundreds of different combinations hoping to luck out.



The Hauptman-Woodward Medical Research Institute

Applying the Grant: From Coast to Coast

While most of the administration of the grant will take place in Buffalo at the BioXFEL research center, UB and its seven partner institutions across the country will collaborate on the NSF grant to do the following:

- » Determine new research processes and create the infrastructure to analyze molecules using the XFEL
- Aim to increase success rates in growing crystals that are 1,000

- times smaller than the crystals previously used
- Find a way to transport the crystals to the Stanford laboratory where the XFEL is located
- Perfect the method of loading the crystals into the XFEL for experimentation
- Design computer software to analyze the new femtosecond crystallography patterns



Recruiting Tomorrow's Researchers

Margarita L. Dubocovich, chair of pharmacology and toxicology and senior associate dean for inclusion and cultural enhancement at UB, will direct

the BioXFEL educational program. With two of its partner universities, the University of Wisconsin-Milwaukee and Arizona State University, UB will recruit graduate, undergraduate and high school students to get involved in the field of molecular biology through newly created educational programs.

Our Partners

Arizona State University Cornell University Rice University Stanford University **UC** Davis University of California. San Francisco University of Wisconsin-Milwaukee

The Ripple Effect

As one of only three universities to receive the Science and Technology Center grant, UB's academic image in the field of molecular research is getting a major boost. That will have an impact on UB's ability to recruit faculty and students, and to attract new technology companies to the Buffalo Niagara region. Additionally, Lattman and his colleagues are already planning for other grant opportunities that will supplement research borne of the BioXFEL center.

Where It All Began

A rich history in crystallography research made **Buffalo's Hauptman-Woodward Medical Research** Institute an obvious choice for the BioXFEL research center. Below is a brief history.

Early beginnings: 1956

Originally called the Medical Foundation of Buffalo (MFB), HWI gets its start through the combined efforts of endocrinologist and medical researcher George F. Koepf and his patient and benefactor Helen Woodward Rivas.

Recruiting a visionary: 1970

Herbert Hauptman is recruited from the U.S. Naval Research Laboratory in Washington, D.C., to the Medical Foundation of Buffalo. He also joins UB's biophysical sciences faculty. In 1972, he becomes research director of MFB.



Herbert Hauptman

Nobel Prize: 1985

Hauptman and Jerome

Karle of the U.S. Naval Research Laboratory jointly win the Nobel Prize in chemistry for essentially inventing crystallography. Hauptman is the only person to have received the Nobel Prize while living in Western New York.

A new identity: 1994

The Medical Foundation of Buffalo is renamed Hauptman-Woodward Medical Research Institute in honor of early benefactor Helen Woodward Rivas and Nobel Laureate Herbert Hauptman.

The 21st century and beyond

Since 2001, HWI functions as the Department of Structural and Computational Biology for UB. It typically trains a dozen PhD students every year.

HWI also houses the American Crystallographic Association, which boasts a membership of 2,200 scientists from more than 60 countries spanning the globe.

Its legacy

HWI scientists have crystallized and determined the structure of more than 300 steroid hormones, 100 thyroid hormones, 50 ion-transport antibiotics, 30 prostaglandins and hundreds of additional compounds, including proteins and enzymes implicated in diseases.

Julie Wesolowski is a Buffalo-based writer and digital communications professional.





FROM A 1929 ENDOWMENT CAMPAIGN POSTER.

The Century Mark

THE COLLEGE OF ARTS AND SCIENCES, UB'S LARGEST AND MOST DIVERSE SCHOOL, OPENED 100 YEARS AGO WITH A HANDFUL OF COURSES, A TINY STUDENT BODY AND TWO LONE PROFESSORS.





GRADUATING CLASS OF ARTS AND SCIENCES, 1920



Courses in arts and sciences are offered taught by two full-time faculty. University of for the first time. Thirty-five students are Buffalo Havana Cigars sell for 5 cents.

1915 •

• 1913

1920

UB issues historic non-discrimination Massaging and Cranium Manipulating statement: "For all Buffalo Boys and Ad in Iris yearbook for Lutz's Barber Shop promises "Electric Hair Cutting, Facial done with Ambidextrous Facility." Girls regardless of race, creed or class."

Dean of Women Lillias MacDonald oversees dramatic increases in female enrollment, especially in the College.



TOWNSEND HALL

SAMUEL PAUL CAPEN PANICHEAL DOMEN university for 28 years, demonstrating a profound

American Council on Education, is inaugurated

Samuel P. Capen, the first director of the

1922

the South Campus.

as university chancellor. Capen will lead the

commitment to the arts and sciences.

1926

CAPEN INAUGURAL INVITE

Hengerer's department store downtown offers hi-boy Stetson boots for \$10.75.

Immediately after the attack on Pearl Harbor, UB reorganizes its programs of instruction to allow students to finish their courses in shorter periods.

Clifford C. Furnas is inaugurated as chancellor; he later becomes the State University of New York at Buffalo's first president. Olive Lester takes the helm of the psychology department, becoming the first woman to chair an arts and sciences department at UB.

1955

1954

Art department (now Visual Studies) merges with the Albright Art School. The university establishes the Stee professorship with composer Aaron Copland as its first holder.

The College of Arts and Sciences has nearly 400 faculty.

SKY LOUNG

AARON COPLAND

CLIFFORD

1962-63

1963

1964

1962

1957

In a legendary hoax, the "Thallus of Marchantia" arrives at Buffalo Airport. Alleged potentate is a UB student who hoodwinks local media. The College of Arts and Sciences is divided into three faculties: Arts and Letters, Natural Sciences and Mathematics, and Social Sciences and Administration.

Martin Luther King Jr. gives a speech on "The Future of Integration" at Buffalo's Kleinhans Music Hall.

02-6961

1961

STUDENTS PROTEST THALLUS' ARRIVAL

Elizabeth Kennedy teaches the first women's studies course at UB. "The Greening of America" by Charles Reich and "Future Shock" by Alvin Toffler are the best-selling books on campus.

MARTIN LUTHER

KING JR.

The Marian E. White Anthropology Museum opens to the public. Steven B. Sample is appointed
12th president and immediately announces
his goal to develop UB into one of the nation's
top 10 public research institutions. He also
pledges "to reaffirm the liberal arts and
sciences as the core of the academic
enterprise." The Honors Program (later
Honors College) is established.

1986

MARIAN WHITE

1981

Robert Frost visits UB.

1936

1937

 Library director and English professor Charles D.
 Abbott founds the UB Poetry Collection, cultivating a wide network of English-language poets. Total enrollment at UB is 7,045. The number of veterans enrolled reaches a peak at 2,511, with the majority in the College of Arts and Sciences.

1946

 A Buffalo couple, Frederick and Alice Slee, leave their entire fortune to support music at UB, including the playing of Beethoven's string quartet cycle in perpetuity. Vic Carbone of Alpha Phi Delta and Loretta Minsterman are listed as being "pinned" in The Spectrum.

UB joins the State University of New York (SUNY) system. Full professors' salaries begin at \$9,300.

Albert Cook is named chair of the English department, and over the next four years transforms the faculty, bringing in such visiting authors as Allen Ginsberg and Robert Duncan.

Classified ad in The Spectrum looks for a female roommate to share a large apartment for \$41.

9961

UB's English program is ranked 19th in the country by the American Council on Education. Construction begins on the Amherst Campus. Spring semester ends earlier than usual after four months of demonstrations and strikes focused on the Vietnam War, civil rights and other social issues.

- Total university enrollment is 23,763.

• 12-0261

1973

1971

STUDENTS CHAT IN FRONT OF NORTON

HALL (NOW SQUIRE)

Poets Lawrence Ferlinghetti and Gwendolyn Brooks read from their works in Norton Hall (now Squire Hall) on the South Campus. The Amherst Campus officially becomes the university's central campus, with the completion of the Capen/Norton/Talbert complex along the academic spine. Blizzard of '77 blasts Western New York with record snowfalls and high winds.

1977

1979

The Undergraduate College is created to improve general education, especially for underclassman. A sign posted at Undergraduate Library stipulates "No food or drink/Smoking in designated areas only."





ROBERT DUNCAN



UB STUDENTS DURING RIOTS



BLIZZARD OF '77

36

UB is selected for membership in the prestigious Association of American Universities (AAU).

WILLIAM GREINER

President Sample urges a reintegration of the

1989

In an address to the academic community,

Arts and Sciences and "a reestablishment of

the intellectual leadership of the liberal

arts within the academy."

William R. Greiner is inaugurated as UB's 13th president.

The Center for the Arts opens with a

1993

1992

STEVEN SAMPLE

Filmmaker Spike Lee speaks in Alumni Arena

three-week festival. Performers include the **Buffalo Philharmonic Orchestra and** Tanzfabrik, the Berlin Dance Company.

1995

1994

University Libraries acquires its three millionth volume, Jacob Rueff's It's added to the Robert L. Brown History of Medicine Collection. 'De conceptu et generatione hominis.

> CENTER FOR THE ARTS

1998

New York City art dealer David K. Anderson He also establishes a \$2-million trust to donates the Anderson Gallery building to UB. assist with exhibitions and upkeep.

ET GENERATIONE HOMINIS" 'DE CONCEPTU

2002

• 2000

John B. Simpson becomes UB's 14th president. Novelist Joyce Carol Oates UB 2020, the strategic planning initiative to build the university's prominence as a lectures as part of the Distinguished Speakers Series. President Simpson launches world-class public research university.

JOHN SIMPSON

The 14th Dalai Lama delivers an address at UB Stadium on the theme of promoting peace across borders through education.

2002

- 2006

2010

Annette Cravens (MSW '68) donates her priceless collection of nearly 700 archaeological and ethnographic objects for a permanent exhibit at the UB Anderson Gallery. President Barack Obama delivers a major policy address on college affordability in Alumni Arena. Twenty-three new faculty members join the College of Arts and Sciences

Lager, former CEO of Ben & Jerry's Ice Cream, budget of almost \$600 million. Fred "Chico" 300 degree programs and has an operating shares ice cream and expertise at an open UB enrolls 25,000 students, offers almost during Black History Month in February. UB's arts and sciences departments are reunited in a reestablished College of

house for freshmen.

9661

COMMENCEMENT FASHION is named recipient of the Pulitzer Prize for Poetry for his eighth collection, Carl Dennis, professor of English,

Arts and Sciences.

Orleans forced to suspend classes because of the storm. The UB Humanities Institute is established to help "question, comprehend and transform an its doors to students from four schools in New In the wake of Hurricane Katrina, UB opens

CARL DENNIS

'Practical Gods."

2005

2004

increasingly complex world."

a comprehensive physical planning process. academies in research exploration, civic UB introduces undergraduate learning The university launches "Building UB, engagement and global perspectives.

Satish K. Tripathi is inaugurated as UB's 15th president.

2011

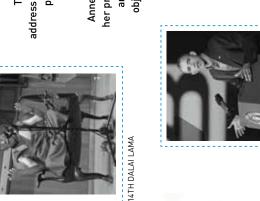
 \bullet 2013

DAVIS HALL, PART OF "BUILDING UB"



TIMELINE OF UB HISTORY, 1846-2011; UB ARCHIVES REPORTS AND MATERIALS; "75 YEARS OF ARTS & SOURCES INCLUDE UNIVERSITY LIBRARIES SCIENCES," UB TODAY, SPRING 1989.

PHOTOGRAPHY COURTESY OF UNIVERSITY ARCHIVES, DOUGLAS LEVERE AND NANCY J PARISI







CRAVENS COLLECTION



Advancing your career can be a real puzzle. We're here to help you solve it.

Whether you're a new grad or a seasoned professional, we know the job hunt can be challenging. Your success means the world to us, and that's why we offer tools to help you make the right moves. Start building or refining your professional network through the official UB Alumni LinkedIn group and searchable online alumni directory. Listen in to our free monthly career webinars that feature top career coaches, hiring managers and authors. Find a mentor, or be a mentor, and learn the ropes from an insider. Or, come to in-person events and have your resume critiqued or learn how to improve your interviewing skills. We've got all these tools, and more, to put you ahead.

Visit alumni.buffalo.edu/career for more info and start your game plan today.





Ken Pulvino and Teri Graf-Pulvino at the summit of Machu Picchu, Peru, in 2013. By Lauren Newkirk Maynard » After decades in hectic sales and IT jobs, Ken Pulvino (MBA '81, BA '75) and his wife, Teri Graf-Pulvino, bought a ranch outside Yosemite Valley and struck out on a new path.

Their tourism company, ToMarket Geotourism Journeys, offers geotourism with a twist. Building upon the tenets of ecotourism, with its focus on conservation, geotourism aims to sustain the distinctive geographic features of a place-its history, culture, traditions. ToMarket goes one step further, using historical journals from famous explorers and naturalists, and tracing their adventures. Travelers gain a visceral understanding of a place through these explorers' experiences while their

dollars go toward supporting indigenous cultures. "We give travelers a fun, yet contextualized experience that preserves the cultures, histories and natural environments of rural communities," Pulvino says. "This isn't about getting off a bus and going to casinos."

The company held its first trip, to Chile, in January 2013, following Charles Darwin's 1835 journey on the famous H.M.S. Beagle to the remote island of Chiloé. The Pulvinos plan to expand their Latin and South America offerings to include Peru and Ecuador. Closer to home, they launched the John Muir Geotourism Center, which will eventually offer tours along Muir's famous hike from Oakland, Calif., to Yosemite. #

Stay connected! Share your photos and stories on the UB Alumni Association Facebook page, facebook.com/buffaloalumni, or follow us on Twitter @UB_Alumni.

Alumni Life

Camera Ready

Multimedia journalist Rachel Elzufon brings her eclectic range of skills back home

By Trevor Delaney » What do dance and journalism have in common? For Rachel Elzufon (BA '08), an award-winning multimedia journalist now at Buffalo's WKBW-TV news station, quite a lot.

A dual major in dance and political science with a certificate in journalism, Elzufon credits

YOUNG BULLS

much of her reporting and improvisation skills to her time in the UB Department of Theatre and Dance. "In

so many ways, being a dance major helped with this business and with life because you learn how to keep going through any little hurdle," she says. "You learn how to take criticism and put it to use." Clearly she's put any criticism to good use: She was part of a news team that won an Associated Press award in 2010, and was nominated for Associated Press Reporter of the Year in 2012, both while working out west.

Elzufon's talents play out in front of and behind the camera. A multimedia journalist, she explains, is a "do-it-yourself person. I shoot my own video, edit my own stories and post them on the Web most of the time."

While at UB, Elzufon spent three semesters in-



terning at local Western New York news stations. She also interned for the TV show "America's Most Wanted." "One of the best things about UB is that they push the opportunity to intern," she says. "The diversity of those internships really prepared me for this business more than I ever could have thought."

Shortly after graduation, Elzufon, who was born and raised in the Philadelphia area, moved to the West Coast and began her career at KYMA-TV News 11, covering news in Arizona and California. However, she soon realized that Buffalo

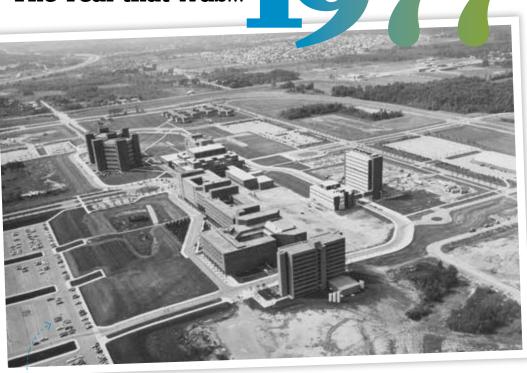
was home and moved back in 2012. "I've always loved Western New York and deeply missed it after college. Every step I took while out west was to ensure that I could get a reporting job back in Buffalo."

Her Buffalo loyalties extend beyond her career. She met her husband, Ian Couch (BA '07), at UB, and still remains close to her college friends. But the buck stops at sports. "Since I went to UB and live in Buffalo, I always root for the Bills as well as the Eagles. But I definitely catch some flak for being a Flyers fan," she laughs. \$\displaystyle{\psi}\$

All UB alumni are great, but here are a few you might recognize no matter when you graduated. Match the UB alum with his or her title:



The Year that Was...



Plenty of parking in 1977 on the North Campus!

UB Milestones

- » After UB students vote in 1970 to stop funding collegiate football (student fees pay for the program), football is reinstated at the Division III level.
- » Graduate Student Employees Union (GSEU) members rally outside President Ketter's office, demanding better pay and health insurance.
- » The new "Amherst" Campus is 40 percent complete and the administration moves from Hayes Hall into Capen Hall.



Trekking off to Buffalo

Star Trek's Scotty (James Doohan) beams down to campus. Cost of a ticket: \$1



Some things never change...

Most Popular

Music: Sex Pistols, Television, The Clash, Fleetwood Mac, David Bowie TV: The Love Boat, CHiPs, Three's Company, Fantasy Island, Soap

World News

- >> Jimmy Carter becomes the 39th President of the **United States**
- >> The neutron bomb is developed
- » "Star Wars" opens in cinemas
- » Apple Computer is incorporated and Commodore unveils the world's first allin-one personal computer, the PET





A head for fashion:

Senior portraits from The Buffalonian yearbook rock turtlenecks, 'staches, feathered hair and manly florals.

The '77 yearbook was, how shall we say ... groovy.



The Big One

The epic Blizzard of '77 brings a deadly combination of bitter cold, 70-mph winds and blowing snow to the city, creating drifts as high as 100 inches and shutting down the university for eight days.



That would be a car peeking out from under the snow.

Friends, random passers-by and Internet rejoice

Don't get mad about the headline spoiler—the story only gets better. When UB residence hall director Frank Tierney proposed to his girlfriend, Katelyn Illingworth, on a frosty evening last December, he used an entire side of Goodyear Hall on the South Campus to pop the question, spelled out in white lights and captured on video. The proposal quickly went viral—drawing attention from the Huffington Post and other national media—partly due to Tierney's phenomenal attention to detail, from enlisting friends and family to darken the dorm, to rerouting campus buses away from the area outside where he dropped onto bended knee.

Naturally, we had to ask our married UB alumni: How did you propose to your significant other? Here are a few of our favorite responses from social media.

Your Proposal Stories:

Erick Szczap (BA '05) Charlotte, N.C.

I surprised my [now] wife by proposing while studying in Lockwood Library. It doesn't get more romantic than that.

Adam Schiffmacher (BS '11) Buffalo, N.Y.

In the middle of nowhere in northern Ontario, I arranged for me and my now fiancée to leave our campsite and go to a local Canadian park while a friend of mine drove up from Buffalo with a few members of my fiancée's family and some close friends. They set up 400 LED colorchanging candles while I stalled for seven hours at the park. We arrived back at the campsite to find the candles set up nearby on a small beach by the lake. A lot of planning, but well worth the surprise. It was a beautiful night!

Marge Chatterjee (BS '85) Austin, Texas

[I] wasn't proposed to on campus, but we were married at Baird Point on a beautiful sunny day in July 1985. Still married, still love UB.

EVENTS

Carol's Picks

A selection of campus events, open to all alumni



April

Alumni Volunteer Opportunity

UB Schmoozin' with the Academies

04.10.14

17 Norton Hall, North Campus

Center for the Arts Gavin DeGraw

04.10.14

CFA Mainstage Theatre, North Campus

Alumni Volunteer Opportunity

Hump Day Hangout After Hours

04.16.14

Student Union, North Campus

May

Frank Tierney gives girlfriend Katelyn

the best proposal story ever.

UB Alumni Association Annual Meeting

05.02.14-05.03.14

Center for Tomorrow, North Campus

Free Monthly Alumni Career Webinar

Twitter **05.07.14**

www.expertwebinarseries.

Oozefest

05.10.14

Mud Pit, North Campus

Center for the Arts Boz Scaggs

05.12.14

CFA Mainstage Theatre, North Campus

University
Commencement
College of Arts and
Sciences

05.18.14

Alumni Arena, North Campus

Philadelphia Affiliate Event

Phillies vs. Mets baseball game

05.31.14

Citizens Bank Park, Philadelphia

Tune

Free Monthly Alumni Career

Job searching

06.04.14

www.expertwebinarseries. com/ubalumni

All dates and times subject to change. Visit www. alumni.buffalo.edu/events for updates.



- >> Backyard bees
- >> Wedding wastes
- >> What your classmates are up to

Colleen Darby brightens hospitals, one room at a time

By Kevin Stewart » In 2008, after 20 years working as a designer and illustrator in the advertising industry, Colleen Darby (BFA '85) received an email that would change her life. It was an invitation to work for UB's Center for the Arts' Arts in Healthcare Initiative as an inspirational artist, and she knew

immediately it was the right path for her. Armed with pencils, paintbrushes and a positive attitude, she went to work at Women and Children's Hospital of Buffalo for three years, helping patients and family members cope with the stress of a hospital stay through the power of art.

During her time in the program, Darby had another fortuitous encounter that led her down yet another unexpected path. She had become friendly with a 16-year-old girl on the oncology floor whom she had taken to calling "The Mayor," because, Darby says, "She ran the floor like a politician, always holding babies and making friends." One sunny morning in spring, Darby walked into her room and sang out, 'It's such a beautiful day outside!'

CONTINUED

"She looked up at me and said, 'It always looks the same from here," Darby recalls. "I felt terrible. I retreated back to the playroom and sat alone for a few minutes thinking about what happened. It was in that quiet moment that the idea came to me: Every patient deserves a room with a view."

Darby immediately rearranged her schedule and started a Kickstarter campaign that would allow her to take a onemonth retreat from her job and family. She traveled to Sarasota, Fla., last November and completed a series of 20 inspirational paintings she calls LandEscapes. With big skies, bright colors and simple landmarks against a natural background, the paintings are meant to give viewers a sense of serenity and anticipation, a feeling that they are part of a story that hasn't reached its climax. The first of the series is dedicated to The Mayor, who died in 2011.

The paintings are being prepped for exhibition and will soon be hanging in Buffalo-area hospitals, bringing a colorful splash of the outside world to patients' rooms, chemo infusion stations and the like. In addition to improving the environment, the works are intended to inspire patients to start painting themselves. As a mother, Darby recognizes the impact art can have on young patients and their families. "It gives parents the chance to play with their child again," she says. #

"It was in that guiet moment that the idea came to me: Every patient deserves a room with a view."

Colleen Darby

CLASS NOTES BY DECADE

Person to Person

Look for the little blue asterisk, which denotes an Alumni Association member!



Anthony Capozzi, BA 1967, will serve a second term on the Commission on Judicial Performance in California. Capozzi has owned and

operated the Law Offices of Anthony P. Capozzi since 1979. He lives in Fresno,



Kimko was appointed a 2013 American Association of **Pharmaceutical** Scientists Fellow, Kimko is scientific director and Janssen Fellow in the department of model-based drug development at Janssen Research and Development of Johnson & Johnson. She resides in Belle Mead. N.J.



Jerome Leventhal, EdD 1971,

professor emeritus at Temple University's College of Education, was inducted into the Norristown Area High School Hall of Fame for his service to education. In addition to his career at Temple, he taught and directed programs for public schools in three states. He is a resident of West Norriton,

Ira Kleinburg, BA 1972, retired after 40 years of government service with the New York City Department of Correction. He most recently served as assistant director of personnel. He resides in Brooklyn, N.Y.

Catherine Burzik, MA 1974,

was appointed to the board of directors of Innovative Trauma Care. Burzik is a general partner at Targeted Technologies. She resides in San Antonio, Texas.

* Scott Slesinger, JD 1975 & BA 1972, a legislative director of the Natural Resources Defense Council, was named one of the top federal lobbyists of 2013 by The Hill, a Washington, D.C., publication. He resides in Washington, D.C.

Justin Schulz, PhD 1976,

received a lifetime achievement award from the Colorado Behavioral Health Council. Schulz is an organizational consultant with Schulz Consulting, He lives in Littleton, Colo.

Mindy Lubber, MBA 1977 & BS 1975, received the 2013 Public Health Leadership Award from the Friends of Brookline Public Health. She is president of Ceres, an organization that advocates for sustainability leadership, and resides in Brookline,

* Vikki Prvor. JD 1978 & BA

1975, principal and founder of Change Create Transform, was appointed to the New York Independent System Operator's board of directors. She lives in New Rochelle, N.Y.



David Kurss, MD 1982, a clinical assistant professor at the UB School of Medicine and Biomedical Sciences, joined InvisionHealth as an obstetrician-gynecologist. He resides in Williamsville, N.Y.

Mark McAnany, BS 1983, was named 2013 Engineer of the Year by the Rochester Section of the American Society of Civil Engineers. McAnany is manager of transportation at Bergmann Associates of Rochester, He lives in Spencerport, N.Y.

Diane Scott, MA 1984 & BA 1982, joined Hodgson Russ law firm as director of human resources. She resides in Buffalo, N.Y.

Patrick Sunderlin, BS 1985,

was promoted to vice president of global supply chain at Lockheed Martin. He lives in Orlando, Fla.

Kemal Ebcioğlu. PhD 1986.

received the 2013 IEEE Computer Society B. Ramakrishna Rau Award for his work in very long instruction word architecture. He is president of Global Supercomputing Corp., and resides in Katonah, N.Y.

Robert Frank, BA 1989, was promoted to principal hydrogeologist at CH2M HILL. He lives in Scottsdale, Ariz.



John Juers, JD 1990, joined TD Bank as senior vice president and U.S. compliance regulatory officer. Previously, Juers served as vice president and chief regulatory counsel at M&T Bank. He resides in Cherry Hill, N.J.

Suaad Sait, BS 1990, was named executive vice president of products and markets at SolarWinds. Sait previously served as chief marketing officer at Rackspace. He lives in Austin, Texas.

Shane Connolly, MBA 1991 & BS 1991, was appointed chief of staff for Council District 10 of San Jose, Calif. He resides in San Jose.

Robert Gregoire, BS 1991,

was named head men's tennis coach for Duquesne University. Gregoire is owner and director of tennis at Alpha Tennis & Fitness of Pittsburgh. He lives in Sewickley, Pa.

William Bergmann, BS 1992.

was promoted to senior vice president of finance and planning at Starz Entertainment. He resides in Castle Rock, Colo.

Stephen Summers, BS 1992,

was appointed budget manager at Quinnipiac University. Previously, Summers was manager of business planning at Charter



Communications. He lives in Fairfield, Conn.

James Rossetti, BA 1994,

received the Allegheny County Medical Society's Physician Volunteer Award. Rossetti practices hematology and cell transplantation at Western Pennsylvania Hospital. He resides in Aspinwall, Pa.

James Albanese, DDS 1995,

was named co-director of restorative and cosmetic dentistry at 4Excellence in Dentistry. He lives in Dix Hills, N.Y.

Matthew Ciszek, MLS 1996 & BA 1994, head librarian of the Pennsylvania State University Shenango Lartz Memorial Library, received tenure and was promoted to associate librarian. In 2013, Ciszek was honored with the Penn State University Libraries Diversity Award. He lives in Cleveland.

Jeffrey Streb, BS 1996, was named to Business First's 22nd class of 40 Under 40 honorees. Streb is senior director of human resources for Ingram Micro. He resides

in Youngstown, N.Y. Douglas Menelly, BS 1998, was appointed senior vice president of marketing for Aspen U.S. Insurance. He lives in

Wantagh, N.Y.

Rebecca Resig, BA 1998, was named director of membership at WCNY, Central New York's public broadcasting company. Previously, Resig was director of development for the Boys & Girls Club of Syracuse. She resides in Fayetteville, N.Y.



Andrew Fiorella, BA 2000.

was promoted to partner of Ulmer & Berne's Cleveland office. He lives in Bay Village,

Shervl Schechter, MSW

2000, was appointed to the board of directors for the Alzheimer's Association of

Western New York. Schechter practices clinical therapy at Schechter Counseling PLLC. She resides in Buffalo, N.Y.

Nannette Stangle-Castor.

PhD 2000, was presented with the LEAD Award by the Healthcare Businesswomen's Association Research Triangle Park Chapter. Stangle-Castor is president and founder of InnoVector Tech. She lives in Raleigh,

Britt White, MLS 2000, BA 1998

& AA 1995, was named the eighth director of the North Tonawanda Public Library. Previously a librarian for Buffalo Seminary, White resides in Buffalo, N.Y.

Kevin Majchrowicz, BS 2002,

was promoted to principal at accounting firm Brock, Schechter & Polakoff. He lives in Lancaster, N.Y.

Adam Satterfield, BA 2004,

obtained his master of science degree in education in mental health counseling from St. Bonaventure University. He lives in Hinsdale, N.Y.

Rachel Lerner-Colucci, EdM 2005 & BA 2003, was recognized as one of Rockland County's 40 Under 40 by the **Rockland County Economic Development Corporation.**

She resides in Pomona, N.Y.

Brian Boland, BA 2006, was named an associate in the banking and commercial lending group of Certilman Balin Adler & Hyman. Prior to joining the firm, Bolan was an associate at CU Settlement Services. He lives in Centerport, N.Y.

Chad Danforth, ME 2006,

ioined Kirchhoff-Consigli Construction Management as a project manager in its Pleasant Valley, N.Y., office. He resides in Staatsburg, N.Y.

Curtis Robbins, MUP 2006 & BA 2003, was appointed knowledge management officer at the John R. Oishei

Foundation. He lives in

Williamsville, N.Y.



Kevin Kegler

MA '87

Professor of graphic design and graphic design director, Daemen College, Buffalo, N.Y.; smalltime beekeeper







How to keep bees in your backyard:

Find an old beekeeper

The beekeeper you find doesn't have to be old—but he or she has to have many years of experience. The best way to learn how to work with bees is from someone who has done it well for a long time.

Find another old beekeeper

Kevin Kegler's interest in bees started with a casual encounter at an outdoor

market. He would occasionally buy honey from an old-time beekeeper

named Gustav Arndt, and couldn't help but notice the man's "deep com-

mitment and reverence" for his bees. "Although he sold the honey," Kegler

notes, "it seemed all about the bees." Eventually, Kegler received an invita-

tion from Arndt to help him with his hives, and that, he says, is where it all

15 years he's been raising bees at his country home.

began. Though not yet an "old-timer," Kegler shares what he's learned in the

It doesn't take long to figure out that beekeepers each have their own way to work with their bees. They have different techniques, equipment and approaches; they generally don't follow a prescribed way.

Don't let the bees bite

If you have neighbors, research the best placement for your hives so you don't negatively impact people living nearby. The honeybees' flight path is above our heads so, if you placed them well, there should be little notice except when they're foraging in the garden.

Put in the time

You need to put time into your colonies to keep them healthy, especially in this climate. That said, I have a friend who doesn't put any time into his bees. They live in his porch post, and he just collects honey in the fall. He's an anomaly.

Have a little sense

If you have anaphylactic reactions to bee stings, you might want to consider raising some other animal. Chickens can be fun.

* Thomas Ulbrich, EMBA 2006 & CEL 2003, was promoted to assistant dean of the UB School of Management. Ulbrich is also executive director of the UB Center for Entrepreneurial Leadership.

Gregory Haack, BS 2007, a

N.Y.

He resides in Williamsville,

civil engineer with Clark Nexsen, earned his professional engineer license in the Commonwealth of Virginia. He lives in Hampton, Va.

Christopher Alger, BS 2008,

was promoted to manager at Grossman St. Amour CPAs PLLC. He resides in Auburn,

Gregory Gamble, BA 2009, a

former All-MAC point guard for the UB Bulls, was named assistant men's basketball coach at Medaille College. He lives in Buffalo, N.Y.

Dominic Papa, MD 2009, joined Maury Regional Medical Center Hospitalists Group as

an associate. Papa specializes in internal medicine and pediatrics. He resides in Richmond, Va.

Jill Twist, MA 2009 & BA 2007,

was named a proofreader and copy editor with The Martin Group. She lives in Buffalo, N.Y.

CONTINUED



Made you look

Now that we've grabbed vour attention, how about sending us your class note? Log on to alumni.buffalo.edu.



Miranda Rosati. BS 2010. was promoted from marketing administrator to manager of marketing at William S. Hein & Co. She resides in Hamburg, N.Y.

Choonsik Lee, PhD 2011, assistant professor of finance at Quinnipiac University, earned the Chartered Financial Analyst designation. He lives in Stamford, Conn.

Stephen Stauffer, BA 2011,

received a master's degree in teaching and curriculum in education from Michigan State University. He resides in Lansing, Mich.

Cameron Worczak, BA 2011, was named an account manager with Anchor Wave

Internet Solutions. He lives in Tucson, Ariz.

David Zachary Finch, PhD

2012, joined Massachusetts College of Liberal Arts' department of English and communications as an assistant professor. Finch was previously a visiting lecturer at Dartmouth College. He resides in North Adams,

Lauren Paone, MS 2012 & BS 2011. earned her certified public accountant licensure.

A staff auditor at Dannible & McKee LLP, Paone lives in Baldwinsville, N.Y.

Carolyn Klotzbach, MLS 2013,

was named a sales support specialist with SofTrek Corp. She resides in Rochester, N.Y.

Jeffrey Salzer, EMBA 2013,

ioined the Oklahoma District Office of the U.S. Small **Business Administration** as a business opportunity specialist. Salzer is also a veteran of the U.S. Army. He lives in Yukon, Okla.





Brent Zimmerman

BA '08

Co-founder/creative and marketing director, Lilypad Wedding & Events



Brent Zimmerman's sister, Bethany Olczak, made a big mistake when she got married. It wasn't her choice of husband; it was her decision not to hire a wedding planner. "Afterward, she realized that if she had had somebody to help her," says Zimmerman, "she wouldn't have made such ex-

pensive mistakes." To help others avoid the same pitfalls, the siblings joined forces a decade ago to found Lilypad Wedding & Events in Amherst, N.Y.

With Zimmerman as creative director (he's a graphic designer by training) and Olczak as the numbers person, the company has grown from a home-based operation to occupying a storefront at Main Street and Eggert Road, where they've been for the last two years. "We're in a central location," he says. "And we benefit by being in a college town. A lot of people meet their spouse at college and want to get married here."

We asked Zimmerman to fill us in on some of the worst monetary excesses of the soon-to-be-married.

Top five wedding wastes of money:

1. A too-good shoe

Get a shoe with a good fit in an appropriate color. Nobody is going to see your Louis Vuittons until they're kicked off and lying on the dance floor.

2. A 10-tier cake

Don't let the cake overshadow your own entrance. A three-tier wedding cake can be just as beautiful. Order a sheet cake or two

to ensure you have enough, and save the extra dollars for your honeymoon.

3. An endless evening

Most of your quests are counting down the time until the end, especially your older guests. An extra hour of the DJ and per person bar fees, plus extra staff, is costly and unnecessary.

4. Double tipping

Examine those contracts carefully; most gratuities are included. I don't have enough fingers and toes to count how many times I've saved clients from over-tipping.

5. Not hiring us

You'd expect me to say this, but it's true: A good wedding planner can find areas to save money. We have that logistical mindset



Christopher Pucella

EdM '02 & BA '97

Pucella was named boatman at West Side Rowing Club. Pucella also is head coach of the men's rowing team at Canisius College. He resides in Buffalo, N.Y.





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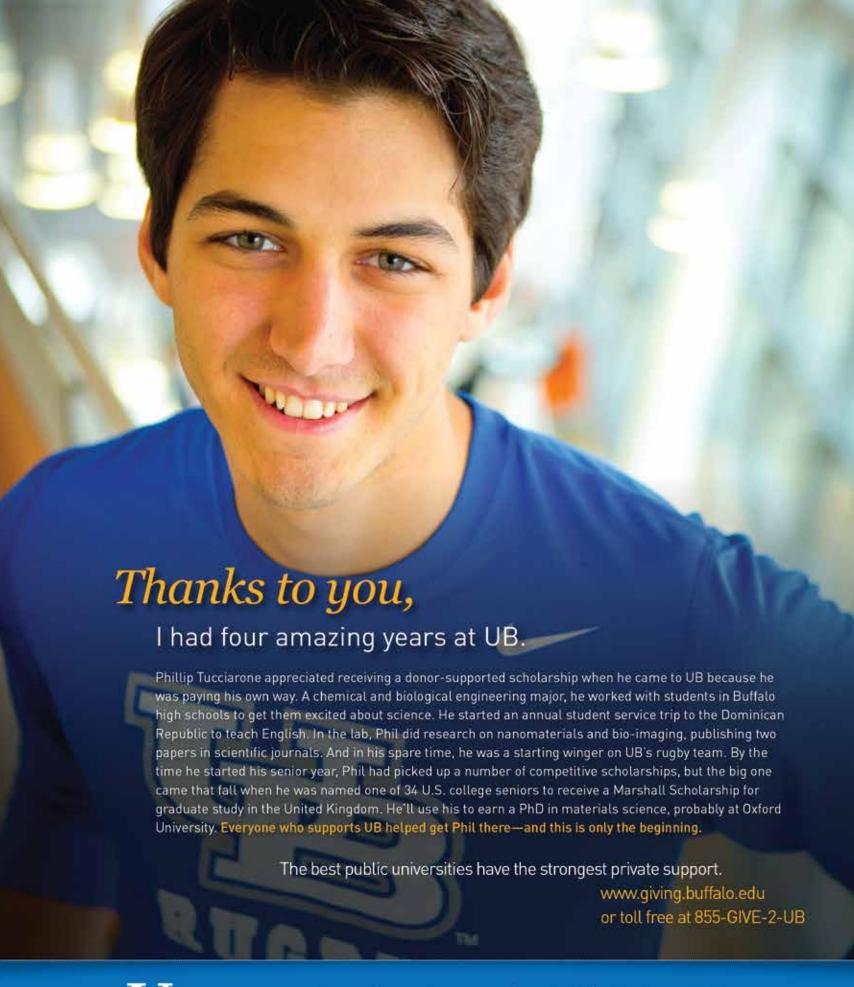


UB YESTERDAY

1964 The Master Dresser

The much-beloved professor and costume designer Esther Kling (in red), who died in 1987 at the age of 50, fits faculty and student actors for a staging of "The Master Builder" by Henrik Ibsen. According to the accompanying article in "The Buffalonian," the Student Dramatic Society and the Department of Drama and Speech—as it was then called—overcame "inadequate facilities" in "old" Baird Hall (now Allen Hall on the South Campus)

and "successfully presented this campus with very high professional quality of drama this year."



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LAST LOOK

The Ice Rink Cometh UB students play a game of broomball on the new outdoor ice rink that opened just in time for the fifth annual Winterfest celebration on Feb. 1. Student Life and Student Affairs spearheaded the rink, which replaced what was once an empty field between The Commons and Clemens Hall on UB's North Campus.