

In Review

STUDENT ENTREPRENEURS

Vision of Virtual Reality

BODY BY DESIGN: Lucian Copeland '16, an electrical and computer engineering major from Northfield, Massachusetts, models a prototype of a virtual reality suit that he and other members of the student group Nullspace VR are developing. Designed to mimic the sensation of touch to areas of the wearer's torso, the prototype is a low-cost, upper-body haptic feedback system that integrates with virtual reality goggles and other VR systems. Copeland and members of the team have set up a lab at High Tech Rochester, a University-affiliated start-up incubator, to hone their ideas. **PHOTOGRAPH BY ADAM FENSTER**





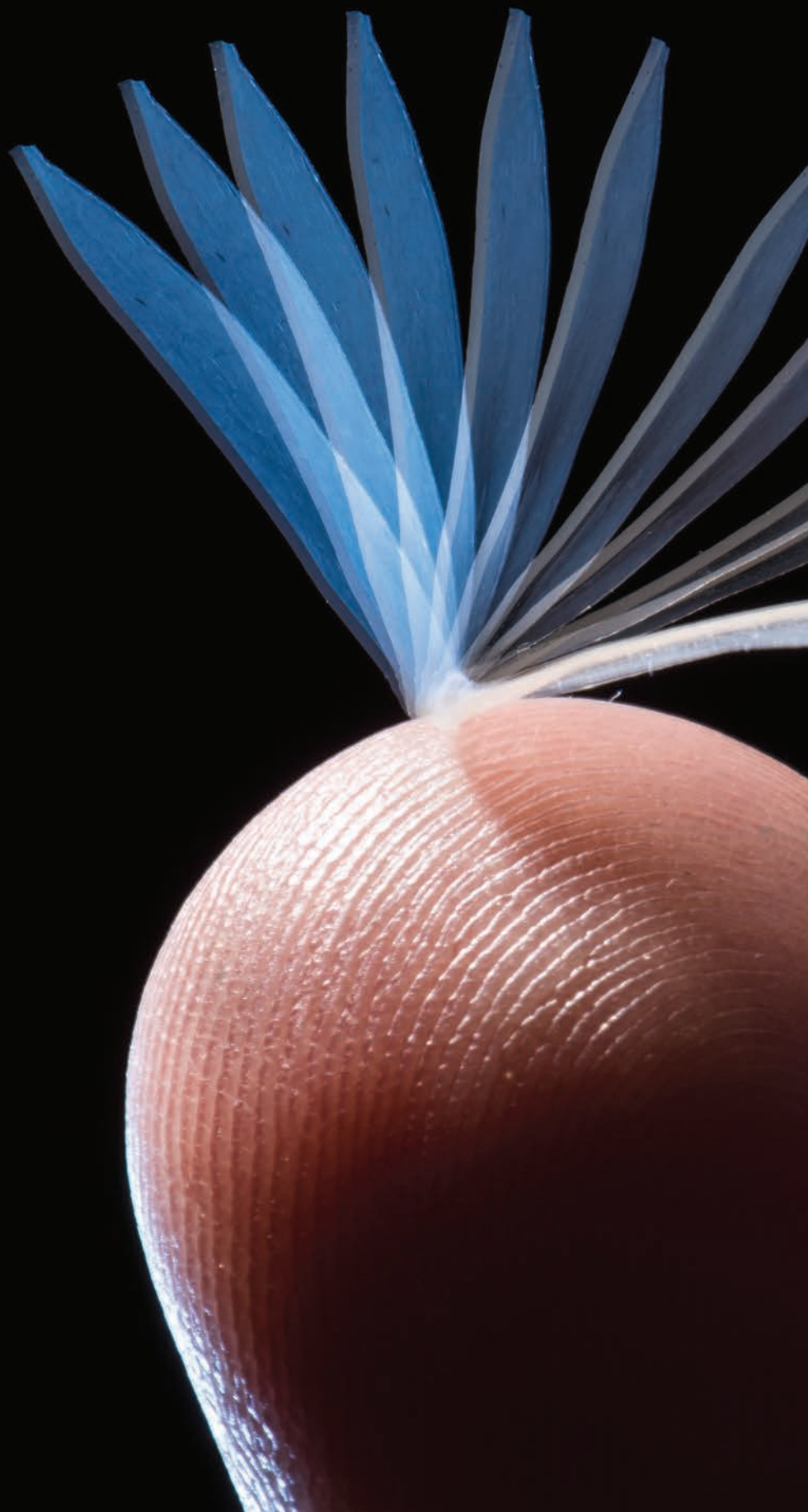
CANCER RESEARCH

Watery Wonders

TADPOLE TALES: The transparent skin of tadpoles from a species of frogs native to sub-Saharan Africa is providing researchers around the world with an unusual window into the genomics and immunology of cancer. Home to the Xenopus Research Center—named for the African clawed frog, or *Xenopus laevis*—the Medical Center provides materials, training, and specimens to researchers across the globe as a way to better understand how tumors grow and how biological systems react to cancerous cells. **PHOTOGRAPH BY ADAM FENSTER**





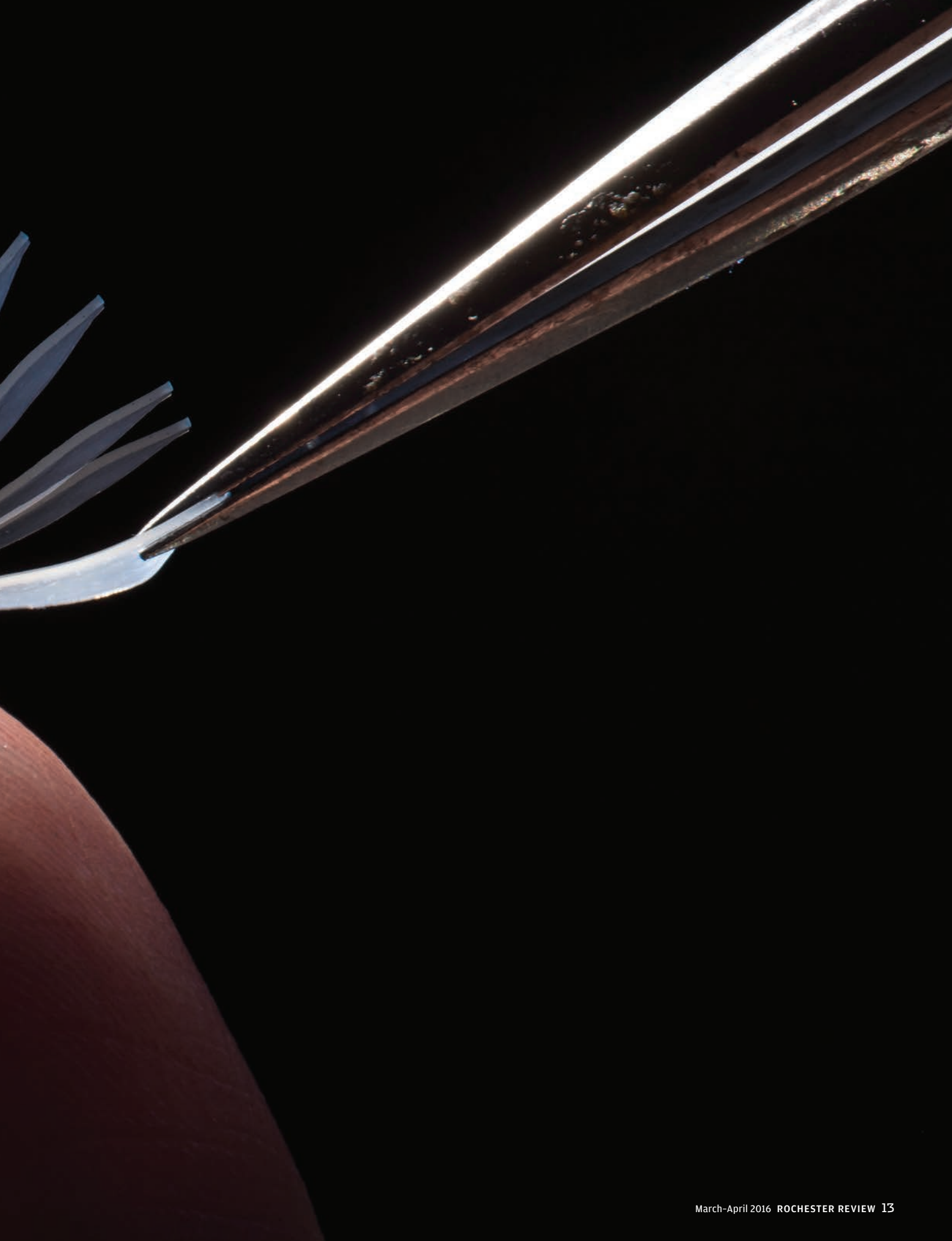


CHEMICAL ENGINEERING

Powerful Polymer

MEMORY MAKER: A multiple-exposure photo demonstrates the movement of a material that reverts to its original shape when exposed to body heat. Developed by Mitch Anthamatten, an associate professor of chemical engineering, and graduate student Yuan Meng, the new type of shape-memory polymer can lift 1,000 times its weight and is expected to have important applications in medicine and other fields.

PHOTOGRAPHY BY ADAM FENSTER





STUDENT LIFE

Debate Goes Varsity

An academic team with needs like those of varsity athletics finds a new “home.”

By Kathleen McGarvey

It's arguable that no University group is more steeped in history than the Debate Union.

“There's a joke that the debate team was founded in the morning, and then the University was founded in the afternoon—so the debate team has existed a morning longer than the University,” says Brady Fletcher '08 (MA), director of forensics.

Whatever its origin, the team has existed in many forms—sometimes competing intramurally, sometimes intercollegiately; sometimes taking on other teams one on one, or, as today, competing in tournaments. But recently, it's made an unusual change, moving under the aegis of the Department of Athletics and Recreation.

It sounds peculiar, on its face. But the move makes sense, says George VanderZwaag, who, with the team's move in 2014, became director of athletics and recreation

and academic teams.

In many ways, the team—with a significant budget and an intensive travel schedule—is more akin to a varsity team than it is to other student clubs.

“We're not saying debate is part of athletics. It's not. But it's part of my portfolio,” VanderZwaag says.

The move, he recalls, started with a basic question posed by Richard Feldman, dean of the College: “Is there more that we could do for teams that compete intercollegiately, but whom we don't think of in the same way that we do varsity teams?”

There are two worlds within athletics: varsity and club sports. While clubs' funding comes largely from students paying dues and performing other kinds of fund raising, varsity teams receive extensive support from the Department of Athletics and Recreation.

“We fund their travel, we pay for their equipment, we provide facility access and other things that are critical to their functioning,” VanderZwaag says. “We hire professional coaches, we supervise those coaches, and we set standards for their performance. Our goal is to provide programs and facilities of a high quality that are attractive to the very best students around the country.”

While other academic teams operate as club sports do, the Debate Union—like varsity sports teams—receives funding from the College budget, has professional coaches, and travels extensively.

“We were really running debate as a varsity program without the kind of oversight that we'd normally provide for varsity programs,” says VanderZwaag.

“In its own way, [debate] is a competition,” says Arthur Miller '56, '08 (Honorary), a stalwart alumnus of the team. “It's a mental competition. It's you against an opponent, and it's judged, so you can make the argument that that's where it belongs.”

Fletcher, who became coach last year but who has a long history with the team, says the new arrangement is working well.

“The new relationship has served what we do in a really constructive way,” he says. This year, the team is taking 18 trips to compete in 20 competitions. “It's a big operation,” he says. “And now we have great support staff and infrastructure in athletics. This is what they do. They book travel, they find creative solutions, and they troubleshoot when problems come up—all of the logistical things that previously we just had to deal with on our own.”

Miriam Kohn '17, a linguistics major from Portland, Oregon, is the team's vice

GAME ON: Debate Union team members (back row) Daniel Bamfo '19, Margeaux Kelly '19, Daniel Gomez '17, Kitra Moeny '19, Gazi Mahir Ahmed Naven '19, and (front row) Courtney Otto '19, Miriam Kohn '17, Anne Cheng '17, and Emoni Tedder '17 take the floor of the Palestra.

president. She calls the move “a positive change. We see more resources, and we can travel with more people to more destinations.”

Team members compete around the country and, increasingly, the world. Last year, destinations included Alaska and Serbia, as well as Hungary. This spring, they’ll be going back to Budapest and to the Netherlands. Such travel is made possible in part with the aid of Miller and Martin Messenger ’49, both longtime benefactors of debate at Rochester who are providing endowed support for the team.

While the team competes energetically, its hallmark is its openness.

“First among our values is that we want to be an open, accessible place to any student who wants to have experience in competitive debate,” says Fletcher. “We think debate has enormous pedagogical value, and—unlike other debate teams with more rigid barriers or standards for being a member—we want to be there for you if you want to debate.”

That dedication to a welcoming environment complicates the comparison of the Debate Union to a varsity team for the simple reason that “varsity” and “novice” are technical terms in debate—and Rochester’s team is committed to maintaining a novice focus.

Yet treating the Debate Union like a varsity team actually enhances the program’s ability to deliver the novice experience, Kohn points out.


“We want to be sure debate is not just for those who happen to have spare funds to travel,” she says.

Kohn competes in both of the main forms of debate, forms that are in some ways comparable to a sprint and a marathon: British Parliamentary debate, which allots competitors just 15 minutes to prepare their arguments; and policy debate, in which competitors extensively research and debate one topic over the course of an entire season.

Kohn says she comes from a family of “loud, strong-willed, self-confident people, for better or worse. I grew up with spirited discussions around the dinner table.”

She began debate in high school, and when she arrived at Rochester, saw a flyer for the team and thought, “Why not?”

While the move to the athletics department is working well, VanderZwaag says he wouldn’t expect to see the structure replicated at other institutions.

“It’s a product of who we are and our circumstances,” he says. “It just seemed to make sense here.” 

STUDENT SUPPORT

Devoted to Debate

Arthur Miller ’56, ’08 (Honorary) describes his undergraduate self as a “shrinking violet, sort of a social misfit.”

He hasn’t done much shrinking in a while. A professor of law for 55 years, Miller has argued several times before the United States Supreme Court, as well as in every U.S. Circuit Court of Appeals. For two decades, he was the on-air legal editor for ABC’s *Good Morning America* and for nearly a decade hosted *Miller’s Court*, a mock-trial program.

“My whole life is speech,” he says.

He gives the credit to his time on Rochester’s debate team. “It was transformative,” he says. “It changed my life.” From an introvert, he became someone “having at least the capacity to be extroverted in the context of debate.”

It was Martin Messenger ’49 who helped him discover “this other personality.”

Messenger himself took up debate in an effort to aid friend Clark Barrett ’50.

Barrett’s father was a prominent attorney in Buffalo, Messenger remembers, and he wanted his son to follow him into practicing law.

“But Clark had a stutter, and he came to me and said, ‘I have to learn to deal with my stutter—and if we had a debate team, I could get the practice I need.’”

And so they revived Rochester’s team—and sparked Messenger’s interest in debating. It’s never waned.

After Messenger graduated and began work at Merrill Lynch, he came back to campus as the debate coach. Miller was one of his first two debaters.

Today, Messenger and Miller are still building the program, through a fund that Messenger created and Miller has since matched. The fund now stands at \$1.5 million.

In addition to debate, Messenger, a life trustee, has supported programs and initiatives across the University. Miller, who holds the title of University Professor at New York University School of Law, annually hosts a public affairs forum called “Miller’s Court” during Meliora Weekend. He also established an endowed professorship in history.

Barrett died in 2004.

As a coach Messenger emphasized that the team needed to be competitive, but still open to everyone. He worked with a wide cross-section of students, representing diverse personalities and ambitions. But they found commonality in debate: “We were filling needs in a lot of different ways,” he says.



DEBATE DUO: Martin Messenger ’49 (top) helped revive the debate program, with Arthur Miller ’56 as one of the early students, embarking both of them on a lifelong commitment to the program.

The team has stayed true to its roots, Messenger says, and he takes particular satisfaction today in the large number of international students who are involved.

“Language is not a barrier when you make it not a barrier,” he says.

Skillful speaking is an inner strength to be marshalled and used “in whatever setting you’re in,” says Miller. Debaters learn to organize their thoughts, present them persuasively, and be unafraid to do so in a public arena. “It’s recognizing there’s something in being two people, a private person and a public person,” he says.

But debate teaches more than just speaking. To respond effectively to another’s argument requires absorbing it and using it in later portions of the dialogue.

“That’s true of teaching, and appellate advocacy, and it’s sure as hell true of debate,” says Miller. “You’ve got to learn to speak, but you’ve also got to be able to listen.”

—Kathleen McGarvey



Taking a ‘Look’ at Historical Hoaxes

Art historian Joan Saab examines the relationship between seeing and believing.

“I saw it with my own eyes.”

It’s an often expressed guarantor of truth. But Joan Saab, an associate professor of art history and visual and cultural studies, suggests that assumptions about seeing and truth require a little more scrutiny.

During the mid-19th century, a series of grand hoaxes captured the American imagination: the Great Moon Hoax, the Cardiff

MOON DWELLERS: A famous 1830s press hoax involved reports of bat-like people and other fanciful creatures supposedly seen on the moon by an astronomer.

Giant, and the fantastical creatures of P. T. Barnum.

“I’m interested in this moment in the 19th century when people are willing to suspend disbelief and see things—and even though they know they’re not true, to believe for that moment that they are,” she says.

In the summer of 1835, the *New York Sun* published a series of six articles describing the supposed discovery of life on the moon by famed astronomer Sir John Herschel. The inhabitants included winged people—a combination of humans and bats—unicorns, and other creatures.

Some people always knew the

stories were a hoax, and most knew before the series finished.

“But it didn’t matter,” Saab says. People were captivated by the story, and the hoax was picked up by papers around the world. “And that’s what I think was interesting. It continued to resonate.”

Saab explores the hoaxes in a book that she is writing, *Making Sense of What We See*. It’s one volume in a multivolume series that’s part of what she calls a “new type of history that engages all of the senses.”

Through examples that run a historical continuum from the Florentine Codex—a 16th-century

manuscript describing the conquest of Mexico and Moctezuma’s defeat by Cortés—to the Rodney King video, Saab examines the correlation between seeing and knowledge.

Almost 30 years after the Great Moon Hoax, another trick was pulled off in Cardiff, New York, when men digging a well on the farm of William Newell unearthed a 10-foot-tall “petrified man.”

The “man” was in reality a sculpture that was created and placed there by a tobacconist from New York named George Hull, who got the idea after an argument with a Methodist



preacher about taking the Bible literally.

After the giant went on display in Syracuse, purchased for nearly \$40,000 by a group of businessmen, a paleontologist showed why it was a fake, and Hull confessed. But it remained a popular attraction.

Circus entrepreneur Barnum tried unsuccessfully to lease the giant, and so built a replica, which became even more popular.

POPULAR FICTIONS: Purported “discoveries”—such as P. T. Barnum’s “Feejee Mermaid” (left) and the Cardiff Giant, which was unearthed at a New York farm (above)—remained popular attractions long after being exposed as hoaxes.

Today, the original giant is on display at the Farmer’s Museum in Cooperstown, New York.

Barnum exhibited other fantastical creatures, such as the “Feejee Mermaid,” actually “a monkey carcass with a fish tail sewn to the back of it,” says Saab.

Hoaxes—especially ones that relied on direct observation, like the giant, or new technologies such as the telescope, like the moon hoax—played a part in reconfiguring knowledge and establishing new boundaries for discernible truth, Saab says.

“I’m not arguing that they actually were duped. I’m saying that there’s something happening in this negotiation between seeing and believing that’s not as easy as we think it is.”

—Kathleen McGarvey

The Nazerian Humanities Lectures

Joan Saab was selected to discuss her research on hoaxes as the inaugural presenter in the Hagop and Artemis Nazerian Humanities Lectures at the Humanities Center this spring. Established by University Trustee Ani Gabrellian ’84 and her husband, Mark Gabrellian ’79, in tribute to her parents, the lectures will be given annually by a member of the Rochester faculty and will rotate at least once every four years between Rochester and New York City. The series honors the Nazerians’ belief in the benefits of a humanistic education.

Ask the Archivist: Which Class? Which Yearbook?

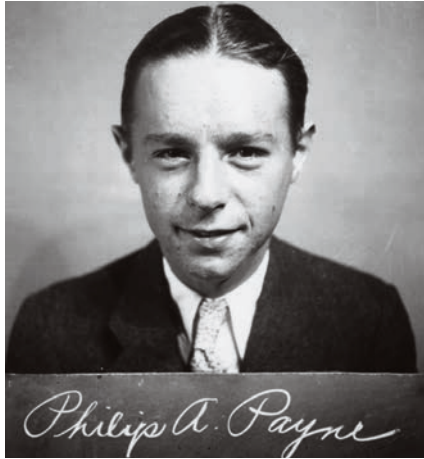
A question for Melissa Mead, the John M. and Barbara Keil University Archivist and Rochester Collections Librarian.

My father graduated from Rochester in 1936. I have been gathering information about his years there. My resource materials include *Interpres* issues, YouTube videos, books, vintage postcards, the Rochester Democrat and Chronicle online, and family memorabilia.

1) Why was the *Interpres* presented by the junior class, rather than the senior class, in the 1930s?

2) Is there an explanation why classes didn't line up with a particular yearbook? For example, in the 1934 *Interpres* (my father's sophomore year), his class appears in the "Frosh" section. Also, the 1937 *Interpres* includes the Class of 1936 after graduation. (Class of 1936 was in the 1936 issue as seniors.)

These old yearbooks are great. The artwork and photography are special. The sponsor sections in the back



provide glimpses into the city of Rochester in the '30s. I would enjoy any interesting tidbits about the *Interpres* you may have to share.

—Pat Payne, daughter of the late Philip Payne '36

The front page of the April 19, 1935, *Campus* newspaper announced that 700 copies of the 1936 *Interpres* are "now being distributed free to members of the student body from the yearbook's offices in Todd Union."

It was not just in the 1930s that the yearbook was the work of the junior class; this was the case beginning in 1878; from 1858 to 1877 it was the work of the "Secret Societies" (aka fraternities). Originally entitled *Interpres Universitatis*, the publication hoped to be "a translator, an interpreter of the movements of college life, and of the students themselves."

Its pages have highlighted the academic, Hellenic, athletic, and sophomoric; parodied faculty (1876) and been parodied (as "Inturps" in *UGH*, 1960); logged famous visitors, and marked campus turmoil (1969).

As many modern readers note, the publishing schedule causes all manner of confusion for us today, starting with the fact that the featured student portraits are members of the junior class—identified as juniors as they were at the time of publication. The Class of 1977 was the first to name their photograph section

"Seniors"—appropriately so, since the books weren't ready until September 1976, the fall of their senior year.

As freshmen (aka "Frosh"), your father and his classmates would have arrived too late to be included in the yearbook of 1933. In the 1937 edition, published on the last day of classes in May 1936, his class is listed as "Seniors."

Occasionally photographic prints were pasted in each copy, but it was not until 1890 that halftone reproductions of photographs appeared; prior to that time, separate photo albums of the students were created. While

You Say 'Interpreze,' I Say 'Interpress,' or Maybe 'Interps'

While the name of the yearbook is commonly pronounced "Inter-press," the pronunciation has varied from "Inter-preeze" (Dorothy Dennis, Class of 1908) to "Interps" (Doris Braund Kerber '49) to its current incarnation.



CLASS WORK: Linocuts (above) by Ralph Avery, then the president of the Rochester Art Club, were among the illustrations featured in the 1936 edition of the *Interpres*, the issue that was published when Philip Payne '36 (top) was a junior.

serving in the Civil War, Samuel Porter, Class of 1864, wrote his father in June 1863, asking him to be sure to purchase the set of photographs of his classmates.

The Class of 1881 failed to publish, perhaps due to lack of resources; according to a 50th anniversary history, the advertising (sponsors) section was expanded the following year.

The advent of “coeds” saw the women students represented, minimally, in the yearbook. In 1910, they began issuing an annual of their own, the *Croceus*. The Classes of 1942 allied for the *Interpres-Croceus*, 14 years before the *Campus* and *Tower-Times* merged as the *Campus-Times*.

The 1936 edition is particularly beautiful. Printed with blue accents on each page, four chalk manner lithographs of the River Campus act as a visual preface, and dramatic linocuts divide the sections. The artwork was created by Ralph Avery (1907-76), at the time serving as president of the Rochester Art Club.

Designing the covers and interiors provided an opportunity for professional and amateur artists alike. Julia Robinson contributed drawings for the 1891 yearbook, edited by her brother Charles. The sketches of James Havens were used in his Class of 1922 yearbook. Although illness would prevent Havens from finishing his degree, he would become a professional artist, and his work has been featured in exhibitions at the Memorial Art Gallery and elsewhere.

Not to be outdone, students at the Eastman School of Music and the School of Nursing have also issued yearbooks (*Score* and *Meliora*).

The *Interpres* through 1980 can be found online, along with the *Croceus*, at rbscp.lib.rochester.edu/yearbooks.

Need History?

Do you have a question about University history? Email it to rochrev@rochester.edu. Please put “Ask the Archivist” in the subject line.



NO FOOLING: European court fools were complex figures, says historian Dorinda Outram: sources of mirth, tellers of truth, and victims of extraordinary cruelty by the nobles they entertained.

Reasonable Fools

How did court fools fare in the Age of Enlightenment?

By Kathleen McGarvey

Every April 1, the 18th-century townspeople of Dresden, in the German state of Saxony, would have an egg fight with a man called Joseph Fröhlich.

It was April Fool's Day in the truest sense. Fröhlich was the court fool to the Elector of Saxony. A miller by trade, he became a wandering conjuror before being taken up by the elector as a juggler and fool.

His fame wasn't confined to the court. He was immortalized in portrait busts and on the porcelain that was being manufactured on a large scale, for the first time, in Saxony.

Ordinary people were interested in him “because he was one of them,” says Dorinda Outram, the Gladys I. and Franklin W. Clark Professor of History. A specialist in 18th- and 19th-century European history, Outram is at work on a book about the history of fools in the so-called “Age of Reason.”

“But the Age of Reason was often accompanied by irrational goings-on,” she says. And fools were “on the cusp of all the contradictions in the Enlightenment: animal and human, old and new, court and people, and reason and unreason.”

By the 1700s, court fools had died out in England and France. But in the German states, they were still going strong—and did right up until the time of the French Revolution.

Why they declined is a matter of speculation. “I think it may be something very fundamental changed in the spirit of the times. I hate using

words like that, but I can't see any other way of getting there,” says Outram.

Usually lower-class, and almost always men, court fools played tricks and had tricks played on them. And when the fool was the butt of the joke, the tricks could involve physical pain and public humiliation. In his 1789 autobiography, *Leben und Ereignisse*, or *Life and Events*, court fool Peter Prosch describes undergoing a public enema and being set aflame, among other abuses. “There's violence and sadism, but that's 18th-century humor. It's what they thought was funny, though we now think it's shocking and terrible.”

While court fools endured real agonies, they also brandished real power.

Court fools had a function that made them the envy of others: unfettered access to the king as he dined.

“They're there to entertain the court, and they do so by having what's known as a right to approach the royal table and have unlimited conversation with the king that can go anywhere,” Outram says. “It was called *Narrenfreiheit*, or ‘fool's freedom.’”

That freedom gave him importance and made possible one of his other roles: truth telling.

It came with risks. A misplaced comment could land a fool in prison or worse.

Truth telling, then as now, was perhaps best meted out in small doses.

“It was always held in reserve,” she says. “Someone who was speaking truth all the time would be given short shrift and kicked out. There's a line along which you can see them walking.”



Study Details Source of Cognitive Problems Associated with MS

The question of why many patients with multiple sclerosis (MS) experience a slow and continuous cognitive decline may have new answers.

Rochester research published in the *Journal of Neuroscience* indicates that a subset of brain cells which are normally activated to fight infection, defend against assaults on the nervous system, and clean up debris from damaged cells may act too aggressively when triggered by the immune system in patients with MS.

In a study led by Matthew Bellizzi, an assistant professor in the Department of Neurology and the Center for Neural Development and Disease, and Harris Gelbard, a professor of neurology and director of the center, the team reported that the cells, known as microglia, release high levels of a molecule that destroys part of the system that brain cells use to communicate. That damage signals more microglia and other immune cells to rush to the scene of the injury, creating a chronic and self-perpetuating destructive cycle.

Researchers say the phenomenon is likely behind the cognitive decline that patients experience.

—Mark Michaud

VACCINE VARIATION: Rochester research indicates that exposure to environmental pollutants may interfere with the effectiveness of some vaccines in prompting a strong immune response in children.

Chemical Exposure Affects Babies' Vaccine Response

A vaccine against tuberculosis was less effective among infants who were exposed early in life to toxic chemicals like the insecticide DDT and a family of chemical compounds known as PCBs. That's according to a Rochester-led study published in the journal *Environmental Health Perspectives* that may offer important insight into the connections between environmental pollutants and the human immune system.

Led by Todd Jusko, an assistant professor of environmental medicine and public health

sciences, the study measured immune responses six months after a TB vaccine was administered to more than 500 mother-baby pairs living in eastern Slovakia, an area heavily contaminated by environmental pollutants.

Harmful chemicals were detected in more than 99 percent of the blood samples. Infants with the highest concentrations of PCBs and other chemicals tended to have the lowest antibodies for fighting TB while infants with exposures to both PCBs and a by-product of DDT showed the

lowest vaccine antibody levels.

Once widely used in manufacturing and consumer products, PCBs were banned in the United States in 1979.

Although also banned in the United States, DDT is still used in some countries to control malaria spread by mosquitos. The chemicals and their by-products are among the world's most persistent pollutants.

Nearly all people have detectable concentrations of PCBs in their blood, even those who live in nonindustrialized areas around the globe.

—Leslie Orr

Teens Are More Caring When They Feel Support

Are adolescents less concerned about others?

While a new study seems to confirm a decline in concern for others among children in middle school and early high school, engagement with others rebounds when teens feel supported by their social circle.

In a study published in the journal *Developmental Psychology*, Laura Wray-Lake, an assistant professor of psychology, and her colleagues reported that a sense of social responsibility varied in conjunction with perceptions of social support. In addition, the team reported they

were able to predict changes in social responsibility over time.

Wray-Lake also found that over time, volunteering resulted in an increase in caring. The opposite was true, however, for substance use. An increase in substance use was related to lower social responsibility.

The study indicated that values of social responsibility decrease between the ages of 10 and 16, before leveling off in later adolescence. Race and socioeconomic status had no effect on students' social responsibility.

—Monique Patenaude

Getting Intimately Acquainted with the Common Bed Bug

With the resurgence of bed bugs, people around the world are getting more familiar with the creatures than they'd like. But John Werren, the Nathaniel and Helen Wisch Professor of Biology, and fellow researchers have really gotten up close and personal, successfully mapping the genome of *Cimex lectularius* to get a better

understanding of its genetic makeup.

They've done it with an eye toward eradicating the parasite, which feeds on human and animal blood. The findings, by researchers from 36 institutions, were published in the journal *Nature Communications*.

While the genomes of many

insects have been sequenced, Werren says the bed bug's genetic makeup is particularly interesting "because it's a human parasite, a major pest, and has a unique biology." In his arm of the project, Werren discovered more than 800 possible instances of genes being transferred from bacteria within the bed bug to

the insect's chromosomes. Most transferred genes never become functional, but one exception—a gene from the *Wolbachia* bacteria—appears to be functional in male bed bugs. That may create a potential target for more effective pest control, he says, though much work remains to be done.

—Peter Iglinski



BYE-BYE, BEDFELLOWS? An effort to map the genome of the common bed bug may point researchers toward more effective ways to combat the insects, say Rochester scientists.



ROCHESTER AND INTERNATIONAL STUDENTS

People

- 8,146** alumni living abroad
- 2,755** international students at Rochester in 2015
- 78** percentage increase in international students between 2010 and 2015
- 24.4** international students as a percentage of the University student body
- 118** non-U.S. countries represented by international students across the University in 2015

Early International Students

The first Rochester students born abroad were **Ebenezer Nisbet**, a native of Scotland, and **William Peters Everett**, from Canada, both members of the Class of 1853.

Simon Tuska, born in Hungary and a member of the Class of 1856, was the first student born in Continental Europe. He was also the University's first Jewish student and the first student or alumnus to publish a book, *A Stranger in the Synagogue* (1854).

Theodore Thanbyah, Class of 1871, arrived from Burma and is believed to be the first Rochester student from Asia. He studied classical Greek and Latin. After graduating, he attended the Rochester Theological Society and then returned to Burma, where he lived for the rest of his life.

Global Rochester: CAS 170

Smoothing the course for international students

Life in a new country brings with it fresh opportunities and unfamiliar experiences—and usually, a sizeable dose of culture shock.

So five years ago, Molly Jolliff, associate director of the College Center for Advising Services, devised a program that's now offered to all new international undergraduates in Arts, Sciences & Engineering: CAS 170, U.S. Life: Customs and Practices.

It's specifically designed for first-year students from abroad as they adjust to life at Rochester. It supports them socially and academically by providing a place to learn about what they might find in the classroom and outside it, as well as to discuss their experiences.

Instructors, who come from departments across the College, include Marcy Kraus, dean of freshmen, Jon Ramsey, an immigration advisor in the International Services Office, and Ted Pagano, assistant director of the Center for Education Abroad.

The focus of the course is what Jolliff refers to as the "cultural iceberg." Most of what we see when we visit another country is the small portion of the culture that's "above the surface," she says.

"You're seeing how people dress, how they act, how they speak—and that's usually how we make our judgments. But we ask the students to go deeper, to go underneath to the values and systems that are the really deep-rooted parts of culture. That's a skill all people can use wherever they go in the world."

Part of the course hews to what students want to know. High on that list is how to make small talk, how to make friends with Americans, and how to understand why Americans behave as they do. "We focus on what the American values can be that drive the behavior they're seeing," she says. Midway through, the course concentrates specifically on the phenomenon of culture shock and its psychological effects for students.

Says Lucas Avelar Pereira, from Belo Horizonte, Brazil, who took the course in the fall: "Everyone here is very much confident in their success, in their qualities, and in their potential, and coming from a less self-assured, more self-deprecating culture, this was initially a shock. CAS 170 helped me make sense of what was happening around me."

The course also covers topics such as academic integrity and working with resources on campus. Richard Feldman, dean of the College, comes to the class every semester to talk about his own experiences as a student, and as a faculty member and dean.

Asking questions of a teacher, producing unique work, carrying out critical thinking and analysis—they're cornerstones of university courses in the United States, but they may not be in the student's home country, Jolliff says.

Field trips around campus, Rochester, and the region are another component of the class. "We want to create an atmosphere of going out to try



ON THE TOWN: Students in CAS 170 visit *Let's Have Tea*, a sculpture by Pepsy Kettavong showing Frederick Douglass and Susan B. Anthony, near the Anthony Museum & House in Rochester.

new things and be incorporated into the community a little bit more. If they need a little boost to do that, we provide it," she says.

A course like CAS 170 is "kind of rare" in international higher education, says Jolliff. There aren't yet assessment mechanisms in place to measure the effect of the course on international students' success. "Our retention numbers are good, but I can't say it's because of this," she says. "Not yet. Right now, it's anecdotal."

Pereira, for one, found it helpful.

"I would say that what I liked best about it was the sense that everyone there was facing the same challenge, adapting to the same situation," he says. "Of course, each of us came from a different corner in the world, but there were instances in which we all thought something American to be at least strange—chicken and waffles, for instance."

—Kathleen McGarvey

CLASS PROJECT

Hammer and Songs

Hajim School undergraduates pitch in to make custom carillon parts so that student musicians can continue to hit the high notes.

By Bob Marcotte

Before student musicians are allowed to play the historic Hopeman Memorial Carillon in Rush Rhees Library, they first learn the ins and outs of the instrument on a practice keyboard in Spurrier Hall.

But like the instrument in the tower, which is scheduled to undergo renovations this summer, the practice carillon was custom-made 40 years ago and is showing its age. Several of the hammers that are needed to strike the high notes are worn out.

Where can a carillonneur go to get new parts for such a piece of history?

In this case, to mechanical engineering students Loudon Blake '17 and Ben Martell '19, who have volunteered to make new parts for their final projects in an introductory course on basic machine tools.

During the spring semester, they are spending time in the fabrication lab in Rettner Hall, learning to use lathes and other equipment to fashion replacement parts.

"If it helps students play the carillon better, then I'm glad to help out, because I love the sound it makes," says Blake, a junior from Rochester.

As for Martell, a sophomore from Lexington, Massachusetts, "I just wanted to do something that would help people out, that will actually be used."

That's music to the ears of Jimmy Warlick, who manages musical performance programs in the Department of Music in the School of Arts & Sciences. Warlick hoped to find a shop on campus that could not only help replace the hammers, but also provide learning experiences for students.

Jim Alkins, a senior laboratory engineer who teaches the course, was happy to oblige. Students in his class have the option of fabricating something for their own use as a final project.

But he also encourages them to ask their professors if they can make something that, for example, might be used in a lab. "It gives them the additional experience of going out and dealing with a customer," Alkins says.

"We've made parts for the Institute of Optics, and for the Baja and Solar Splash teams," he says. The only charge is for any materials that have to be ordered special to complete a project.




BRASS ATTACKS: Jim Alkins works with Ben Martell '19 to mill brass replacement parts for a practice keyboard used to teach students how to play the University's carillon.

Carillonneur Doris Aman, a music department instructor who also coordinates the University's Carillon Society, says increasing numbers of students have taken an interest in learning to play the carillon in recent years.

This spring there are 13 beginning students—representing majors as diverse as optics, physics, music, history, and mechanical engineering—who use the practice carillon on a daily basis as part of Aman's class and a course offered through the Eastman Community Music School.

As the replacement parts are fabricated—Warlick has also approached the University machine shop in Taylor Hall to produce replacement hammers—students are able to use the practice carillon. They just can't hit the highest notes until the broken hammers are replaced.

Aman says that carillon students participate as much as possible in maintaining and repairing the practice carillon, under her supervision.

But she says "a hammer breaking is beyond our expertise, so we passed the broken hammers to the machine shop." 

Bob Marcotte writes about the Hajim School for University Communications.



HAMMER HELPER: New parts made by Loudon Blake '17 (above) in the fabrication lab in Rettner Hall are designed to replace pieces of a keyboard that were originally custom made about 40 years ago.

A New Director Leads Education Abroad

The study abroad program has a new name and a new director.

Now known as Education Abroad, the program will be led by Tynelle Stewart, who became director in January. She also serves as assistant dean.

Stewart takes over from Jacqueline Levine '80, '84 (Mas), the program's longtime leader, who has taken on a role with Advancement, working with alumni who have studied abroad.

Stewart was director of study abroad and fellowships at the

Rochester Institute of Technology from 2007 until she began her new appointment.

In making the announcement, Richard Feldman, dean of the College, said Stewart will build on the strengths of Rochester's program, expanding global opportunities for students.

At RIT, she was credited with increasing student participation 32 percent over five years.

About a third of undergraduates at Rochester study abroad, double the national average.



Tynelle Stewart

Royal Astronomical Society Honors John Tarduno

Geophysicist John Tarduno has been recognized for his research by one of the world's foremost academic societies.

The Royal Astronomical Society in London named Tarduno—a professor of geophysics and of physics and astronomy—as this year's winner of the Price Medal, an honor awarded for “investigations of outstanding merit in solid-earth geophysics, oceanography, or planetary sciences.”

In nominating Tarduno for the medal, Carmala Garzzone, chair of the Department of Earth and Environmental Sciences, wrote that Tarduno's work “changed the way that geologists teach about plate motions in introductory geology classes.” Among the findings of his research is evidence that islands and undersea mountains may be formed by moving hot spots—hot plumes from deep within the Earth—and that the Hawaiian islands were once 1,500 kilometers north of where they are today.

Widely recognized, Tarduno has earned honors including Guggenheim, American Association for the Advancement of Science, and Geological Society of America fellowships. He has also won awards for his undergraduate teaching.



John Tarduno

Organizations Work Together to Share the Performing Arts

School children in the Rochester City School District and their families are getting a special introduction to the cultural resources of the Eastman School of Music and other performing arts groups.

Rochester-area organizations announced an effort to provide 220 families with free tickets to a series of performances at Eastman, including a special appearance in January by Grammy Award-winning soprano Kathleen Battle. The initiative is a collaboration involving Eastman, the Rochester school district, the AVANGRID Foundation on behalf of Rochester Gas and Electric,

the Rochester Area Community Foundation, and the Rochester Education Foundation.

In addition to tickets, the organizations are arranging transportation to three concerts in the 2015-16 season of Eastman Presents.

The first event was a concert, *Underground Railroad: A Spiritual Journey*, performed by Battle and pianist Joel Martin. Other events take place in March and April.

The collaboration is the latest initiative undertaken by Eastman to make the arts and music more accessible to city students and to other programs.

Other efforts include

ROCmusic, a collaborative partnership among Eastman, the Eastman Community Music School, the Hochstein School of Music and Dance, the Rochester Philharmonic Orchestra, the Rochester City School District, and the City of Rochester.

The program provides tuition-free, after-school music instruction at the David F. Gantt and Edgerton Recreation Centers.

The Eastman Community Music School is also home to Eastman Pathways, a program providing outstanding city district students with a scholarship to pursue music at Eastman.

Alfred University Names Mark Zupan President



Mark Zupan

Mark Zupan, former dean of the Simon Business School, will become the 14th president of Alfred University in July.

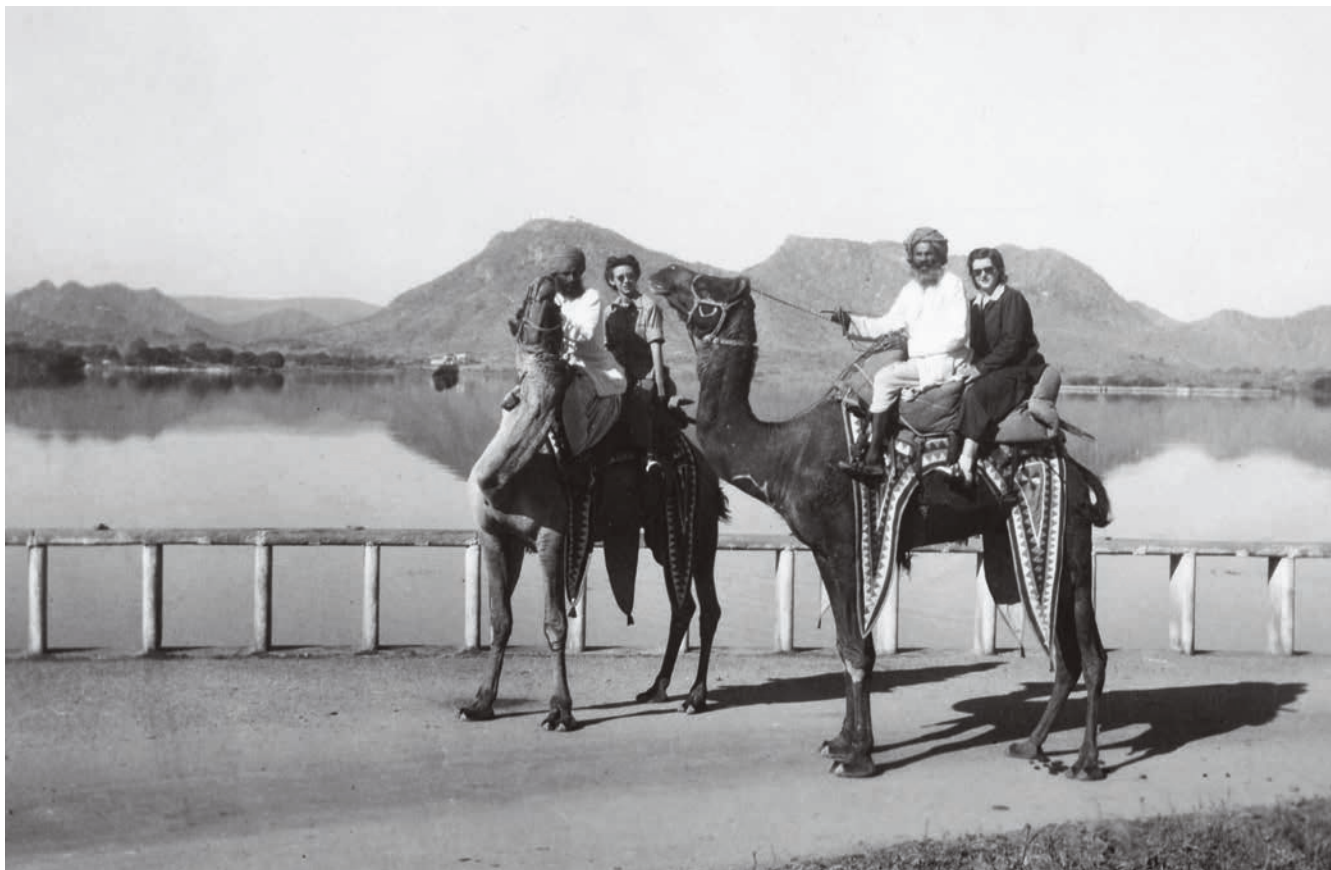
Currently the director of the Bradley Policy Center at Simon and the Olin Professor of Economics and Public Policy, Zupan led the school as dean for 10 years, stepping down in 2014.

Before arriving at Rochester, Zupan was dean and professor of economics at the University of Arizona's Eller College of Management. His areas of

expertise include industrial organization, regulation, and political economy.

Zupan succeeds Charles Edmondson, who has been president of Alfred University since 2000. Alfred's board of trustees announced the appointment in February.

Founded in 1836 as one of the country's first coeducational institutions, Alfred University is located in the foothills of the Allegheny Mountains in New York.



STILL LIFE: The papers of Joan Bondurant (on camel on left), a spy who became an activist for social justice, are available to scholars.

Rush Rhees Library Makes Available Papers of a Spy Who Became Friends with Gandhi

In her formative years, Joan Bondurant dreamed of a music career. Instead, she became a spy.

Throughout World War II, the Kansas native worked as a research analyst for the Office of Strategic Services in India, translating intercepted Japanese

messages and documents. Later, she befriended Mahatma Gandhi and embarked on a career of researching and teaching his philosophy of nonviolence. She wrote extensively about conflict and conflict resolution, and about Indian government and politics.

Now her papers, held by the River Campus Libraries, are available to scholars. The collection was given to the Department of Rare Books, Special Collections, and Preservation in 2012 by her close friend and editor, Edna Cardish,

with assistance from Allison Stokes, the former director of the Interfaith Chapel and the Gandhi Institute for Nonviolence.

The collection includes correspondence, lecture notes, manuscript drafts, home movies, and photos.

State Establishes Alzheimer's Initiative at the Medical Center

The Medical Center will become home to a state-designated center focused on Alzheimer's disease.

The Office for Aging Research and Health Services will receive \$2.35 million over five years from the New York State Department of Health to establish a Finger Lakes Center for Excellence in Alzheimer's Disease.

The project aims to create an accessible, integrated system from which patients and families across the Finger Lakes region

can receive comprehensive care for Alzheimer's. Specifically, the center will serve individuals from Chemung, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, and Yates Counties.

The center will be led by Carol Podgorski, an associate professor of psychiatry, and will work closely with the Office for Aging Research and Health Services, which is directed by Yeates Conwell, a professor of geriatric psychiatry.

Dining Services Moves to Antibiotic-free Chicken

By the end of this year, all chicken served by University Dining Services on the River Campus and at the Eastman School of Music will be free of antibiotics, the University has announced.

Involving more than 278 tons of chicken each year, the change began this winter in some salad bars and grilling stations on the River Campus and is expected to be implemented in all dining options by June 2016.

Meliora Catering—part of University Dining Services—is

also making the transition. Dining services at the Medical Center, including patient and visitor dining, as well as catering, also plan to switch to all antibiotic-free chicken before the end of 2016.

The practice of giving antibiotics to otherwise healthy poultry and other animals by many in the food-animal production industry has raised public health concerns about the development of antibiotic-resistant bacteria in livestock and in humans.

HIGHLIGHTS

Squash Team Finishes as National Runner-up

Although the Yellowjackets came heartbreakingly short of claiming their first squash national championship, the 2015–16 season was marked by historic milestones in arguably the best season ever for the program.

At the top of the list was a victory over defending national champion Trinity College in the semifinals of the College Squash Association's Potter Cup.

That win knocked Trinity out of the title game for the first time in 19 years and guaranteed that the Yellowjackets would finish above their previous national best of third in 2009.

In the championship match against Yale University, the Yellowjackets battled from behind to force a 4–4 tie with only one point left to be decided. In the final set, Tomotaka Endo '18 lost to Yale's Kah Wah Cheong, sending the championship to New Haven.

The finish was a reversal of an earlier season matchup in which Rochester beat Yale 5–4 at the Lyman Squash and Racquetball Center. Going into the Potter Cup, the Yellowjackets were ranked fourth in the country. The team finished at 12–4, tying the program's record for second-most victories in a season.

Heading into March, members of the squash team were scheduled to compete at CSA's individual championships.



KEY MATCH: Ryosei Kobayashi '17 (right) picked up a key win as the Yellowjackets rallied to force Yale into a winner-takes-all final match for the squash national title.

Basketball: The women's team was set to host a four-team, first-round session of the NCAA tournament on the first weekend in March. Ranked No. 1 in the East region throughout February, the Yellowjackets

finished second in the UAA (10–4). It was the team's 13th 20-victory regular season (20–5). The men finished second to Emory in the UAA race (10–4) and were 17–8 overall, just missing an NCAA bid. **R**

TOP PLAYS

Buzzer-beater Goes Viral

Two Rochester juniors who pulled off a basketball play on Super Bowl Sunday became a social media sensation and made ESPN's Top 10 Plays of the Day (as No. 2).

To set the scene, Rochester trailed Chicago, 76–73, with six seconds left. With 2.7 seconds left, Sam Borst-Smith '17 went to the foul line for two shots.

He made the first, then missed the second intentionally, throwing it off the front of the rim. He caught the rebound and passed the ball to the corner, where Mack Montague '17 sank a three-pointer just before the buzzer for a 77–76 win.

The play went viral on social media, earning nearly 600,000 views within four days. It showed up overseas as well—in Australia, Germany, and France.

A Super Sunday, indeed.

—Dennis O'Donnell



MAYHEM FOR MACK: Teammates mob Mack Montague '17 after he made a three-point shot that completed a trick play to give Rochester a victory as time expired against Chicago.

TRACK & FIELD

Yellowjackets Tune Up for Penn Relays

Rochester expects to be well represented at historic track meet.

By Matthew Taylor

Members of the track and field teams are preparing to compete in one of the most famous meets in the world—the Penn Relays in Philadelphia.

Founded in 1895, the three-day event from April 28 to 30 at the University of Pennsylvania is considered the longest uninterrupted annual collegiate track meet in the country, and is expected to draw 22,000 athletes from around the world who qualify for the competition.

“We decided that we had some high-level athletes this year who would benefit from competing in a high-caliber meet such as this,” says Sam Albert ’01, ’02W (MS), the director of track and field and cross country at Rochester.

With the team coming off a successful indoor winter season, Albert says he expects up to 40 Yellowjackets—15 to 20 each from the men’s and women’s teams—to qualify.

The total depends on the entry standards, which will be published in mid-April.

As of the end of March, the team was scheduled to compete at St. John Fisher College that same weekend, so athletes who don’t compete at the Penn Relays will also be in action.

The trip to Philadelphia is supported by the Hale Fund for Competitive Excellence, which was created in 2012 in recognition of longtime track and field and cross country coach Timothy Hale, and has been supported by alumni and friends of the University.

Albert says competing among some of the best college track and field athletes in the country is an extraordinary experience.

“The Penn Relays meet is really just an additional special opportunity that we are able to offer some of our most elite athletes,” he says. **R**

Taylor is a communications assistant in the Department of Athletics and Recreation.



TOP FORM: Danielle Neu '17 won the three-meter diving title at the UAA championships.

SWIMMING & DIVING

Diver Wins First UAA Title

Danielle Neu '17 is first Yellowjacket to claim a conference diving crown in the women’s competition.

By Matthew Taylor

Danielle Neu '17 became Rochester’s first female diver to capture a University Athletic Association title, winning the three-meter board competition and qualifying for the NCAA regional diving championships.

She was joined at the championships by Max Adler '18, who qualified with a fourth-place finish in the men’s one-meter competition.

The divers’ results were part of a strong showing by both the women’s and the men’s swimming and diving teams at the UAA conference championships, held in the Rochester suburb of Webster. The women finished in sixth place with a total of 673.5 points and the men finished seventh with a total of 689 points. Members of both teams broke school records and met NCAA provisional qualifying standards.

They include:

Alex Veech '17 finished in second place in the 100-yard breaststroke with a time of 1:03.29, breaking her own school record of 1:04.16 and qualifying for the NCAAAs.

Vicky Luan '16 broke the 100-yard freestyle school record and tied for 10th with a

time of 52.37 seconds. Jennifer Enos '17 set a school record in the 1,650-yard freestyle, placing ninth with a time of 17:38.64. That broke her own school record set in 2013 by more than two seconds.

Gunnar Zemerling '18 broke his own school record in the 50-yard freestyle, with a finishing time of 20.62 seconds and also earning an NCAA time. He finished eighth in the 100-yard free. Elliot Schwinn '19 had two provisional qualifying times, breaking his own school record in the 1,650-yard freestyle in 16:02.26 and besting a 27-year-old school record in the 400-yard individual medley with a time of 4:04.84.

Neu is Rochester’s first UAA champion since the 200-yard freestyle relay in 2009 and the Yellowjackets’ first individual champion since Karen Gromer '07, '10M (MPH) captured first place in the 200-yard butterfly in 2004. The first male diver to win a UAA title was Scott Richardson '88, who won the one-meter board in 1988, the first year of the championship. **R**

Taylor is a communications assistant in the Department of Athletics and Recreation.