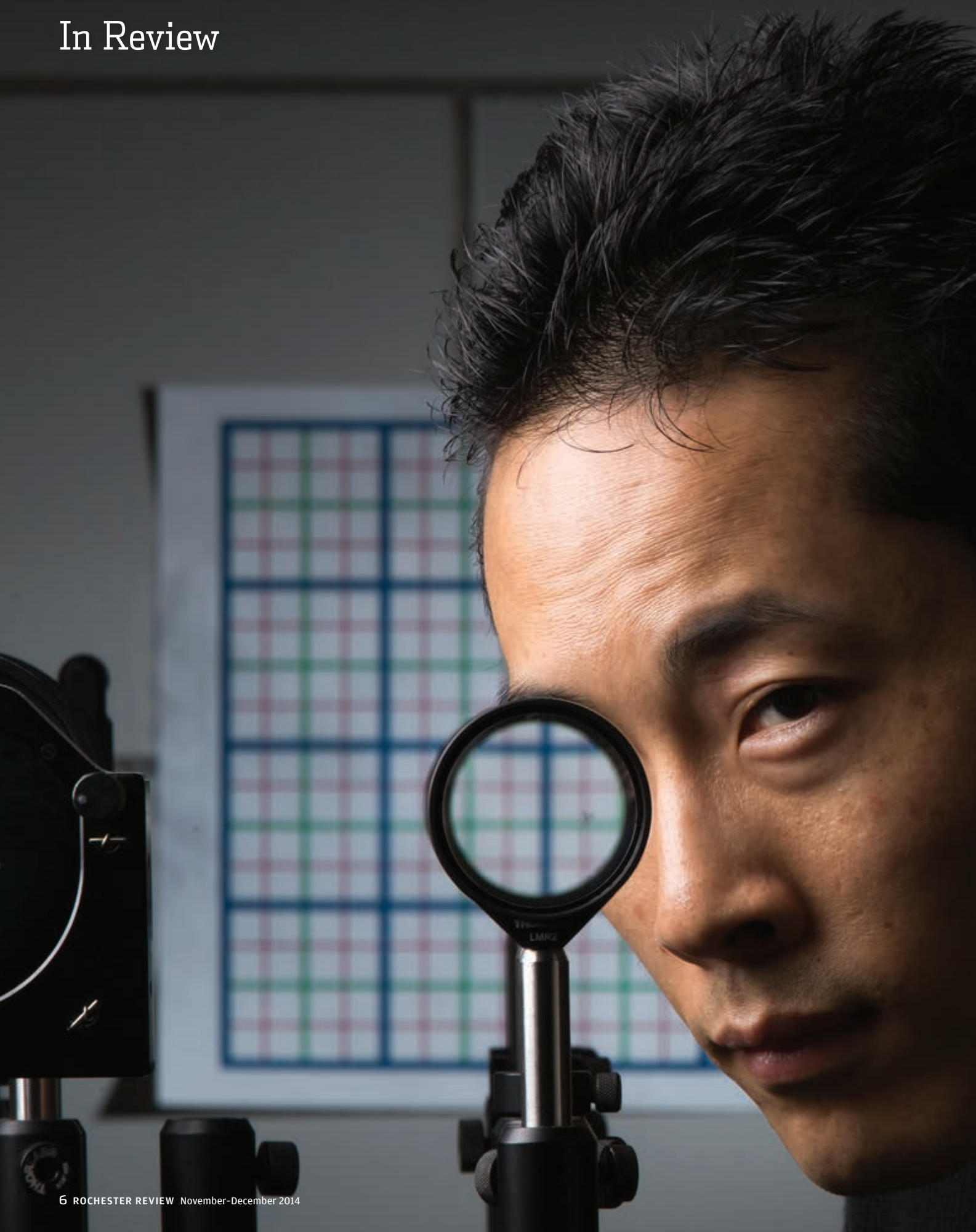


# In Review





## OPTICS

### Have You Seen the Rochester Cloak?

IT'S SCIENCE! A portion of optics doctoral student Joseph Choi's face is "cloaked" between a series of four standard, relatively inexpensive lenses. The first demonstration that achieves a seamless cloaking effect across a continuous range of viewing angles for visible light rays, the "Rochester Cloak" is based on a novel configuration of lenses that Choi developed this fall. The lenses focus light so that an object placed in a ring-shaped region between two of the lenses is not visible to a viewer. Unlike other cloaking technologies, the lenses do not distort the background—note that the grid lines behind Choi keep their alignment and magnification—an effect that Choi and his advisor, John Howell, professor of physics, say is a requirement for a "perfect cloak."

PHOTOGRAPH BY ADAM FENSTER





## STUDENT LIFE

### A Center for Debate

**TROPHY ROOM:** Members of the Debate Union—Syed Reefat Aziz '16, Dan Lemire '17, Emoni Tedder '17, Salva Kuac '18, Chris Perkins '17, Miriam Kohn '17, and Abdulwahab Alhaji '17—pose in the Goergen Athletic Center with some of the trophies and awards that the program has won. In a move designed to bolster administrative support for debate, the program will be overseen by George Vanderzwaag, Rochester's director of athletics and recreation, who became executive director of athletics, recreation, and academic teams this fall. **PHOTOGRAPH BY ADAM FENSTER**







MEMORIAL ART GALLERY

## Light Box

INFINITY AND BEYOND: Miriam Grigsby '17 poses inside an "Infinity Box," part of an exhibition at the Memorial Art Gallery featuring the work of artist Matt Elson. Titled "*Radiance*" (*Infinity Box #6*, from the *Awakened Vision Series*, 2013), the work is one of nine pieces that use color, light, and mirrors to create optical illusions for viewers when they look in the boxes. The exhibition is on display through January 4, 2015. PHOTOGRAPH BY ADAM FENSTER











## STUDENT LIFE

# Checkmate

A student helps harness the power of the Internet to bring new players to an old pastime.

**Interview by Kathleen McGarvey**

Computer science major Francis Hinson '16 is spending this year in Silicon Valley, working on the start-up Chesscademy, which he helped found. The website is devoted to teaching anyone, from absolute beginners to seasoned players, the finer points of chess.

### Why chess?

During my senior year of high school I

rediscovered chess, one of my favorite games to play as a child. This time around, however, I ambitiously wanted to become an excellent player—I drew a lot of inspiration from my friends in the chess world and found myself watching Bobby Fischer documentaries late at night for fun. Unfortunately, the learning process was horrific: the dull chess books, the expensive tutoring rates, and the '90s-style static web pages consisting entirely of plain text.

Truthfully, I was taken aback at how difficult it was to learn chess. After all, in this day and age, you can easily learn about a diverse range of topics through the Internet. After a year of failed learning attempts, I set out to solve this problem.

### What are the challenges in learning chess?

Over 600 million people around the world play chess, but few realize that just playing



**MAKING HIS MOVE:** Hinson says that chess is a game in which players improve through study, not just repeated play. His start-up, Chesscademy, which he founded with two other students, aims to make such instruction readily available and fun.

will not improve your ability. There are many aspects of the game that need to be studied: openings, tactics, endgames, and calculation, to name a few. This is precisely the reason why there are many thick chess books and expensive private tutors: chess needs to be studied like a subject in school. For that reason, millions of people who don't know how to play are intimidated by the game. And millions who do know and want to get better face the same challenges.

With a wide range of instructive courses, interactive exercises, and thousands of tactical puzzles, players of all levels can learn from Chesscademy's personalized curriculum that's tailored to their strengths and weaknesses. By earning points, badges, and maintaining a streak, users are motivated to keep learning in a fun way.

#### **How did Chesscademy get started?**

I reached out to Andrew Ng, a friend with whom I've worked on entrepreneurial

we managed to become affiliates to a prestigious technology start-up accelerator, Techstars. There we received mentorship and introductions to many prominent individuals in the New York tech scene. To keep ourselves financially afloat, we went to several competitions and earned over \$10,000 in winnings. By mid-summer, Chesscademy had partnered with a prominent prep school on the Upper West Side and grown to 40,000 members.

Through some more luck and hard work,

## **We effectively discovered that my desire for an easy way to learn chess was something that thousands of people around the world also wanted.**

projects in the past—in this case, his skill set aligned perfectly: he's a seven-time national chess champion. We then brought on another old partner, Sabar Dasgupta, a precocious high school sophomore who had already trail-blazed through Princeton University's computer science curriculum. And thus, Chesscademy was founded.

From June to August 2013, we put our skills together: Andrew developed comprehensive instructive courses, and Sabar and I developed the entire site's architecture. I also entirely designed the Chesscademy interface. We worked remotely for two months, only video-calling at night to stay up to date with each other's progress. August arrived, and we completed the beta version of Chesscademy. With a great deal of luck and some viral engineering, we managed to kickoff our launch with an immense amount of traffic—we made it to the front page of Reddit and to the top of Hacker News, a high-profile tech forum. We effectively discovered that my desire for an easy way to learn chess was something that thousands of people around the world also wanted.

#### **How do you balance school and work on a start-up?**

We returned to our respective schools and the weight of our responsibilities was simply too great to continue working on Chesscademy. Despite that, the site's traffic continued to climb. By the start of the second semester, we collectively agreed that the opportunity to make Chesscademy something big wasn't worth passing up. So Andrew and I took leaves of absences from Princeton and Rochester, and we moved to New York City to enter the entrepreneurial world. Through luck and connections,

we got accepted to Imagine K12, arguably the top accelerator for education technology, received a \$100,000 investment, and moved to Silicon Valley. Today, Chesscademy has over 250,000 members from over 190 countries and continues to grow 10 percent weekly.


#### **Your company has been around for a year now. Where does it go from here?**

Our primary focus is to keep growing the community—by January 2015 we expect to have over half a million users. We're also interested in incorporating the platform into the classroom environment to make Chesscademy a part of every school in the country. Eventually, we're going to implement our business model, but for now, Chesscademy is free for the world to use.

#### **What is something most people don't know about chess?**

In Russia and many other countries, chess is considered a sport!

#### **What's it like to take a year off from your studies to work in a start-up?**

Taking the leave to work on Chesscademy has been the best decision of my life. Start-ups are extremely difficult enterprises, and you learn so much from success and failure. I've also been lucky enough to meet several prominent New York and Silicon Valley entrepreneurs and investors, and these connections will go a long way in my life. As a computer science major, this experience has also been extremely educational, as I've had to teach myself a lot of cutting-edge technologies and practices in order to develop a product like Chesscademy. When I return to campus, I imagine I'll be a much more mature student. 



# Ask the Archivist: Was that Eleanor Roosevelt?

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



**I have a memory—very indistinct—that I saw Eleanor Roosevelt in Rochester when I was growing up there, most likely between 1947 and 1952 (for me, between seventh grade and the end of high school). My best recollection was that she was speaking, on stage, probably at the Eastman Theatre. I had many reasons to attend such an event: I was a standard bearer, had some teachers with an interest in the U.N. And it was probably before I was an undergraduate at the U of R or on the faculty in the early 1960s. I would greatly appreciate if you could identify this event (or even say it never happened).—Robert Maples '56**



**ROCHESTER HOSTS:** Joe Wilson '31, and his wife, Marie (Peggy) Wilson (center), served as the hosts for Eleanor Roosevelt when she visited Rochester for a University conference and other presentations in 1950.

## Need History?

Do you have a question about University history? Email it to [rochrev@rochester.edu](mailto:rochrev@rochester.edu). Please put "Ask the Archivist" in the subject line.

Eleanor Roosevelt was indeed in Rochester, and spoke at Eastman Theatre on Saturday evening, February 11, 1950. It is likely you saw her there at an event sponsored by the City Club of Rochester, entitled "The Meaning of Lincoln." Roosevelt was appointed by President Harry Truman as the first U.S. ambassador to the United Nations. She shared the stage with Ralph Bunche, at the time serving as the United Nations mediator for Palestine.

But it was not the only opportunity to hear them speak that day. Roosevelt and Bunche were invited to participate in the first big event of the University's centennial celebration: the two-day Students' Conference on Human Rights.

The first day's schedule featured speeches by

Swami Nikhilananda (member from India in the East-West Philosophers' Conference in Honolulu in 1949), Lt. Gen. Walter Bedell Smith (U.S. ambassador to the Soviet Union, 1946–49), Edwin Nourse (former chairman of the President's Council of Economic Advisers), and Paul Gore-Booth (head of British Information Services in the United States).

According to records for the conference, Roosevelt arrived in Rochester at 8 a.m. via the New York Central train, and was taken to the home of Joseph and Marie Wilson. Joe Wilson '31 was at this time president of the Haloid Company (later Xerox Corporation), had recently joined the University's Board of Trustees, and was hosting her in his capacity as president of the City Club.

Following breakfast with the Wilsons, Roosevelt went to Strong Auditorium on the River Campus, where the theme of the morning session was "Social Rights and Obligations," and she and Bunche spoke on their roles with the United Nations.

Skipping the conference luncheon in Todd Union, the two went to the Chamber of Commerce to another "Lincoln Day" event. (This was at a time when the birthdays of Lincoln and Washington were not celebrated jointly as "Presidents' Day.") A *Democrat and Chronicle* article reports that poet and Lincoln biographer Carl Sandburg addressed a capacity crowd on the topic "What Would Lincoln Do

Today?" As part of the proceedings, the Rochester chapter of the NAACP honored Bunche—who later the same year would be awarded the Nobel Peace Prize—with the establishment of a scholarship in his name for African-American Rochester city high school students to attend the University. The Rochester NAACP chapter has had notable leadership from the University, including English professor John Rothwell Slater and history professor Richard Wade.

A special edition of the *Campus-Times* promoted the events of the conference—the issue was jointly produced by the College for Men and the College for Women, and the masthead presages the merger of the campuses and their newspapers (the *Campus* and the *Tower Times*) by five years.



## IN MEMORIAM

# Remembering Robert Sproull

President Emeritus championed undergraduate education, affordability, and Laser Lab.

By Sara Miller

Robert Sproull, an internationally known physicist, arrived at Rochester as vice president and provost in the tumultuous year of 1968 and immediately helped to manage campus unrest resulting from the Vietnam War. He succeeded W. Allen Wallis as president in 1970 but continued to work hand-in-hand with Wallis, who became chancellor. In 1975, Sproull assumed full executive responsibility.

His presidency was distinguished by strong support for the humanities and the sciences, especially within undergraduate education, as well as a commitment to maintain the University's affordability, resisting steep tuition increases. He led a capital campaign that ended in 1980 and exceeded the \$102 million goal set in 1975.

Sproull died on October 9 at the age of 96. "The University of Rochester has lost a giant, one of its treasures," says President Joel Seligman. "Bob Sproull was president of the University when the nation suffered double-digit inflation and recession. Such obstacles might have diverted less committed leaders, but not Bob Sproull. The University benefited from his wisdom and counsel."

Born and raised in Illinois, Sproull attended Deep Springs College, a work-study junior college on a cattle ranch in California. He could not afford to accept a fellowship offered by Harvard. There was no physics instructor at Deep Springs, but he became intrigued by reading about the subject and transferred to Cornell after three years of part-time study. He received a bachelor's degree in English in 1940, and a PhD in physics from Cornell in 1943.

As World War II approached, Sproull developed an experimental thesis at Cornell, which became classified because of its application to microwave magnetrons. He then went to RCA Laboratories in Princeton, New Jersey, to work on Navy radar. He worked at RCA during the day, and in the evenings taught physics to Navy and Marine students at Princeton and microwave theory and technique to Navy and industrial engineers at the University of Pennsylvania.

In 1946, Sproull accepted an assistant professorship in physics at Cornell, where he advanced through the faculty ranks of



**LASER LEGACY:** A center at the Laboratory for Laser Energetics was named for Sproull, who helped lead the development of the lab at Rochester.

its growing physics program. He organized and was the first director of both the Laboratory of Atomic and Solid State Physics and the Center for Materials Research at Cornell.

He was director of the Advanced Research Projects Agency in Arlington, Virginia, from 1963 to 1965, reporting to the U.S. Secretary of Defense and supporting a range of programs from nuclear test detection to computer networking. He would also serve as chairman of the Defense Science Board from 1968 to 1970.

Sproull returned to Cornell in 1965, when he became the university's vice president for academic affairs. Because of his defense experience and scientific expertise, he was picked the next year to lead a national committee evaluating the search for a missing U.S. hydrogen bomb after a B-52 and an Air Force tanker crashed off the coast of Spain. His committee rescued the unpromising mission and located the bomb, helping to avert negative consequences for international relations.


At Rochester, Sproull championed the creation of the Laboratory for Laser Energetics, putting the University in the forefront of research on commercially feasible fusion technology in 1970. In 2005, the Center for Ultra High Intensity Laser Research there was named in his honor.

"Bob was essential to the development

and survival of the Laboratory for Laser Energetics," says Robert McCrory, University Professor, vice president and vice provost, and Laser Lab director and CEO. "Starting from his first year at Rochester, he expended extraordinary time and effort in support of the development of the laboratory."

Retiring in 1984, Sproull became president emeritus, professor emeritus of physics, and life trustee. After retiring, he continued to lend his expertise to many corporate boards, chaired a committee of the National Academy of Sciences to reorganize the Institute of Medicine, performed advisory work for the departments of Energy and Defense, and served on missions to Kazakhstan and to the Republic of Georgia for the International Executive Service.

Sproull and his wife, Mary, were married for 70 years before she died in 2012 at age 93. She was a talented painter, and the couple supported arts and education, including the Memorial Art Gallery. In 1999 they endowed the position of dean of the faculty of Arts, Sciences & Engineering, now held by Provost Peter Lennie.

"It has been a tremendous honor to hold the deanship bearing the Sproull name," says Lennie. "Both Bob and his wife, Mary, were visionary in providing support for academic leadership focused on strengthening the faculty." 



## Researchers Identify New Rare Neuromuscular Disease

An international team of scientists—co-led by researchers in the School of Medicine and Dentistry—has identified a new inherited neuromuscular disorder. The rare condition is the result of a genetic mutation that interferes with the communication between nerves and muscles, resulting in impaired muscle control.

The disease was diagnosed in

two families—one in the United States and one in Great Britain—and affects multiple generations. The discovery was published in the *American Journal of Human Genetics*.

The discovery provides new insight into the mechanisms of diseases caused by a breakdown in neuromuscular signal transmission, says David Herrmann,

professor of neurology and a lead author of the study. “It is our hope that these findings will help identify new targets for therapies that can eventually be used to treat these diseases.”

The focus of the research is the neuromuscular junction, the point at which the axon fibers that extend from peripheral nerves meet the muscle cells. The chemi-

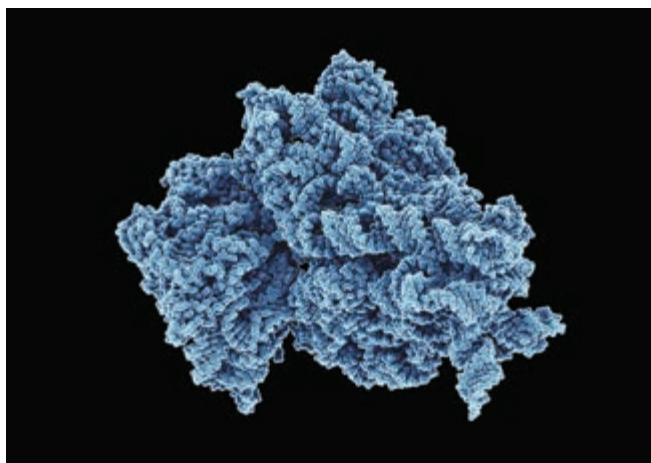
cal signals that pass across the junction are essential for motor function. While the families in the study had at one point been diagnosed with other neuromuscular conditions, the researchers identified them as unique due to their particular motor abnormalities and because the disease was passed from one generation to the next.

—Mark Michaud

## Going After Harmful Bacteria

One challenge in killing off harmful bacteria is that many of them develop resistance to antibiotics. Now researchers are targeting the formation of the protein-making machinery, or ribosomes, in those cells as a possible way to stop the bacteria. Gloria Culver, professor of biology, has, for the first time, isolated the middle steps in the process that creates the ribosomes.

Published in *Nature Structural and Molecular Biology*, Culver’s work—conducted with graduate student Neha Gupta—captures a piece of ribosomal RNA in one of the intermediate states of being pared down to fit with protein molecules. They did so by using genetic tags as markers inside *E.*



**STOPPING BACTERIA:** New Rochester research uses bacterial ribosomes to advance efforts to kill drug-resistant bacteria.

*coli* cells. By attaching the tags to nonfunctional regions of the

uncut RNA, they were able to isolate the immature RNA strands

during the various stages of processing.

Targeting ribosomes to kill drug-resistant bacteria is nothing new, but in the past scientists focused on mature ribosomes. While a range of antibiotics was developed to attach the ribosomes, the microbes eventually became resistant to the drugs. While a great deal of work remains to be done, Culver’s research creates new possibilities for stopping super-bugs.

The team’s discoveries “suggest that there is at least one common step that could be exploited to one day help scientists prevent the ribosomes from developing, which would kill off the bacteria,” she says.

—Peter Iglinski

## Opening a Door to Speed-of-Light Computing?

A new combination of materials can efficiently guide electricity and light along the same tiny wire, a finding that could be a step toward building computer chips capable of transporting digital information at the speed of light.

In a report in the journal *Optica*, optical and material scientists at Rochester and the Swiss Federal Institute of Technology in Zurich describe a basic model circuit consisting of silver

nanowire and a single-layer flake of molybdenum disulfide.

Using a laser to excite electromagnetic waves called plasmons at the surface of the wire, the researchers found that the flake at the end of the wire generated strong light emission.

Going in the other direction, as the excited electrons relaxed, they were collected by the wire and converted back into plasmons, which emitted light of the

same wavelength.

The “nanoscale light-matter interaction between plasmons and atomically thin material can be exploited for nanophotonic integrated circuits,” says Nick Vamivakas, assistant professor at the Institute of Optics and senior author of the paper.

Photonic devices can be much faster than electronic ones, but they’re bulkier because devices that focus light can’t be miniatur-

ized nearly as well as electronic circuits.

The new results hold promise for guiding the transmission of light and maintaining the intensity of the signal in very small dimensions.

Combining electronics and photonics on the same integrated circuits could drastically improve the performance and efficiency of mobile technology.

—David Barnstone





## Exploring the ‘Sublime’

After traveling through Italy in 1699, English writer Joseph Addison noted how the “Alps fill the mind with an agreeable kind of horror.”

His observations, along with those of other Englishmen who crossed the mountains on their continental Grand Tours, helped spark an intense interest in the “sublime” as an aesthetic concept—one distinct from “beauty”

in its power simultaneously to overwhelm, elevate, and even terrify.

Robert Doran, associate professor of French and comparative literature, explores how and why the distinction became important in his forthcoming book, *The Theory of the Sublime from Longinus to Kant* (Cambridge University Press, 2015).

“The concept of the sublime allows us to conceive of a certain

kind of experience that normally would only be accessible using theological concepts,” says Doran. “It’s a secularized version of religious experience. It’s the experience of transcendence, but transcendence in the arts or in the aesthetic appreciation of nature.”

Doran argues that the concept of the sublime allowed the middle class to experience a “nobility of mind.” “The ordinary individual

can experience this kind of nobility of mind, as it were, this heroic feeling that seemed to be only possible for certain classes before,” he says.

The concept is still relevant today, he says—one that’s possible to experience standing before the Grand Canyon or Niagara Falls, for example—and he contends that the desire for transcendence is even a defining trait of humanity.

—Bob Marcotte

## Putting Gas to a Noble Use

How safe is hydraulic fracturing—or “hydrofracking”—when it comes to drinking water? A new study, published in the *Proceedings of the National Academy of Sciences*, draws on the expertise of Robert Poreda, professor of earth and environmental sciences, and colleagues at Duke and Ohio State who work with noble gas chemistry to find out.

### How are noble gases—helium, neon, argon, krypton, xenon, and radon—useful in studying the environment?

They’re a unique class of tracers, and as a geoscientist you need to use tracers to understand process. They’re inert and have a fixed and well-identified number of sources. You use them to understand geological processes because you don’t have a scope to go down and look at what’s occurring 100, 500, or 1,000 miles underground—so you have to infer the processes based on a chemical signature. You can use them as a fingerprint, for temperature history, for involvement of volcanism and magma. You can also use them to determine the age of groundwater and the path that the water follows as it flows.

### What was different about this new study looking at gas contamination in drinking-water wells in Pennsylvania and Texas?

We took a new approach, using noble gases in conjunction with an array of geochemical tracers to trace how methane moves under the earth.

### What did you find?

What we showed was that there are intermediate levels of gas between the surface and the target horizon—the horizontal area below ground where the oil



**WELL WATER?** A team from Rochester, Duke, and Ohio State developed a new approach to explore possible connections between hydraulic fracturing and methane in groundwater.

or gas is—that the well itself aids in migration to the surface. We envisioned a number of different possibilities for why methane shows up in the water—one possibility was that hydraulic fracturing could be opening up fractures to allow deep brine to migrate to the surface, and that’s what gets the media’s attention. But our data suggest that the contamination is the result of poor casing and cementing in the hydraulic fracturing wells.

### And how do you know when the methane is present because of fracturing?

In Pennsylvania, because there were no reliable existing gas data prior to drilling, the question was always, how do you know whether the methane was natural or the result of drilling? There are

dozens of wells in Pennsylvania and southern New York that have elevated methane levels caused by a natural process where the groundwater aquifer taps a pre-existing—from 300 million years ago—shallow brine and gas pocket. All of these groundwaters have “normal” levels of argon and neon because only methane and helium has been added but no argon has been lost.

In the case of Pennsylvania, the Department of Environmental Protection and the courts have relied on the “pregnancy test” application of stable isotopes of carbon in methane. If the gas has the same isotopic composition as the target zone—the Marcellus—then the drilling company caused the problem. If the well water had methane that differs from the Marcellus, then it was natural. Of

course, they completely ignore the fact, which has been known for many years in Canadian studies, that the well itself can conduct gas from intermediate levels into the shallow groundwater aquifer. If this “leak” is very slow—as may occur naturally or from an abandoned well—you can’t easily distinguish between a natural or human-influenced process. And we don’t try. Only when the leak is rapid and catastrophic, and causes argon loss, can the leak be identified. So the argon loss is the big fingerprint in the impacted wells.

The well owners also report that all of a sudden their well waters had become frothy with gas bubbles some time after drilling commenced. Although the homeowner report is anecdotal in nature, we can confirm that the water was filled with methane bubbles that only occur when methane exists at pressures well above one atmosphere. Thus, the very high methane coupled with the loss of the atmospheric gases can only be explained by a free gas phase bubbling through the groundwater aquifer.

### The study suggests that water contamination problems from hydraulic fracturing may be fixable with better construction standards at the drilling sites. Do you expect this will have an impact on the public debate about “fracking”?

Yes, absolutely. That’s why we’re doing it. But there isn’t the same public health concern directed toward people drinking naturally contaminated water that there is about contamination related to hydraulic fracturing. In this political climate, you’re not seeing any compromise. There can’t be any nuanced positions.

—Kathleen McGarvey



# A Brief History of Salomé

From origins as an unnamed Biblical figure to incarnations as an iconic seductress, the character of Salomé has captivated artists, playwrights, and poets for more than two millennia. A multidisciplinary project this fall brought together scholars and performers from a wide range of disciplines to explore the story. “The Veils of Salomé,” part of this year’s Humanities Project, was organized by Emil Homerin, professor of religion, and Matthew Brown, professor of music theory at the Eastman School.



12th century: Salomé dancing, capital of Santiago de Agüero Church, Spain.

## Circa 20 to 30 CE

Jewish historian Josephus identifies Salomé as a daughter of Herod Antipas and his second wife, Herodias, but doesn’t indicate that she was complicit in John the Baptist’s execution.

Although she’s not mentioned by name in the Gospels of Matthew and Mark, Christian tradition identifies her as one of the women who danced for Herod and Herodias at a birthday celebration for Herod. When offered a prize for her dancing, the daughter asks that John the Baptist be executed. The New Testament stories imply that the girl’s mother suggested the execution because John had preached against Herod’s divorce from his first wife and his marriage to Herodias. Christian tradition would later identify Salomé as the dancer who asked for John the Baptist’s head.

## A Circa 1500

The story of Salomé takes on new life in the arts of the early Renaissance, where painters such as Titian, Caravaggio, Botticelli, and others depict her in scenes from Herod’s court. She comes to represent the world of the flesh while John the Baptist represents the life of the spirit.

## B 1877

In his story “Herodias,” the French writer Gustave Flaubert depicts Herodias as the driver of the story of John the Baptist’s execution. The story becomes the basis for Jules Massenet’s 1881 opera, *Hérodiade*.



1610: *Salomé Receives the Head of Saint John the Baptist*, Caravaggio.



1876: *The Apparition or Dance of Salomé*, Gustave Moreau (detail)



1893: Illustration for Oscar Wilde’s *Salomé*, Aubrey Vincent Beardsley.



1986: *Salomé*, P. Craig Russell.

1905: Soprano Mary Garden as Salomé in Richard Strauss’s opera.

## C 1896

Writing in French because British laws prohibited the depiction of Biblical figures, Oscar Wilde writes the play *Salomé*. Familiar with Flaubert’s story as well as earlier versions of the story by the writer Heinrich Heine, the painter Gustave Moreau, and other literary and visual artists, Wilde depicts Salomé as a seductive manipulator who steps out of the shadow of Herod and Herodias to become the protagonist of the Biblical story. Wilde introduces “The Dance of the Seven Veils” as the iconic erotic dance attributed to Salomé.

## D 1905

*Salomé*, an opera by German composer Richard Strauss premieres. Based on the Wilde play, the opera shocked many early audiences with its climatic depiction of Salomé, who during “The Dance of the Seven Veils” declares her love for John the Baptist and—true to Wilde’s play—kisses his severed head.

## E 1986

Drawing on both the Wilde play and the Strauss opera, noted graphic novelist P. Craig Russell writes “*Salomé*,” as part of his “Opera Variation, Vol. 3.”

## 2014

Table Top Opera, a chamber ensemble of Eastman School faculty, alumni, and friends, performs “*Salomé*,” an adaptation of Russell’s graphic novel with a reworked instrumental rendition of the Strauss opera. The production replaced singers and a symphony orchestra with a mixed ensemble of jazz and classical instruments and a newly choreographed version of “The Dance of the Seven Veils.”

—Kathleen McGarvey

## Religion Scholar to Direct Anthony Institute

Nora Rubel, associate professor of religion, has been named director of the Susan B. Anthony Institute for Gender and Women's Studies.

Named in honor of the 19th-century suffrage pioneer who helped women gain admission to the University, the institute was created to explore the role of women and gender throughout history and in contemporary society.

The work is done through seminars, conferences, a public

lecture series, an undergraduate major and minor in women's studies, and a graduate certificate in gender and women's studies.

In addition to strengthening signature programs like the institute's "Two Icons" lecture on race and gender, and the "Rainbow" lecture on LGBTQI issues, Rubel is working to promote a research seminar where faculty can present work in progress.

The institute also supports ongoing research through grants in gender and women's studies,

graduate teaching fellowships, and awards.

Before joining the Rochester faculty, Rubel spent taught religion and Jewish studies at Connecticut College.

Her first book, *Doubting the Devout: The Ultra-Orthodox in the Jewish American Imagination* (Columbia University Press, 2010), explores gender in literature and film. She is also coeditor of *Religion, Food and Eating in North America* (Columbia University Press, 2014).



Nora Rubel



**RIVER VIEWS:** The Brooks Crossing Apartments (at right) houses about 170 students.

## New Student Residence Opens

Students in the College moved into a new residence option this fall. The Brooks Crossing Apartments—a 12-story privately developed building, of which the University is the main tenant—opened near the corner of Brooks Avenue and Genesee Street in an area west of the Genesee River.

Located just across the river from the River Campus, the building houses 170 students in 70 one-, two-, three-, and four-bedroom, furnished units. Each bedroom has a private bathroom. The building, developed by the Minneapolis-based Christenson Corporation, also features a

2,000 square-foot common area.

Neighborhood organizations—including the 19th Ward and Plymouth-Exchange neighborhood associations, along with the Sector 4 Community Development Corporation—have been involved with the development of the area for the past 25 years.







**STORIED HISTORY:** A new book, published this fall by the University of Rochester Press, tells the story of the University's first 155 years.

## New History Celebrates the University's Century-and-a-Half Transformation

A new history traces the growth of the University from a small undergraduate program in 1850 to a leading research university and engine for economic growth in 2005.

*Our Work Is But Begun: A History of the University of Rochester, 1850-2005* by Janice Bullard Pieterse was published this fall.

The book chronicles the University's ties to its hometown and places its evolution in the broader context of American higher education over the past century and a half.

University President Joel Seligman contributed the foreword and Paul Burgett, University vice president and senior advisor to the president, the afterword.

The history is available from the University of Rochester Press at [www.urpress.com/store/viewItem.asp?idProduct=14651](http://www.urpress.com/store/viewItem.asp?idProduct=14651).

### University of Rochester Press Marks 25 Years

The new history was published as part of the Meliora Press, an imprint of the University of Rochester Press, which is celebrating its 25th anniversary this year.

Established as a partnership with the publishing company Boydell & Brewer, based in Suffolk, England, the press has garnered attention among colleagues in the Association of American University Presses.

Under the collaboration, the University makes editorial selections for new books, while Boydell & Brewer provides production, marketing, and worldwide distribution.

In its quarter century, the press ([www.urpress.com](http://www.urpress.com)) has published more than 600 books in an array of fields, with a focus on selected areas of scholarship, including musicology, African studies, medical history, and European and American history.

More recently, the press has added series in ethnomusicology, gender and race, and medieval political thought.

In addition to its more academic titles, it has published well-reviewed biographies and memoirs of important cultural figures, while other titles have become classroom staples in their fields.

The Meliora Press publishes books on University-related topics.

## Wilmot Cancer Institute Chosen to Help Lead National Network

The Wilmot Cancer Institute will have a leadership role in a nationwide clinical research network to investigate cancer-related side effects as part of an \$18.6 million, five-year grant from the National Cancer Institute.

With the new funding, principal investigator Gary Morrow, the Benefactor Distinguished Professor in the Department of Surgery, and his team will represent one of only two hubs for the National Cancer Institute's Community Oncology Research Program, or NCORP.

The team will design and manage clinical studies that will be implemented nationwide.

The work, which includes preparing manuscripts for publication in medical journals, revolves around supportive care for patients coping with side effects during and following cancer treatment.

The award is among the top five largest grants received by a



**Gary Morrow**

Medical Center researcher in the past 10 years. Previously, Morrow built the University's Cancer Control program through the NCI's Community Clinical Oncology Program, which the new initiative replaced.

The new program also includes cancer-care delivery research, which encompasses how social factors, financial systems, and health technologies affect care.

## New Director Appointed for College's Intercultural Center

Jessica Guzmán-Rea '10W (PhD) is the new director of the College's Intercultural Center. In that role, she promotes collaborative programming and initiatives that welcome students, faculty, and staff from diverse backgrounds.

Guzmán-Rea first joined the Office of Minority Student Affairs in 2006, where she served as an academic program coordinator and counselor, and assisted in recruiting for the Arthur O. Eve Higher Education Opportunity Program. Most recently, she was an academic advisor in the Honors College at the University of Maryland, Baltimore County, where she also served as an adjunct faculty member in the social work department.

The center promotes cultural awareness and engagement, and educates on issues of diversity. An



**Jessica Guzmán-Rea**

important function of the center, she says, is to provide opportunities for collaboration among faculty, staff, and students and to advance awareness about international human rights both in theory and practice from academic, activist, and artistic perspectives.

## FACULTY HONORS

# Awarding Excellence in Teaching

Winners of the 2014 Goergen Awards are honored for their undergraduate teaching.

By Monique Patenaude

Three associate professors—Julie Bentley, Jonathan Pakianathan, and Jeffrey Tucker—are this year's recipients of the College's Goergen Awards for Excellence in Undergraduate Teaching.

The awards recognize the distinctive teaching accomplishments and skills of Arts, Sciences & Engineering faculty. They are named for and sponsored by University Trustee Robert Goergen '60 and his wife, Pamela.

## Julie Bentley '90, '96 (PhD)

*Associate professor of optics*

Julie Bentley joined the faculty in 1998 as an adjunct professor and became a full-time professor in 2009. She helped launch the department's bachelor's degree in optical engineering, and she pursues research while maintaining strong leadership in the optics community. She is the incoming director of the International Society for Optics and Photonics. "Her expertise helps distinguish the Institute of Optics as the primary place in the United States to learn lens design," wrote Xi-Cheng Zhang, director of the institute and the M. Parker Givens Professor of Optics, in nominating her for the award.



Wayne Knox, professor of optics, described Bentley in a nominating letter as "one of the best teachers the institute has ever had," while PhD candidate Matthew Bergkoetter noted that "as a practicing lens designer and consultant with more than 20 years of experience, Professor Bentley brings into the classroom unparalleled insight into state-of-the-art tools and methods in the industry."

## Jonathan Pakianathan

*Associate professor of mathematics*

In 14 years with the University, Jonathan Pakianathan has designed or revamped five courses for the math department, including a mathematical model course that is an integral part of the public health epidemiology major. He has served as advisor for more than 200 students, supervised numerous senior research projects, and served five years as the department's chair of undergraduate studies.

The number of math majors has increased by 45 percent since Pakianathan joined the faculty, and department chair Thomas Tucker attributes "a big part of this remarkable increase" to him, calling

Pakianathan a "stellar educator in every sense of the word."

In nominating Pakianathan, former students recognized his ability to teach complex material clearly. Raechel Isales '13 wrote that he had an uncanny way of knowing when he was teaching above her ability and yet always managed to make the material meaningful. "This is an absolutely priceless gift in mathematics that I have seen in no other professor," she said, while Manuel Alves '09 wrote that he "was continually impressed by the commitment and patience Pakianathan showed toward his students."



## Jeffrey Tucker

*Associate professor of English*

A member of the English department for 15 years, Jeffrey Tucker is highly regarded by students and colleagues for his passion for teaching and for his intellectual and professional generosity. He is actively involved in the Frederick Douglass Institute for African and African-American Studies and with the Office of Minority Student Affairs. He is also a strong supporter of the International Theatre Program.



Letters in support of his nomination noted that Tucker sparks a love of learning in his students. As a mentor, he is credited with building confidence and skills in students and with helping them discover their own voices as scholars and writers. His nominators also lauded his knowledge of racial representations and cultural and identity politics in literature.

"Jeff's contributions to undergraduate education and throughout the College deserve thunderous applause from all of us," wrote Rosemary Kegl, English department chair. John Michael, professor of English, wrote that Tucker has the gift of "tact and courage" to teach courses dealing with difficult subjects, such as the history of race and racism in America. Former student and current teacher Andrea Ferrara Popp '05 (T5) noted that "if imitation is the sincerest form of flattery, then my strongest praise for Dr. Tucker's teaching can be seen in the way I teach my own English classes." ®

**The awards recognize the distinctive teaching accomplishments and skills of Arts, Sciences & Engineering faculty. They are named for University Trustee Robert Goergen '60 and his wife, Pamela.**





# Global Rochester: Himalayas

*A research project explores the risk of hepatitis B at the borders of Pakistan, India, and China.*

## ROCHESTER AND THE HIMALAYAS

### Connections

Several faculty members have connections to the region where Pakistan, India, and China converge.

Examples include **Carmala Garzione**, professor and chair of the Department of Earth and Environmental Sciences, who conducts research on the geologic history of the Tibetan plateau; **Nancy Chin**, associate professor in the Department of Public Health Sciences, who studies women's health in Ladakh and Tibet; and **Ernestine McHugh**, an associate professor of anthropology, who specializes in the religion and anthropology of Asia, and does field research in the Himalayas.

### Classroom

**Dahpon Ho**, an assistant professor of history who specializes in the history of East Asia, has introduced a new undergraduate course, Tibet: History and Myth.

### Exploration

**Stewart Weaver**, a professor of history who specializes in the history of British India, and Maurice Isserman '79 (PhD), professor of history at Hamilton College, are the authors of *Fallen Giants: A History of Himalayan Mountaineering from the Age of Empire to the Age of Extremes* (Yale University Press, 2008).

By the end of the year, Timothy Dye will have made three trips to the Ladakh district of India, a sparsely populated, but geographically and historically important, region of the northern Himalaya Mountains where the borders of Pakistan, India, and China converge. There, the professor of obstetrics and gynecology at Rochester has been working to help Tibetan authorities come up with a strategy to detect, treat, and prevent infections from hepatitis B among Tibetan refugees.

It's quite a house call, given that much of the region is situated on a plateau that is 10,000 feet above sea level and features inhabited areas as high as 15,000 feet. Traveling from Rochester involves a 17,000-mile round trip. And the administrative details are daunting: since 1950, when the People's Republic of China annexed Tibet, the region has been governed as an autonomous region of China, sparking protests and skirmishes in the region and sending Tibetan refugees into India and Pakistan.

Dye, who is working with colleagues from the

University of Hawaii and the Central Tibetan Administration's health department with support from the Hershey Family Foundation, says a lot is at stake in the project. Many populations throughout Asia, in general, are known to be at a higher risk of hepatitis B, but assessing its impact among Tibetan refugees is especially important.

"Tibetans are scattered throughout the region in isolated camps that don't have a lot of resources, in



**HIGH POINT:** Researchers from Rochester, Hawaii, and the Central Tibetan Administration are joined by members of the Changtang nomadic region for a photo taken at 15,000 feet above sea level in the Indian Himalayas.

a very harsh environment to live," says Dye. Those who have the disease are often unable to afford expensive antiviral medications and opt instead for more accessible Tibetan medicines that seem to help manage symptoms.

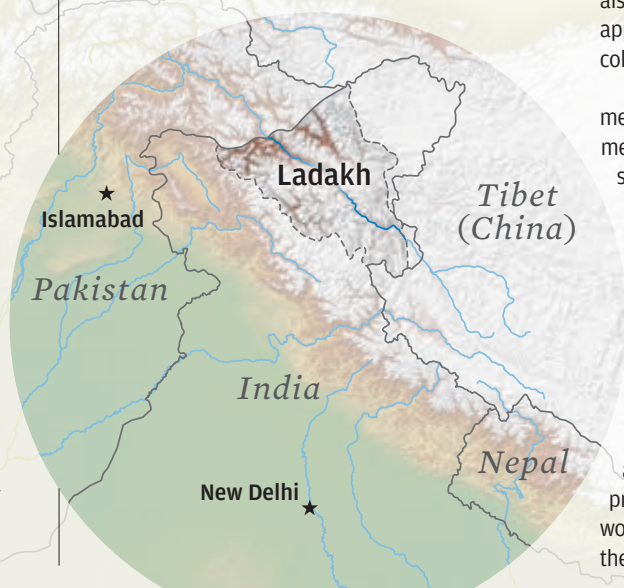
After gaining necessary governmental approvals during an initial trip in February and ethical approvals from the appropriate sources, Dye and his collaborators returned in May.

They conducted a qualitative community assessment, employing classical anthropological field methods to get a better idea of how Tibetans themselves perceive the disease, how they treat it, and how they respond to those who suffer from the disease. The findings will help their Tibetan colleagues craft a strategy that takes into account cultural beliefs and practices, making it more likely that the approach will be accepted.

Dye and his colleagues are careful to respect Tibetan culture and beliefs in their work.

"When you work with any population, just telling them to do this or that doesn't change anything," Dye says. "Any change in beliefs and practices has to be done within a culture's own world view, within the challenges and the resources they face."

—Bob Marcotte



## HIGHLIGHTS

# A Record-breaking Season

A junior field hockey player moves to the top of the record books, breaking a record that had stood for nearly three decades.

Junior Michelle Relin moved to the top of the field hockey record books this fall, becoming the program's all-time highest scorer and setting a record for most career goals.

But the milestones came with a poignant side. Relin, who as of late October had 128 career points (a measure of goals and assists), eclipsed records set by Nancy Melvin Taylor '86N. Taylor, an Athletics Hall of Famer whose record stood for 28 years, died in 2003, two years after her husband, Lt. Col. Kip Taylor died when American Airlines Flight 77 crashed into the Pentagon during the Sept. 11 terrorists attacks.

"It's humbling," Relin told local media before Meliora Weekend, when members of the 1984 field hockey team returned for a reunion. "I had no idea she had such a compelling story, and such a moving story. I wish I could have met her this weekend."

Meliora Weekend marked the 30th anniversary of the field hockey team's first state and ECAC championships. The team, led by Taylor, was recognized during the four days of activities.

Relin, an optical engineering major from Lititz, Pennsylvania, first broke the career points record with two goals and an assist in a 6-1 win over St. Lawrence University in September. The nationally ranked Yellowjackets were headed to the league playoffs in late October.



Beginning the season with eleven straight wins, the Yellowjackets set a record for the program's best start.

Also this fall:

**Cross country:** The men captured the title at the SUNY Oswego Invitational, with Jeremy Hassett '16 taking fourth place overall. The teams placed highly in several meets, including at Oberlin and their home invitational. For the women also did well, with Catherine Knox '17 placing second at Oswego and seventh at Oberlin. Both teams were heading into state,

regional, and national tournaments at the end of October.

**Football:** With a homecoming win over RPI, the football team was 4-2 overall and 2-2 in the Liberty League. Matt Pisano '17 returned a fumble 87 yards for the clinching TD against RPI to end a memorable Meliora Weekend game.

**Men's soccer:** The Yellowjackets were 6-4-2 and 1-2 in the conference in late October. Leading scorers were Nick Pastore '15, Jack Thesing '15, and Ben Keeton '15.

**Women's soccer:** The team was 5-5-3, 1-2 in the UAA in late October. The team's leading scorer was Laura Cowie-Haskell '18.

**Rowing:** The Yellowjackets first varsity eight and novice eight captured bronze medals at the Head of the Genesee Regatta in October. The varsity eight fell to only top-ranked Williams and Division II's Mercyhurst.

**Volleyball:** The Yellowjackets defeated Brandeis to clinch the seventh seed for the UAA championships at Carnegie Mellon in early November. Rochester was 12-17 overall.

**Squash:** Returning first team All-Americans Neil Cordell '16 and Mario Yanez Tapia '17 captured the national championship at the U.S. Squash intercollegiate doubles championship with a four-game victory over Navy. The team season was just getting under way in late October. **R**

—SCOTT SABOCHECK



## YELLOWJACKETS

## Alumni Join the Athletics Hall of Fame

**PHOTO FAME:** This fall's inductees into the Athletics Hall of Fame were (front row, left to right) Robert Hartz '90, '98S (baseball, football); Pamela Delp Polashenski '91, '98M (MPH), '02M (MD) (volleyball, track and field); Amy Beth Deep '90 (field hockey); William Seeler '53 (football); and David Cidale '71 (football, track and field); (back row, left to right) Robert Kelly '69 '80S (MBA) (soccer); Kenneth Barnes '74 (basketball); Christian Reed '92, '94 (MA) (cross country, track and field); Robert Cerfolio '84, '88M (MD) (baseball); and Steven Callihan '75 (football).



**RECORD PACE:** Michelle Relin '16 became the field hockey program's all-time leading scorer this fall, breaking records set by the late Nancy Melvin Taylor '86N (opposite) from 1982 to 1985. This fall, Taylor's teammates marked the 30th anniversary of their team's New York state and ECAC championships.

