



## STUDENT ACHIEVEMENT

# Programming Powerhouse

A team of Rochester students tops MIT to earn a spot in the international finals of the world's most prestigious computer programming competition.

By Kathleen McGarvey

IAN CHRISTOPHER '10 says most of the time computer programming is like driving a car down a city street. You mind the traffic lights and make sure to stay within the lane markers.

▲ **BRAIN POWER:** Xiaoqing (Sean) Tang '12, Ian Christopher '10, and Dennis Huo '10 will represent Rochester at the finals of an international programming competition dubbed the "Battle of the Brains."

But when programmers face off in competition, he says, the experience is more like being on a racetrack: It's about speed, and "it's no-holds barred."

In that case, you could say that Christopher and teammates Dennis Huo '10 and Xiaoqing (Sean) Tang '12 must have the computing reflexes of Indy 500 drivers. This fall they became the first team in six years to beat MIT in the regional finals of the oldest, largest, and most prestigious computer programming competition in the world, popularly dubbed the "Battle of the Brains."

On its way to victory, Rochester outscored all of its closest competitors—MIT, Harvard, Brown, and McGill—in the five-hour battle to win the Northeastern North America region in the Association of Computing Machinery's International Collegiate Programming Contest.

The team will head to Harbin, China, for the world finals from February 1 to February 6.

Christopher, a Rochester native, and Huo, from Tacoma, Wash., both joined the team as sophomores and are computer

science majors. Tang, a double major in computer science and mathematics, is from Shanghai, China, and as a sophomore now is the youngest member of the team.

Christopher says part of the appeal of competition is the level of collaboration that it requires. Three-member teams share a single computer and a blackboard. In the early stages of the competition, when the problems are fairly straightforward, team members work on different problems. As the difficulty increases, says Tang, the team coalesces around individual problems.

“This is more collaborative at the level of coding than usual,” says Huo.

At the same time, individual perspectives strengthen that collaboration. “We look at problems differently,” says Christopher, which he calls an advantage in finding solutions efficiently.

“We also practice a lot,” adds Tang. Last year, Rochester finished third in the regional competition, one place away from going to the finals.

The regional contest involved eight tasks in which the teams were asked to write computer code that would solve particular problems. For example: Take two words of the same length from the dictionary and transform one into the other by choosing the shortest possible set of intermediary words in which each word differs from the other by only one letter. The team that succeeded in accomplishing the greatest number of tasks in the smallest amount of time won.

“Eighty percent of the work is thinking of a solution it would be feasible for a computer to do,” Huo says.

“It’s rare that someone other than MIT comes out on top of our region, so it’s really a feather in U of R’s cap that they beat them,” says Paul Tymann, the regional contest director. “It was remarkable how quickly they could solve the problems, and really, in the end, that’s what allowed them to win.”

“It’s a big rush,” says Huo of working against the clock and opposing teams.

Rochester and MIT were the only two schools that solved all eight problems correctly (third-place Harvard and fourth-place McGill each answered seven correctly, and fifth-place Brown answered five). Rochester beat MIT on speed, finishing with a combined time of 16 hours and 10 minutes—almost three hours faster than MIT’s 18 hours and 51 minutes.

The competition “challenges our brains, and challenges our hands” because of the frenzy to enter code quickly, accurately, and



**WINNING IDEA:** Dan (Eva) Xie '10 (left), Jennifer Burger '10 (center), Elaina Stover '10 (right), Justin Peczkowski '10 (MS) (back left), and Eric Wisch '10 (back right) were one of two U.S. teams to earn recognition in a global contest to encourage saving money.

## INNOVATION

### Students Win Big for ‘Pass the Pig’

Everyone’s heard of passing the buck—but passing the pig? That’s the invention of a group of Rochester students who were named global winners in the 2009 Stanford Global Innovations Tournament.

The nearly 1,000 teams that entered the contest were asked to come up with creative ideas on how to make saving money fun and then convey those ideas through short videos posted to YouTube.

Three Rochester teams entered the competition; the winning group—one of just two U.S. teams and 22 teams worldwide to win—submitted a video called “Pass the Pig” in which they promote a Web site of their own design where people could share

their ideas for saving money.

“We liked the idea of a project that combines viral marketing and social utility,” says team member Eric Wisch '10, a political science major and a KEY scholar from Wellesley, Mass.

“It’s implementable,” adds teammate Elaina Stover '10, an Akron, Ohio, native, a neuroscience major, and a Take Five scholar. “We want to develop it into a real business plan.

“I don’t think the idea is done. The pig is still being passed.” —Kathleen McGarvey

To see the Rochester team’s entry, visit [www.youtube.com/watch?v=AvgGOKxZt38](http://www.youtube.com/watch?v=AvgGOKxZt38).

thoroughly enough, says Christopher.

Team advisor Daniel Stefankovic, an assistant professor of computer science, attributes the group’s success to “practice and teamwork.”

The competition calls on a wide variety of skills, he says—not just quick thinking to solve problems fast, but also “crisp thinking, or seeing clear structures in the problems; intuition for heuristics, to speed up programs; reading comprehension, for quickly translating the statement of the problem into a model; and estimating the difficulty of a problem by almost a glance, since one should do the easiest problems first.”

In the world finals, Rochester will face

the best teams from around the globe, including traditional powerhouses like Russia’s St. Petersburg University of Information Technology, which has won each of the last two years, and China’s Tsinghua University. In the last three years, MIT was the only U.S. university to finish among the top four.

While they’re “a new face” at the world competition, Huo says he and his teammates are nevertheless already enmeshed in the rhythm of the competition.

“We’ve internalized computer programming language as part of our own thinking processes,” he says. “It’s about thinking like a computer.” **R**



## COMMUNITY ENGAGEMENT

# Like a Good Neighbor . . .

The University earns national recognition as one of the ‘best neighbors’ a city can have.

By Kathleen McGarvey

EVERY MONDAY AND Wednesday morning, Faeza Masood '10 goes to School 29 in the city of Rochester for two hours to work one-on-one with Michael, a 4-year-old student there.

“We try to create an environment that’s different from their classroom, where they can develop social and reading skills that they wouldn’t necessarily develop in

▲ **CONNECTIONS:** Faeza Masood '10 works with Rochester elementary school student Michael Mitchell as part of the UReading program, one of many examples of the role the University plays in the life of the Rochester community.

a larger setting,” Masood says. “You can see the changes.”

Masood, a studio art major from Pittsford, N.Y., and other students are volunteers with UReading, a tutoring and mentoring program that pairs undergraduate students with preschool- and kindergarten-aged children at School 29 and the Rochester Pre-School Parent Program. The University created the program when its chapter of the AmeriCorp’s Jumpstart program closed during a nationwide reorganization.

“Student demand for the program is strong, as is interest from our community partners,” says Glenn Cerosaletti, director of the Rochester Center for Community Leadership. Created in collaboration with the Career Center and the Office of the Dean of

Students, the initiative is just one of many programs that forge ties between the University and the surrounding city, and contribute to the lives of people in Rochester.

And it’s a small example of the larger role that the University plays in the economic, social, and cultural life of the metropolitan area it calls home. The area’s largest employer, the University is the only college with its main campuses located within the city of Rochester. According to a 2008 report from the Center for Governmental Research, the University paid more than \$1.07 billion in wages to employees living in upstate New York; provided training for 46 percent of the doctors currently practicing in the region; purchased \$96 million worth of goods and services locally; spent an average of \$175 million per year on capital projects, supporting 2,800 construction-related jobs annually; and drew visitors who were responsible for more than 18,000 local hotel reservations.

Such impact recently earned the University a place on a list of the nation’s 25 “best neighbor” colleges and universities,

derived from a survey conducted by Evan Dobbelle, the president of Westfield State University.

“Colleges and universities, as well as the towns and cities in which they are located, are now under severe economic pressures. The positive financial impact of higher education on local communities is well-documented,” Dobbelle said when presenting his findings to the 15th annual conference of the Coalition of Urban and Metropolitan Universities last fall. “Increasingly, more sophisticated partnerships are emerging that are addressing complex issues such as homelessness and health care and are serving as catalysts for community change.”

The survey considers such factors as the length of involvement with the community, real dollars invested, the catalyst effect on others, and faculty and student involvement in community service.

“The University recognizes and embraces its role in the community, and that role’s becoming clearer and clearer with each passing year,” Cerosaletti says.

Part of what the University concentrates on in its connection to the city is engagement, says Cerosaletti. “That’s a key part of what we do in the Rochester Center for Community Leadership. We try to make students aware of, and sensitive to, the issues facing the community.”

Recognition as a “best neighbor” indicates awareness that “we’ve matched our projects to the needs of the city,” he says.

“We live here for four years of our lives, and the University is such a bubble at times—but so much of what we do is involved with the city,” says Jacob Goldstein ’10, a history and religion major from Great Neck, N.Y. He is president of the Community Service Network, a club established in 1993 to facilitate student involvement in the city.

“We bring together different community service groups on campus to collaborate on projects,” he says. The network—which partners with student organizations such as Alpha Phi Omega, Habitat for Humanity, the Community Learning Center, and the Tiernan Project—helps to fund alternative spring break projects, for example, and, to make a difference locally, sponsors student volunteers in painting the Mt. Hope Family Center, hosts city children for trick or treating in Susan B. Anthony residence hall, and tutors local refugees.

Student service activities combine with efforts by the University to foster concrete

ties with the neighborhood, such as River-view Apartments, a five-building housing complex for students across the Genesee from the River Campus. “It makes the city more visibly students’ own community,” says Goldstein, who has been a tutor since his freshman year through Project Care at Rochester’s School 19.

“This sort of engagement”—seeing themselves as stakeholders in their community, being responsive to its needs—“is nothing new to our incoming students,” Cerosaletti

**“We live here for four years of our lives, and the University is such a bubble at times—but so much of what we do is involved with the city. We bring together different community service groups on campus to collaborate on projects.”**

says. Their application materials make clear that many are experienced community contributors.

“The challenge becomes introducing them to what is for most of them a new community, and to make this their home during the time they’re here.” Traditions such as Wilson Day, an annual day of community service for new and incoming Rochester students that marked its 21st anniversary this year, contribute to that bond.

Cerosaletti plans to create opportunities to align volunteer work with the


curriculum, allowing students to contribute expertise they have gained in their studies to the community. And he hopes that the connection they feel to the city around them will not fade.

“The majority of our students do leave Rochester as they go on to pursue graduate school and their careers, but I hope they’ll always maintain a vital connection to the Rochester community.”

Their interest in service proves enduring, too. Heather Clifford ’11, a psychology ma-

ior from Woodbury, N.Y., is president of the student group Partners in Reading. She and other volunteers work in classrooms for students between kindergarten and sixth grade at Rochester’s School 33 every Friday.

Based on her experiences there, Clifford is thinking about applying to Teach for America after graduation.

“You can make a difference, even if it’s just helping someone with math problems,” she says. “They might not have anyone else who can help, but this way they know there are people who will.” 

## UNIVERSITY-CITY CONNECTIONS

### Home, Sweet Home

As a way to help strengthen its ties with the city of Rochester, the University began offering inducements to employee home-buyers to purchase a house in the neighborhoods that surround the River Campus and Medical Center. Since 2008, more than 70 employees have participated in the University Home Ownership Incentive Program.

“It’s been a very positive move,” says Jason Myatt, a scientist at the Laboratory for Laser Energetics. He and his family relocated from a suburban apartment to a house in the city’s Highland Park neighborhood in December 2008.

“I wanted a walkable neighborhood, and it was beneficial if I could cycle to work,” he says. Now he enjoys a 15-minute bicycle ride to the laboratory and easy access on foot to other city attractions.

“There’s a real sense of neighborhood,” Myatt says of life on his new street. “There are lots of people there who care about the area.”

Under the program, the University, the city of Rochester and one of two financial institutions—Advantage Federal Credit Union and Canandaigua National Bank & Trust—together contribute up to \$9,000 toward the purchase of a primary residence in the neighborhoods closest to the University. In return, employees are required to agree to five-year occupancy and employment commitments. They also participate in homeownership education and counseling through NeighborWorks Rochester, a community-based nonprofit agency devoted to strengthening city neighborhoods.

—Kathleen McGarvey





#### STUDENT TRADITIONS

### Boar's Head Dinner Turns 75

**DINNER TIME:** Rochester students transformed the Douglass Dining Center into the site of a 16th-century English court dinner to celebrate the 75th annual Boar's Head Dinner this fall. More than 550 students, faculty, and staff were treated to a holiday feast while student a cappella groups, ensembles, and the Strong Jugglers entertained diners as part of the University's longest-running tradition.

## IN CLASS

# The Doctor is Listening

Can an understanding of narrative make you a better doctor?  
An innovative Rochester course explores that question.

By Kathleen McGarvey

WHEN A PATIENT visits a doctor, one of the fundamental tasks of the appointment is not only medical but also literary: You tell the story of your complaint, including the pertinent information about your circumstances.

“It’s a privilege to hear people’s stories,” says Chau Doan, a second-year medical student from Garden Grove, Calif. “Patients come in, and you don’t know them and they don’t know you—but they divulge the most intimate details about their lives.”

The creation and the conveyance of those stories—from patient to physician, from

doctors face in taking medical histories from their patients.

“There’s a lot of narrative” in clinical medicine, “but there’s no training in the theory of it,” says Stephanie Brown-Clark, an associate professor in the Division of Medical Humanities and course director of medical humanities seminars. “Standard and classic teaching texts on medical history-taking emphasize the importance of obtaining the patient’s story, and extracting the pertinent details from it, without focusing on the ways that stories work. The assumption is, we all know how to tell stories.

“We tell students to hear the patient’s story—but we don’t teach them narrative skills.”



doctor to doctor, from oral account to written document—is the subject of a seminar offered to second-year medical students through the Division of Medical Humanities, called *How to Read (and Write) a Patient: Studying Narrative and Developing History-Taking Skills*. Developed four years ago, the course brings literary narrative theory to bear on the day-to-day issues

▲ **COURSE MATERIALS:** Medical students Chau Doan and Josh Segal contributed sound effects—including the sound of matches being lit—as part of an exercise in storytelling.

The course aims to remedy that, helping students to become as perceptive of the choices implicit in storytelling as they are sensitive to recognizing symptoms.

“There are as many ways for a patient to give a history as there are ways for a writer to tell a short story,” says Clayton Baker, an assistant professor of medicine who co-teaches the course with Brown-Clark. “An important part of clinical practice is to pick up on things that aren’t obvious.”

Patient histories rarely follow strict chronological time in relating events, for example, and the choices patients make

in ordering their stories can be revealing. “Patients tend to order details and events according to what makes the most sense to them, what’s most important to them,” Baker says.

Thus, Baker and Brown-Clark teach the students about dimensions of narrative that will help them to listen more effectively to a patient’s story and then write their own account. They perform “close readings,” the literary practice of attending meticulously to textual evidence, which has obvious parallels in the evidence-based practices of medicine. They become familiar with concepts of narrative structure, plot, context, and relationships between author and reader.

“The physician is not just listening passively as patients relate their history, but actively prioritizing, editing, and rewriting the information he or she is given, says Baker, who practices in a Veterans health clinic and has published his own creative writing in the *Journal of the American Medical Association* and other medical journals. “One thing we stress to students is that we often do a lot of these things without being consciously aware that we’re doing them.”

There are many formats in which doctors might convey information about a patient, from a momentary encounter with a colleague to a discharge meeting with family members, social workers, and nurses, to Grand Rounds, where doctors make formal case presentations to an auditorium filled with a couple hundred fellow physicians.

“There are a tremendous number of editorial decisions that you have to make whenever you relate a patient’s history, and you’re talking on the patient’s behalf at all times,” says Brown-Clark, who holds both a medical degree and a doctorate in literature. She and Baker identified medical situations in which communication becomes particularly difficult, such as when discussing drug use or sexual history or when delivering a difficult-to-hear diagnosis.

The course materials range widely: stories by Kafka, Chekhov, and Tolstoy; Quint’s monologue from Peter Benchley’s *Jaws*; sonnets from John Donne; the film *Wit*; a sketch from the comedy troupe Monty

Python that dissects the social agony of embarrassment.

Based on the readings, the students discuss scenarios—not just the questions physicians might ask a patient, but how they might ask them. It's about “finding the right words that will be sensitive, and that will be clear,” Brown-Clark says.

Because taking a patient history involves so much talking and listening, Baker and Brown-Clark construct class sessions in ways that allow students to practice oral skills. In reading contemporary essayist and physician Jerome Groopman's “The Last Deal,” for example, students take turns reading sections of the essay aloud, with Brown-Clark stopping them at strategic moments to ask “What do you know now?” and “How do you know that?”

Professional storyteller Marilyn Rosen, a reference librarian at Miner Library, also performs for students, delivering an oral folktale that's complex, detailed, and ambiguous. Students in turn have to retell the story in written form, and then summarize it again as they merge their version with a partner's and then with those of all their classmates. The seemingly fanciful task is an effective analogy for working with a tangled patient history, Brown-Clark and Baker say.

“It's an exercise. You learn by doing,” says Josh Segal, a second-year medical student from Huntington Beach, Calif., and Doan's classmate in the seminar this winter. “You practice focusing on what's most important—the things you absolutely don't want to miss.”

As with all seminars in the medical humanities program, the focus of the course is on enhancing students' medical proficiency.

“We're trying to develop skills useful in taking a history and in clinical settings,” says Brown-Clark.

As a result of the course, Segal says, he has “more sensitivity to the background that comes with a patient and how that contributes to their story.”

The biopsychosocial model of medicine for which Rochester is known—taking into account psychological, interpersonal, and societal influences in the diagnosis and treatment of patients—infuses the curriculum, Segal and Doan say.

“I think this school really does believe in approaching the patient as a person,” says Doan. “And that philosophy is demonstrated with classes like this one. They want us to be three-dimensional doctors.”

## QUOTES

### Rochester in the News

“Parents have more information available, but they don't always know how to use that information.”

—**Lucia French**, the Earl B. Taylor Professor of Education at the Warner School, talking with *Wired* magazine about a growing trend among new parents to track their babies' development using online and other electronic programs.

#### UPI

“Seafloor ridges are made up of sections, each of which can be hundreds of miles long. Because of this study, we now know that each of those segments can tear open in just a few days.”—**Cindy Ebinger**, a professor of earth and environmental sciences, explaining research she coauthored indicating that a 35-mile-long rift in the desert of Ethiopia could eventually create a new sea.

#### ABC NEWS

“I see the food industry, as well as the entertainment/activity industry, trying to do all they can to stay ahead of the ‘bad guy curve.’ None of them wants to get tagged as the next big tobacco: They have a lot of lessons and tricks they can take from the tobacco industry.”—**Stephen Cook**, an assistant professor of pediatrics, commenting on the children's cereal industry and a recent pledge by General Mills to cut the amount of sugar in kids' cereals.

#### BUSINESSWEEK

“Unless you really understand how these viruses work, the exact step-by-step chemical process, then you can't really rationally design a new clever kind of therapy that may be effective against the virus.”—**Robert Bambara**, a professor of biochemistry and biophysics, discussing a study he coauthored indicating that thousands of millions of years ago, the virus that causes AIDS took on some genetic material from a tiger, material still found in the virus today.

#### WASHINGTON POST

“There is enough information to ask manufacturers to let people know when they're exposed, so they can make choices.”—**Shanna Swan**, a professor of obstetrics and gynecology, summarizing a study she led showing that elevated levels of two common phthalates in pregnant women's urine are linked to less typically male play behavior by their sons.

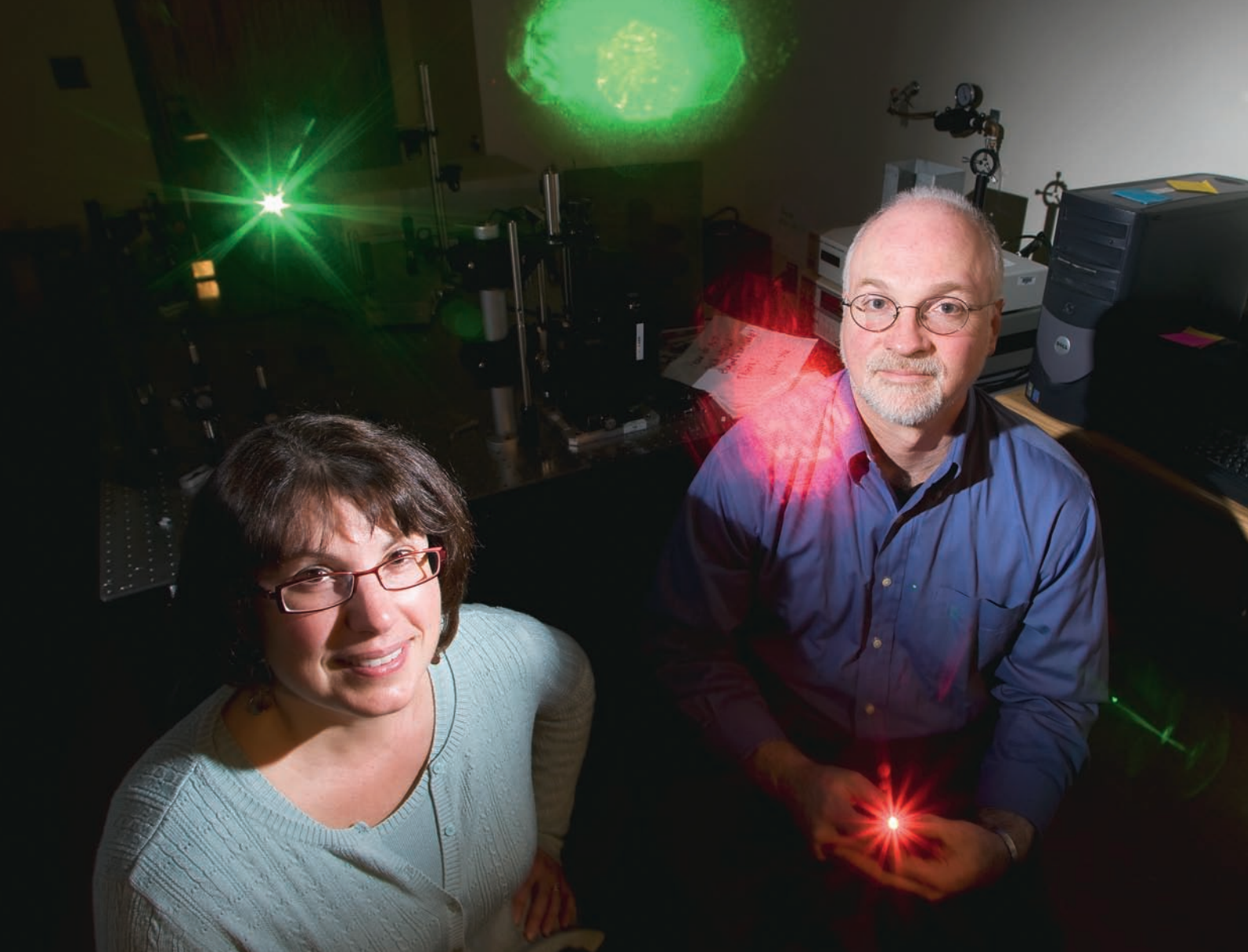
#### U.S. NEWS & WORLD REPORT

“The good news is that insomnia is a very treatable problem that can be addressed quickly so it doesn't compound other symptoms.”—**Oxana Palesh**, a research assistant professor of radiation oncology, describing a study she authored showing that more than three-quarters of cancer patients undergoing chemotherapy experience insomnia and sleep disorders, a rate almost three times higher than that of the general population.

#### MSNBC

“Much of the results of certain alternative procedures are largely placebo effects, unless you believe there are people who exert magical powers so they can hold their hands over your body and cure you of disease. Make you feel better? That's entirely possible, especially if you believe it.”—**Robert Ader**, a Distinguished University Professor of psychiatry, talking about the phenomenon of the placebo effect.





## VISUAL SCIENCE

# Envisioning Better Eyesight

A new crossdisciplinary collaboration focuses on a way to improve a common procedure that has helped millions see better.

By Tom Rickey

SOMETIMES, EVEN IN vision research, the key to moving forward is seeing things in a new way.

That's what happened about four years ago, when Wayne Knox '79, '84 (PhD), a professor of optics and physics and the director of the Institute of Optics, was presenting his work on using ultrafast lasers

▲ **LASER SIGHT:** Huxlin and Knox are exploring a new way to improve Lasik, a laser-based vision correction system that traces some of its roots to Rochester.

to change optical materials like intra-ocular lenses to a group of scientists discussing lasers, optics, and human vision.

Krystel Huxlin, an associate professor of ophthalmology at the Flaum Eye Institute, chimed in with a question: "Have you ever tried this in living materials?"

With that, a collaboration was born. Huxlin and Knox are now developing a new type of laser surgery to improve vision.

"The makeup of the cornea is very much like some of the other biocompatible materials Wayne was working on," says Huxlin. "It's a natural question that came to mind. If you can alter the refractive index of

man-made materials, can you do it directly on the living cornea, too? There are a number of technical issues to work through, but it's a very exciting project."

When it comes to lasers, "ultrafast" actually means "ultrabrief." The laser built by Knox's team emits pulses of light just 100 femtoseconds long—just one-tenth of a millionth of a millionth of a second. Put another way, in one second a pulse of light would zoom around the Earth's equator more than seven times. But a pulse from Knox's laser is so brief that it travels only as far as the width of a human hair.

The new technique is under exploration

in the laboratory and has not been tested yet in people.

As part of the exploration, Huxlin has been analyzing what happens to the eye during the procedure known as Lasik. In the popular practice, which also has roots at Rochester, surgeons use pulses from a more conventional laser to reshape the cornea, the outer surface of the eye that is ultimately responsible for about half the refraction that light undergoes as it moves through the eye and onto the retina. Huxlin has been exploring the long-term effects on the cornea of the procedure, which removes corneal tissue and causes a wound that requires significant healing.

The method proposed by Knox and Huxlin would take a completely different approach. Instead of reshaping the cornea, the team is noninvasively changing the optical properties of the cornea itself. The team uses 100-femtosecond laser pulses in the general wavelength that is used in TV remote controls—called near-infrared—to change the density of the cornea, bringing fibers of collagen more closely together. This in turn increases the cornea's index of refraction, changing the way the cornea bends light. In other words, as in the traditional surgery, rays of light are still redirected in a precise, planned way onto the retina—but instead of manipulating the shape of the cornea to do so, the proposed procedure would change the way light travels through the cornea itself.

In some ways, the partnership between Knox and Huxlin is an outgrowth of earlier work by David Williams, the William G. Allyn Professor of Medical Optics and the director of the Center for Visual Science. He used a technology that removes the twinkle from starlight to measure scores of optical imperfections in the eye and then correct them. The optical company Bausch & Lomb used that innovation in its Lasik system, creating a surgery that can give people vision as good as 20-12 or 20-10, as well as uncommonly fine vision in low-light conditions.

Williams's work also set in motion a longstanding collaboration between investigators from the River Campus, the Medical Center, and Bausch & Lomb in finding new ways to improve human vision.

The new project with Huxlin embodies one of the reasons Knox returned to Rochester nearly nine years ago, after 17 years at Bell Labs. He was excited at the prospect of bringing together the University's strengths in optics and medicine.



**NAMESAKES:** The University named the David and Ilene Flaum Eye Institute in honor of the Flaums (left); the Adeline P. Lutz Pavilion at the institute recognizes Adeline Lutz (right).

#### MEDICAL CENTER

## Introducing the Flaum Eye Institute

The University honored a few of the prominent supporters of the Eye Institute last fall, recognizing them for their commitment to the institute's growing influence in vision care and research.

In recognition of the ongoing support of Rochester businessman and philanthropist David Flaum and his family, the institute has been renamed the David and Ilene Flaum Eye Institute.

"I'd always been interested in the science of vision and know personally the transformative power of improved sight," says Flaum, who is also a University trustee and a member of the Medical Center's board. "So being a part of something that could positively impact lives was certainly a draw."

Flaum, the founder and CEO of the Rochester-based real estate development company Flaum Management Co., says he's convinced that under the direction of Steven Feldon, chair of the Department of Ophthalmology and director of the institute, Rochester will become home to a top-

ranked facility that's also an engine for economic development and job creation.

Also last fall, the Adeline P. Lutz Pavilion was dedicated in honor of Rochester resident Adeline Lutz and her late husband, Walter (Jack) Lutz. Lutz, now 82 years old, began having vision problems in 1987 and has undergone a series of 13 surgeries at the institute.

Because of their relationship with Lutz's corneal surgeon, Steven Ching, a professor of ophthalmology, and the entire staff at the institute, the Lutzes decided to donate most of their savings to the institute.

"They are all like family to me, and I credit Dr. Ching with saving my sight," says Lutz. "Jack and I wanted to repay him and everyone at the institute for their dedication and kindness and ensure that future patients continue to get the very best, the very newest treatments."

"For a patient to support us in this way, it is truly overwhelming," says Ching.

—Kathleen McGarvey

"I returned to Rochester largely because I wanted to get more involved with biomedical optics," he says.

"Now there are an astonishing number of projects that reach across campus, from making better bone grafts to improving dentistry to better understanding how the

immune system reacts to infections.

"I hadn't even met Krystel when I decided to come back to Rochester, but I knew that collaborators like her were here." 

*Tom Rickey is a senior writer for Medical Center Public Relations.*

## Q&amp;A

# The Beauty of Technology

Professor Paul Ampadu finds success in getting young people interested in science and engineering.

Interview by Kathleen McGarvey

PAUL AMPADU, AN assistant professor of electrical and computer engineering in the Hajim School, is an expert in reliable, energy-efficient integrated nanoscale circuits, systems, and architectures. He also works to encourage low-income, first-generation, and underrepresented minority students to pursue careers in science and engineering.

Ampadu, who was born in Ghana and educated in China and Taiwan before earning his doctorate from Cornell University in 2004, mentors freshmen through the Early Connection Opportunity (ECO) program and also works with high school teachers through the National Science Foundation-funded Research Experience for Teachers program.

In recognition of his scholarship and outreach, Ampadu will receive a Special Recognition award in February during the Science, Technology, Engineering, and Mathematics Global Competitiveness Conference sponsored by the Black Engineer of the Year Awards (BEYA) organization.

## What are some of the obstacles in attracting students to engineering?

One impediment is definitely perception. The typical engineer on TV is portrayed as funny, the nerd. People see shows like *ER* or *L.A. Law* and think a doctor's or lawyer's life must be very glamorous. But the engineer works tedious jobs, is unfriendly, and is quirky.

## And how do you overcome that?

Fortunately, it's not all bad. We live in a world that surrounds us with technological gadgets, so we can show young people that science and technology are cool.



**RECOGNITION:** Most people—"with some hard work, motivation, and caring teachers"—can find success in engineering, says Paul Ampadu, who will be recognized this winter for his work with incoming freshmen and with area high school teachers.

Technology is indeed everywhere—things any 16-year-old would be interested in, like cars, videogames, movies, the i-gadgets. We have tons of opportunities to excite young people about the beauty of technology, the creation of technology. And who's the richest man in the world? Bill Gates—and he's a nerd?

## It's not all about perception, though, is it?

It's also about innovative teaching. Engineering, science, and technology can be challenging. People tend to think, I'm not good at math, so they don't look at careers that demand it. There's a story I tell

my ECO students when they first come in. I ask, "How many of you love math?" You see a few slow hands. If out of a crowd of 60, you get 10, that's a miracle. Maybe you get three or five. I say, "How many of you think I'm good at math?" Almost all the hands go up. I say, "What if I tell you I was one of the worst math students until I was 12? Then I started thinking about doctors, and the successful people I saw. And when I talked to those people about what they did, they all said, 'You need math.' So one day, I shut the door, just me and a math textbook. And I said, 'O.K., it's me and you.'" We can make people think engineering is only for a select few, but the bottom line is, it's not. Most people, with some hard work, motivation, and caring teachers, can do it.

## When you work with ECO students, are some already interested in becoming engineers?

I ask them what they want to do, and it's usually the familiar professions. They want to be doctors or lawyers—what they see on TV. Unless you know an engineer, you don't usually get up in the morning and say you want to be one. ECO students typically come from schools and home environments that have given them challenges. So the University, in partnership with New York State, says, "We've admitted them—what can we do to help them succeed?" We bring them to campus in the summer and immerse them in a boot camp to see what college is like. We show them the resources here for them—and we, the faculty and staff, are resources. We spend a month of the summer on campus, working with them. We tell them, "We care about you," and we let them see how valued they are. Later, after the program's over and during the semester, students stop in my office and tell me how they're doing. When you see a confident, succeeding student who could have been overwhelmed and dropped out, you can't put a price on that. **Q**

“Technology is indeed everywhere—things any 16-year-old would be interested in, like cars, videogames, movies, the i-gadgets. We have tons of opportunities to excite young people about the beauty of technology, the creation of technology. And who's the richest man in the world? Bill Gates—and he's a nerd?”



## FACULTY EXPERTS

# Now on the Air: Rochester

A new campus studio is designed to help make it easier to get the word out about the expertise of Rochester's faculty.

By Kathleen McGarvey

WHEN NEWS PRODUCERS are looking for experts to feature on their shows, they're more likely to turn to Rochester, thanks to a new broadcast studio launched on campus this winter.

"It gives faculty members an opportunity to share their expertise on important issues of the day with as little interruption as possible to their teaching, research, and other responsibilities," says Larry Arbeiter, associate vice president for communications.

Prior to the establishment of the studio,

▲ **BROADCAST NEWS:** Nora Bredes, the director of the Susan B. Anthony Center for Women's Leadership, prepares for a mock interview during an introductory session for a new campus studio designed to make Rochester experts readily available to appear on broadcast news outlets.

which is housed in Carol G. Simon Hall, faculty experts traveled to the studios of WXXI, the local public television affiliate. The new arrangement—which includes equipment operated remotely by network-trained professionals at the company VideoLink in Boston—is not only more convenient, it also puts Rochester faculty members within easy reach of producers.

"If you don't have this capacity, you're less likely to be called by the national media," says Dawn McWilliams, executive director of marketing and communications for the Simon School, which took the lead with the Medical Center and Arts, Sciences, and Engineering in establishing the studio.

James Gleason '68S (MBA), a life trustee of the University, and the Gleason Foundation gave a gift of \$100,000 that helped purchase the equipment, which was designed specifically for the University's needs. It includes a camera; a video screen that can

show a variety of backgrounds, from logos to bookshelves to Rochester scenes; and satellite uplink capability.

"One of its advantages is, it's a simple set up," Arbeiter says. "That makes it affordable, and easy to use."

In a series of on-campus sessions, former network news correspondent David Henderson helped faculty members in fields likely to attract media hone the skills necessary for news interviews—techniques such as keeping answers succinct and restating questions so that responses can't be taken out of context.

"We found we have some stars we didn't know we had," says McWilliams.

The studio will also be used for interviews with student award winners and for video messages from President Joel Seligman. Arbeiter anticipates that the greatest demand will be for interviews with experts on social and political issues, scientific developments, and medical news.

"The real purpose is to expand our reach regionally, nationally, and internationally," he says. 📺

## HIGHLIGHTS

# Reaching New Goals

The men's soccer team is the program's first to reach Elite Eight; the women return to national tourney.

By Ryan Whirty

ARMED WITH SEASONED leadership and abundant confidence, the men and women on the Yellowjacket soccer teams believed they had a big year in store. By the time November rolled around, they'd been proven right.

Both the men's and women's teams earned a share of their league title, and both squads found victory in the NCAA tournaments.

The men advanced to the NCAA Elite Eight for the first time in school history, while the women won their opening round in the national tournament.

Having lost just four seniors from a 2008 squad that went 14-3-2, the Yellowjacket men entered the 2009 campaign with a sense that something special might be brewing. The team's preseason goals included winning the UAA for the third straight year and moving deeper into the

NCAA tourney than any previous Rochester squad.

By the end of the year, both goals had been checked off. Using a perfect balance of offense and defense, the Yellowjackets posted an overall mark of 12-1-3 in the regular season and a 5-1-1 record in the UAA.

That earned them a share of the UAA title—their third straight—and a fifth consecutive trip to the NCAA tournament, where they garnered a first-round bye before dispatching SUNY Plattsburgh and Wesleyan University to advance to the round of eight.

There, Rochester succumbed to a familiar foe when eventual champion Messiah College beat the Yellowjackets 2-1. Messiah has bounced Rochester from three straight NCAA tourneys.

“(The loss) was a heartbreaker, to say the least,” says junior defender Misha Carrel-Thomas '11. “Messiah has now ended my first three seasons (at Rochester), and our program has only gotten better each year. I

know for a fact that every teammate worked as hard as they possibly could, fought for every ball and left everything they had in them out on the field that night.”

The women, meanwhile, approached their season with equal confidence and matched the men step-for-step. Regular-season marks of 11-3-3 overall and 5-1-1 in-conference brought them a share of the UAA title and punched their ticket to nationals.

“Everyone was working really hard at every position,” says senior defender and third team all-American Eileen Boylan '10. “We knew we had a great environment going on with the coaching staff and players. We had really great chemistry.”

Rochester posted a 4-0 win over Westfield State in the opening round of the NCAAs before falling to Rowan, 1-0. The Yellowjackets were disappointed with the defeat, but they are counting their 2009 accomplishments as they look to 2010.

“The underclassmen did a great job this year, so the juniors should provide great leadership next year, and we have a great coaching staff,” says forward Emma Moran '10. “Every year we have high expectations.”



## HONORS

## All-Americans

SOCCER STANDOUTS: Senior goalkeeper Michael Peacock '10 (above) of Pittsford, N.Y., and sophomore forward Ellen Coleman '12 (left) of Wauwatosa, Wis., were named second team all-Americans by the National Soccer Coaches Association of America for their play this fall. Senior defender Eileen Boylan '10 of Edina, Minn., earned third team honors.



## SWIMMING &amp; DIVING

# Yellowjackets Claim League Title

Liberty League crown is the first for the women; the men earn third in four years.

By Ryan Whirty

AT THE 2009 Liberty League championships, the members of the Rochester men's swimming and diving team were looking to erase a bad taste from last season. The women, meanwhile, were looking for their first taste of a title.

Both teams achieved their goals in front of a hometown crowd, and it tasted sweet.

The Rochester men claimed their third title in four years while the women, motivated to claim their first-ever league title, cruised to a convincing victory this winter at the Goergen Athletic Center.

▲ **CHAMPIONS:** The Yellowjacket men's and women's swimming teams celebrated their Liberty League titles with meet victories at the Goergen Athletic Center.

"This was my last chance to win the Liberty League," says senior captain Lilly Wynn '10. "We've been getting closer every year. To finally win and do it at home is exciting."

After finishing second to Union at the league championships five years in a row, the women were fired up to take the crown, especially after narrowly falling to the Dutchwomen in a dual meet weeks earlier.

"Everyone swam so well," says junior Val Atwood '11, who won the 100-yard backstroke, placed second in the 200-yard back and helped set a new league record in the 400-yard medley relay. "The team really came together."

On the men's side, the Yellowjackets came into the 2009 league meet stinging from a third-place finish at last year's event.

This year, the men were on a mission, says senior Patrick Messmer '10.

"It was pretty important for us to be the best (this season) after being third last year," says Messmer, who contributed points in the relays and the individual

freestyle events. "We got surprised a bit last year, so we really wanted to take it to everyone this year."

The men's 2009 team title—its third in four years—helps solidify the Yellowjackets as a top program in the Liberty League and one to be reckoned with nationally.

Coach Peter Thompson says the foundations of success were built during the 2006–07 season, his first at the helm in Rochester, when a sterling senior class "really set the tone" for future Yellowjacket squads. That devotion to success has since been passed down to each edition of the team.

"A lot of pride gets communicated from the upper classes to the lower ones," says Thompson who, along with his assistants, earned league Coaching Staff of the Year honors for both the men and the women. "The seniors pass on what it takes to be successful. They had tasted victory, and they wanted to taste it again." 📍

*Ryan Whirty writes about sports for Rochester Review.*