



STUDENT LIFE

Sing On, YellowJackets!

NATIONAL STAGE: Rochester's longest-running a cappella group has been lighting up the stage on the NBC reality competition *The Sing-Off* this fall, advancing to become one of seven remaining competitors as of the Oct. 31 episode. Judges Sara Bareilles, Ben Folds, and Shawn Stockman have had high praise for the YellowJackets' musicianship, camaraderie, and social outreach—as exemplified by the group's musical exchange with a village in Kenya—but the group's final place on the show was yet to be determined as this issue went to the printer. To keep up with the group's progress, visit www.rochester.edu/news/sing-off. PHOTOGRAPH BY LEWIS JACOBS/NBC



MEDICAL EDUCATION

Surgical First

CLASS PORTRAIT: Considered by many medical professionals to be among the last male-dominated specialties, surgery is getting a new face at Rochester. Doctors Candice Lee (Drexel), Roseanna Guzman (Rochester), Laura Nally (UC, Davis), Bianca Redhead (Rochester), Linda Ding (University of Washington), Melissa Mastroianni (Wisconsin-Madison), and Kristin Kelly (SUNY Upstate) represent the first all-female surgical residency class at the Medical Center, if not the country. Assigned independently to Rochester from some of the nation's top medical schools, they began the second year of their training this academic year. Across the country, only about 19 percent of the nation's 160,000 surgeons are women. PHOTOGRAPH BY ADAM FENSTER







RESEARCH

Play by Play . . . Blow by Blow

Rochester researchers and football players collaborate to learn more about the sport's risks.

By Kathleen McGarvey

JOHN WHITING '12 HAS A LOT TO THINK about when he's on the field. The Yellow-jacket offensive lineman from LeRoy, N.Y., has to worry about snap counts, play formations, and, most of all, blocking the defensive lineman he's responsible for in order

▲ **ON THE LINE:** Cumulative effects of repeated low-impact blows to football players' heads—experienced especially by players in positions such as offensive and defensive lines—are the subject of research by concussion researcher Jeff Bazarian.

to give his Rochester teammates a better chance to move the ball down the field.

He doesn't think much about how many times his head, cocooned in its protective helmet, gets knocked into. Going head-to-head in the trenches, as it were, comes with the territory.

"Once I'm on the field, there are so many other things running through my head that there really isn't time to think about anything else," Whiting says.

A new Rochester study exploring the overall effect of multiple small blows to the head—the kind that are routine for many football players, for example—may

give athletes, trainers, coaches, and sports medicine specialists much to think about in coming years.

Led by Jeff Bazarian, an associate professor of emergency medicine, neurology, neurosurgery, and community and preventive medicine, the study is investigating the possibility that less forceful but repetitive head blows may be at least as damaging to players' brains as single, concussive blows.

Bazarian's team is following 10 Yellow-jacket football players, each sporting a helmet specially outfitted with six sensors that show how many times, and with what force, players take head blows in the course of each practice and game.

"What we're hoping to find out is, what's the relationship between the amount of very subtle injury we can detect in a play-

High-Tech Helmets

Key to emergency physician Jeff Bazarian's research are specially outfitted helmets that allow him and his team to evaluate just what injuries a player's brain may sustain over the course of a season. Brain scans at the start and end of the season, as well as six months later, may also show damage and healing.

How the Sensors Work

A ring of accelerometers line the inside of the helmets, equipment provided to Bazarian by NFL Charities. The accelerometers, sensors about the size of a quarter, measure the number, location, and force of head blows players sustain in the course of a game or practice.

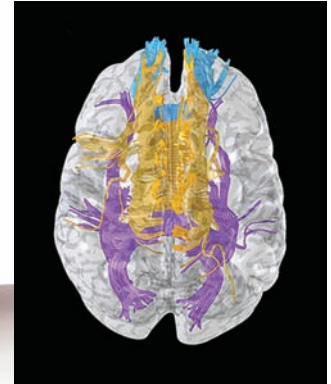
One Player's Story

Sensors in the helmet of one Yellowjacket football player recorded 73 impacts during the Courage Bowl on Sept. 17 in Rochester.

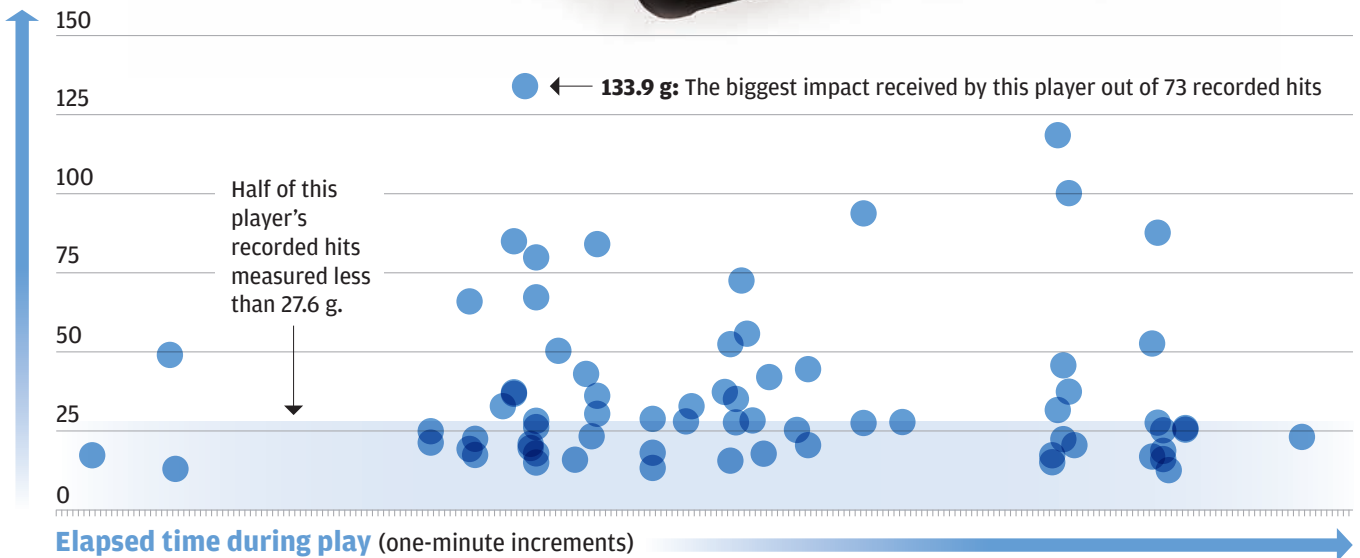


DTI Scan

Diffusion tensor imaging, or DTI, is a form of magnetic resonance imaging that allows researchers to see the brain on the cellular level.



Force of impact (g-force)



SOURCE: Simbex LLC (helmet data); Tong Zhu, Imaging Sciences (DTI scan)

er's brain and the amount of force the head receives over the course of a season?" Bazarian says.

For the past several years, the long-term danger posed to athletes—especially football players—has come into greater focus. A study commissioned by the National Football League, with results released in 2009, showed that former players in the league ran a substantially higher risk—a rate 19 times the normal one for men aged 30 to

49—of Alzheimer's disease and related memory diseases.

"It may not be the single concussion that's the problem long term. The brain does a pretty good job of recovering from that," Bazarian says. "But when you have day-in, day-out hits, you don't give the brain a chance to do what it needs to do to get better. And that may be the problem."

The research had its beginnings in a pilot study with students at a Rochester area

high school in 2007. Bazarian was looking to see if it was possible to detect brain injury from the sport on a new kind of brain scan, called diffusion tensor imaging (DTI), that allows researchers to look at the brain on the cellular level.

Bazarian and his collaborators scanned the high school students at the beginning and end of the season. By the end of the season, only one student had suffered a concussion.

“We looked at the scans, and we found that the one player who’d had a concussion had a significant amount of injury on the scan—but the other nine players, who didn’t get concussed, had almost as much injury,” he says.

He applied for funding from NFL Charities, a nonprofit foundation established by the league’s 32 member clubs, to further his research, and the group has provided 10 specially designed helmets that enable Bazarian and Kirsten Ross ’11—a health project coordinator for the Department of Emergency Medicine—to track how many head blows a player receives in each game and practice, where he is hit, and with what

have any helmet impacts for several games but then goes out for a long pass and gets concussed,” Bazarian says. “We were more interested in the offensive and defensive linemen, the guys who are hitting and getting hit on every play, in every game.”

While football hasn’t been seen as a sport as dangerous to its participants as boxing, that’s changing—and if subconcussive, repetitive blows are a threat to brain health, perceptions of the sport could change dramatically. The numbers Bazarian is collecting are steep.

“After the first practice, we looked at one player’s helmet impact data on the computer, and he’d been hit 70 times,” Bazarian

who’s drawn to this University—it’s a research university,” says athletic trainer Eric Rozen. Bazarian credits him with making the study possible, a vital liaison between players and researchers. “He has a lot of credibility with the players that I don’t have, and they know he’s looking out for their best interest.”

While team members are interested in the research, they’re not preoccupied with the hazards of the sport. Still, “it would be hard for it not to be a concern,” says Rozen. “It’s been so out there in the public.”

“While on the field in practice and in games, I don’t feel any more or less aware of the hits I am taking, but since we now

must turn in the special helmets each night after practice, I find myself looking back on any headache-inducing hits and wondering what kind of damage it may cause to my brain or what kind of force was produced. Basically, I’m very interested in the results,” says Brendan Pigeon ’13, a mechanical engineering major from Oneonta, N.Y. A linebacker for the team’s defense, Pigeon is involved in the majority of plays on the field. With 60 to 80 plays in a game, “I probably have helmet-to-helmet contact on 40 to 50 of them,” he estimates.

The research exemplifies Medical Center–College collaboration with the participation not just of the football team but also of DTI “guru”—in



force. The 10 participating Yellowjackets received DTI scans at the start of the season and will again at the conclusion, and six months later. They also participate in blood testing and genotyping, to help researchers get a fuller picture of their condition. Five control subjects—Rochester students, but not members of the team—are also taking part in the study.

“We tried to target players who were getting multiple repetitive hits, not necessarily the big whack. We weren’t interested in studying the wide receiver who may not

▲ FOR THE RECORD: Kirsten Ross ’11, a health project coordinator in the Department of Emergency Medicine, assists Bazarian, wirelessly downloading the data collected on each helmet after every game and practice of the season.

say. “Seventy times, one player, one practice—it wasn’t even a game. So over the course of the season, players are going to be hit on the order of a thousand times or so, I think.”

The public health implications, he notes, are significant. “There are thousands of 9- and 10-year-olds playing Pop Warner football. They may play competitively for 8 to 10 years. If these low-level head hits cause injury, and if this injury builds up from year to year, we’d better find out. And we’d better find out soon.”

So many Rochester players were prepared to take part that Bazarian had to turn some away. He hopes to secure further funding to put helmets outfitted with sensors on all players and to follow his subjects for several years.

“I think it’s the nature of the student

Bazarian’s words—Jianhui Zhong, a professor of imaging sciences and biomedical engineering at the School of Medicine and Dentistry, and Eric Blackman, a professor of physics and astronomy in the College, who will interpret the impact data when the season ends.

Bazarian is hopeful that, if he’s able to follow the students for several years, he’ll find that the brain recovers when it’s given adequate rest. “That would be best case scenario: if we see any damage, with rest, it goes away.”

The investigations could also point the way to a threshold, a number of blows or a collective force at which coaches and trainers know it’s imperative to pull a player out of a game.

“Maybe the information could be used in a preventive kind of way,” he says. **R**

LIBRARIES

Visual AIDS

The world's largest collection of AIDS posters goes online.

By Kathleen McGarvey


IT'S BEEN THREE DECADES SINCE AIDS WAS first identified as a disease. Now Rochester is launching a new online database of the largest collection of AIDS posters in the world, providing a unique resource for understanding the visual history of AIDS.

Edward Atwater '50, an emeritus professor of medicine who taught in the School of Medicine and Dentistry for 37 years, collected the posters and donated them to Rare Books and Special Collections. "I started collecting them to chronicle history in medicine, but soon realized that it wasn't medical history as much as social history," says the one-time history major.

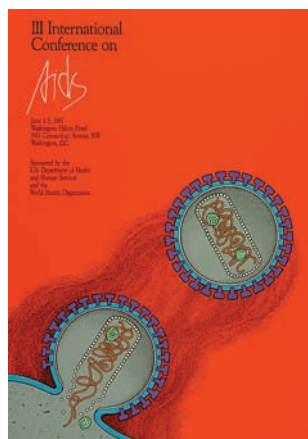
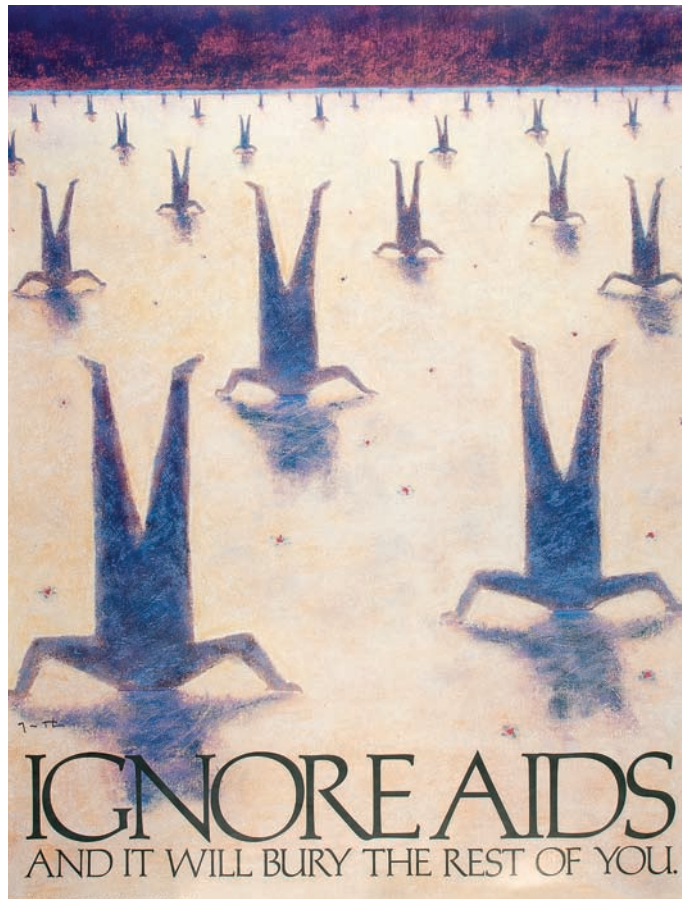
The AIDS Education Posters Project website (<http://aep.lib.rochester.edu>)—intended for the general public as well as researchers, historians, artists, and physicians—showcases a collection of more than 6,200 posters in 60 languages from more than 100 countries. It will continue to grow as new collection materials, research papers, and articles are added over time.

Richard Peek, director of Rare Books and Special Collections, calls the collection "an incredibly rich visual history," one that he hopes will engage those in medicine and science, as well as the humanities. "Using the best tactics of Madison Avenue advertising, the graphic messages range from the humorous to the deadly serious, from national concerns to the concerns of politicized risk groups."

The launch of the website is part of a yearlong 30th anniversary "Looking at AIDS 30 Years On" Humanities Project. Scheduled events included a talk by Michael Gottlieb '73M (MD), who is credited as the first researcher to describe AIDS.

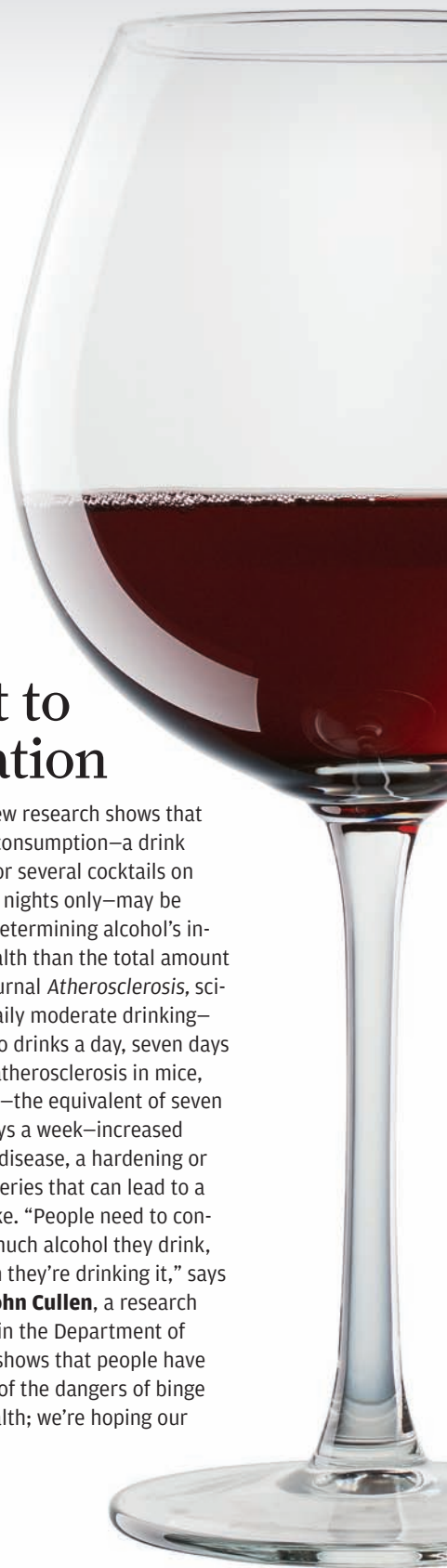
For more about the project, visit the website at <http://rochester.edu/college/humanities/projects>. 

HISTORICAL VIEW: Edward Atwater '50, a professor emeritus of medicine, says his collection of AIDS posters represents 30 years of social history.



A Toast to Moderation

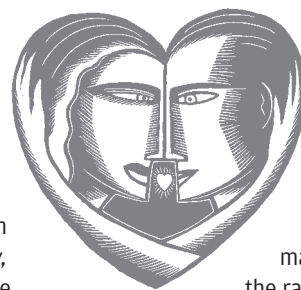
For the first time, new research shows that patterns of alcohol consumption—a drink or two every night, or several cocktails on Friday and Saturday nights only—may be more important in determining alcohol's influence on heart health than the total amount consumed. In the journal *Atherosclerosis*, scientists found that daily moderate drinking—the equivalent of two drinks a day, seven days a week—decreased atherosclerosis in mice, while binge drinking—the equivalent of seven drinks a day, two days a week—increased development of the disease, a hardening or narrowing of the arteries that can lead to a heart attack or stroke. “People need to consider not only how much alcohol they drink, but the way in which they’re drinking it,” says lead study author **John Cullen**, a research associate professor in the Department of Surgery. “Research shows that people have yet to be convinced of the dangers of binge drinking to their health; we’re hoping our work changes that.”



Is Marriage Good for the Heart?

Giving your heart to a supportive spouse turns out to be an excellent way to stay alive, according to new research.

Happily wedded people who undergo coronary bypass surgery are more than three times as likely to be alive 15 years later as their unmarried counterparts, according to a study published online in *Health Psychology*, a publication of the American Psychological Association. The effect of marital satisfaction is “every bit as important to survival after bypass surgery as more traditional risk factors like tobacco use, obesity, and high blood pressure,” says



Harry Reis, a professor of psychology. He coauthored the study with **Kathleen King**, a professor emerita from the School of Nursing.

But the marriage advantage plays out differently for men and women. For men, marriage in general is linked to higher survival rates, and the more satisfying the marriage, the higher the rate of survival. For women, the quality of the relationship is more important. Unhappy marriages provide virtually no survival bonus for women, while satisfying unions increase a woman's survival rate almost fourfold.

How Chronic Stress Short-circuits Parenting

In the best of circumstances, raising a toddler is daunting—but parents under long-term stress often find it particularly challenging to tap into the patience, responsiveness, and energy required for effective child rearing. Now research helps to explain why chronic stress and parenting are such a toxic mix.

A study published in *Development and Psychopathology* finds that ongoing strains like poverty or depression disrupt the body's natural stress response, making mothers more likely to engage in a host of problematic parenting behaviors, including neglect, hostility, and insensitivity.

“Stress gets under your skin,” says lead author **Melissa Sturge-Apple**, an assistant professor of psychology. “It literally changes the way a mother's body

responds to the normal demands of small children, and those changes make it much harder to parent positively.”

The study is the first to measure physiological stress response in real time, says **Fred Rogosch**, research director at the University's Mt. Hope Family Center and a fellow author on the paper.

Researchers observed 153 mothers and their 17- to 19-month-old children, and participants' reactions were captured using a novel wireless electrocardiograph monitor developed for the study by University engineers **Zeljko Ignjatovic** and **Wendi Heinzelman**.

“Stress is not just in our heads, it's in our bodies,” says Sturge-Apple.

Breaking Up, Continental-Style

Lava deposits that lie many thousands of miles apart share common chemical and isotopic signatures—an indication that they share a common source in the Gondwana supercontinent. That's according to new research by **Asish Basu**, a professor of geochemistry.

The Sylhet Traps lava flows of the Shillong Plateau in northeastern India lie some 340 miles to the east of the Rajmahal Traps at the bend of the Ganges River as it flows south to the Bay of Bengal. Almost 1,000 miles to the south is the 3,000-mile-long Ninetyeast Ridge, rising a mile above the surrounding Indian Ocean floor, still beneath the seawater. And some 1,600 miles east of the southern edge of this ridge is the edge of western Australia, while 2,500 miles to the southwest is the underwater Kerguelen Plateau, just off Antarctica.

Basu's findings, which were published in the journal *Earth and Planetary Science Letters*, show that the samples all came from the same lava plume that seems to have broken apart the Gondwana supercontinent. It formed about 500 million years ago by the amalgamation of the continental landmasses of Antarctica, South America, Africa, Madagascar, Australia, the Arabian Peninsula, and the Indian subcontinent. "It's important to understand large regions of igneous rock formations—called large igneous provinces," says Basu, "because they often break apart continents and are sometimes associated with environmental catastrophes, like mass extinctions."

Rajmahal Traps

India

Sylhet Traps

Ninetyeast Ridge

Australia

Broken Ridge

Kerguelen Plateau

Antarctica



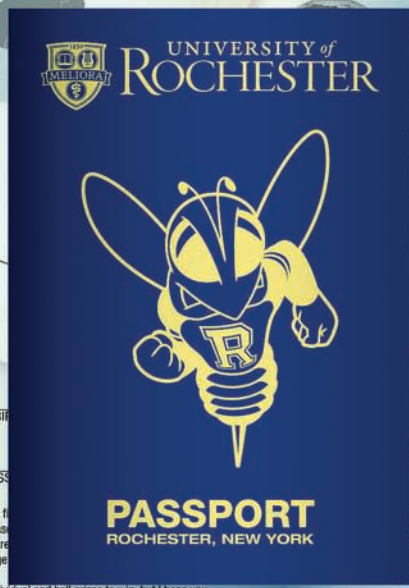
ON EXHIBITION

'Extreme'-ly Clean

Danielle Julian Norton, an artist and faculty member at Columbus College of Art and Design, assembles her installation for *Extreme Materials 2*, an exhibition organized by the Memorial Art Gallery that features work created from unusual, often mundane, materials. Titled "Clear," Norton's installation is made up of about 12,000 bars of Neutrogena amber facial cleansing soap. Weighing more than 3,000 pounds, the work took seven days to assemble. The exhibition runs through Jan. 15, 2012. PHOTOGRAPH BY ADAM FENSTER



In Brief



Citizen of the World
for those who could sign in three or more places

Northern and Western China
including Beijing

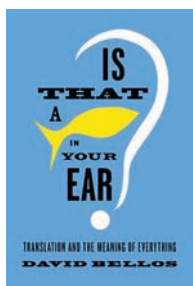
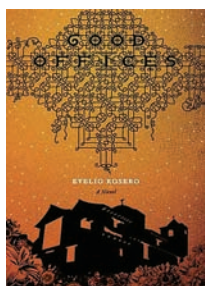
Southern China
including Shanghai, Nanjing and Shenzhen

See the World

When the Class of 2015 arrived on campus for the fall semester, they received a novel challenge: to fill in “passports” with the signatures of fellow classmates from geographic regions around the world. Among those who complete the project, one student—whose name will be announced in mid-November—will win a round-trip ticket anywhere in the world. Through the Freshman Passport Challenge, first-year

students are encouraged to meet more of their peers and discover how diverse their class is.

“It’s an experiment,” says **Jonathan Burdick**, dean of admissions and financial aid. “But I think it’s an activity that the entire class can participate in, have fun with, and hopefully, creates an appreciation for diversity across the world.”



Recent selections available on readthisnext.org.

Sneak Previews

Not sure what to read next? **Three Percent**, the literary blog at the University’s translation press, Open Letter Books, has some suggestions. With an eye to readers interested in perusing books before making a selection, the new blog Read This Next (readthisnext.org) offers a free

preview each Monday of a work of international literature due to be published within the next month. Previews can be read online, printed, or downloaded to a phone, Kindle, or e-reader. An interview with the author or translator and a full review are also available.

“The U.S. pays higher costs for the same service in part because the government plays a smaller role in negotiating prices. Overseas, governments compress patient demand by acting as a tough regulator and negotiator for the whole system.”

—**Garry Wedig**, an associate professor of business administration, explaining on CNBC why the United States pays more for health care than other nations.

“Throwing back a candidate’s words at him or her is a tried-and-true method. But you’ve got to have the candidate to go with it.”

—**Richard Niemi**, the Don Alonzo Watson Professor of Political Science, assessing on NPR efforts to capture the campus vote in the 2012 presidential election.

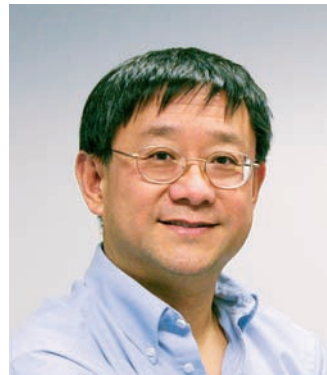
Faces and Places: Appointments at Warner, Nursing, and Optics, and in Research



Raffaella Borasi has been appointed to a third five-year term as dean of the Warner School. A mathematics educator, Borasi—who holds the Frederica Warner Professorship—is known as an innovator in designing programs that prepare teachers to be effective leaders in the classroom. As Warner’s sixth dean, she has led the school during a decade of significant growth in student enrollment and research funding. Borasi is a graduate of the University of Torino in Italy and received master’s and doctoral degrees in mathematics education from the University at Buffalo. She joined the Warner School faculty in 1985.



Kathy Rideout, a faculty member of the School of Nursing for more than 25 years, has been named interim dean of the School of Nursing, pending the outcome of a national search for a successor to Kathy Parker. Parker, who was appointed dean in 2008, announced in September that she was stepping down as dean to devote herself more fully to her research interests within the Medical Center as director of its Sleep Research Program. Rideout has recently served as the school’s senior associate dean for academic affairs. She has also worked as a nurse practitioner within Golisano Children’s Hospital.



Xi-Cheng Zhang, the director of the Center for Terahertz Research at Rensselaer Polytechnic Institute, becomes the new director of the Institute of Optics in January. Zhang succeeds Wayne Knox, who is stepping down after 10 years to become associate dean of education and new initiatives at the Hajim School. Internationally regarded for his work in the field of lasers and electro-optics, Zhang has received some 30 honors and awards during his career, most recently the William Streifer Scientific Achievement Award from the IEEE (Institute of Electrical and Electronics Engineers) Photonics Society.



David Williams, one of the world’s leading experts on human vision, has been appointed dean for research in Arts, Sciences, and Engineering. The William G. Allyn Professor of Medical Optics and director of the Center for Visual Science, Williams has pioneered new technologies to improve the eyesight of people around the globe, from the legally blind to those with 20/20 vision. He succeeds Paul Slattery, a professor of physics who has overseen research programs in Arts, Sciences, and Engineering since 1998, a period in which total research funding more than doubled, to \$135 million in 2010.

Gandhi Institute Has a New Home

The M.K. Gandhi Institute for Nonviolence has opened the doors to its new offices in the Plymouth-Exchange neighborhood across the Genesee River from the River Campus.

Housed in the Interfaith Chapel for the past four years, the institute opted to move to a

house on South Plymouth Avenue owned by **David Skinner** ’79, a chemist with Xerox, and **David Knoll**, a mortgage officer and the principal founder of Genesee Co-op Federal Credit Union, a Rochester community development institution.

The rehabilitated 1890s house,

vacant for the last 17 years, will give institute staff more workspace, as well as room for a community garden site and outdoor meeting space.

The institute will maintain a strong presence on campus, with an office in the Interfaith Chapel and continued use of the Gandhi

Reading Room in Rush Rhees Library for events and programs.

The new location will provide greater opportunities to work directly with the community. “We’re excited about creating an on-the-street presence in Rochester so close to campus,” says institute director **Kit Miller**.



THREE QUESTIONS

How Now, Brown Cow?

Weighing in on the debate surrounding chocolate milk in schools.

Interview by Kathleen McGarvey

AS AMERICANS TRY TO TACKLE THE OBESITY RATE, CHOCOLATE milk has become a target, with some schools across the country opting to ban it. Stephen Cook, an assistant professor of pediatrics and an obesity researcher, is the leader of the Greater Rochester Obesity Collaborative, a group selected last summer to serve as a national model for obesity prevention and treatment.

Why is chocolate milk being targeted by schools?

It's not just chocolate milk that we need to get out of kids' meals—it's any sugar-added beverages. Kids don't consume enough milk as it is, and the trends in national data from the past 20 years show milk consumption in kids and adults going down, and juice and soda consumption in kids going up.

Isn't chocolate milk different from soda?

Chocolate milk or milk has vitamin D, calcium, phosphorous, magnesium—these are very important nutrients. It has protein, as opposed to just sugar. And it has some fat. It's a mixed nutrient food product, unlike a soda or juice, which has maybe a few vitamins, if any, and a carbohydrate: sugar. You have a healthier mix of nutrients in a milk product. But you don't need the added sugar, whether it's in the form of table sugar or high-fructose corn syrup. Metabolically, too much of either is bad—especially in liquid form because they're absorbed so fast that the liver can't handle them properly. Lowfat milk and water is all kids really need to drink.

What about media reports touting chocolate milk as a sports recovery drink?

For high performance athletes, that's fine. Recovery products are a mix of protein, minerals, and nutrients. They don't taste like milk, but essentially that's the concept. In a fatigued, highly trained athlete, getting protein right after exertion is important for muscle recovery, and some studies are finding that chocolate milk is a good source for that. But how many kids really are athletes to that degree? **R**

ATHLETICS & RECREATION

12 Inducted into Athletics Hall of Fame

A TOTAL OF 12 NEW MEMBERS WERE INDUCTED into the Department of Athletics and Recreation Hall of Fame this fall, recognized for their success and commitment to Rochester athletics and to their achievements in their careers and communities. This year's inductees include:

- **George Angle** (Friend of Rowing). Known as the "Father of UR Crew," the retired senior executive for University public affairs was an initial mentor and fundraiser for the original University rowing program in 1981.

- **David Bence** '81 (Basketball). A four-year starter on the basketball team, including captain on the then winningest team in school history (20 victories in the 1980-81 season), Bence is director of sales and marketing for Embassy Suites Hotels, Hilton Worldwide Corporation.

- **Walt Campbell** '60 (Football/Baseball). A three-year starter on the football team, playing fullback, linebacker, and kicker, Campbell was a member of the undefeated (8-0) football team of 1958. He ranks 10th on Yellowjackets' all-time scoring list, with 150 points.

- **Monica Farren Warnsmann** '92 (Swimming). As a swimmer, she earned All-America awards in three relays and eight individual events and is currently listed in the top 10 all-time in 12 events at the University. After graduation, she taught special needs children in Virginia and Massachusetts and now volunteers at her children's elementary school and serves as a Girl Scout leader.

- **Mark Kivitz** '73 (Tennis). In 1970-71, Kivitz achieved a perfect 10-0 record at positions No. 1 and No. 2 singles during his sophomore year and went on to win several collegiate events, including the NCAA Atlantic Coast Regional's individual title.

- **Rishad Pandole** '96 (Squash). Pandole was a first team All-America selection in his final three years at Rochester, earning accolades from former coach Peter Lyman '47, who described Pandole as the best

squash player he worked with as Rochester's coach.

- **Jim Lennox** '51 (Golf/Basketball). A three-time golf team captain, Lennox compiled a 6-3 individual record in the 1950 season for the Yellowjackets. He was also a two-year starter on the basketball team, where he was one of five players who played in every game of the 1948-49 season.

- **John Luther** '82 (Cross Country/Track and Field). Luther was the 1981 champion in the 1500 meters (3:56.50) at the New

two seasons. He was also a three-year starter on the baseball team, where he led the team in batting average in both his freshman and sophomore seasons.

- **George Schmergel** '65 (Soccer). A three-year letterman, Schmergel held the single-season scoring record (16 goals) at the time of his graduation. A Rochester lawyer, he practices in several legal areas, including bankruptcy and immigration, and is active as a volunteer in the community.

- **Elizabeth (Libbie) Tobin** '94 (Soccer/



INDUCTEES: The 2011 members of the Athletics Hall of Fame are (sitting, left to right) Jennifer Witz (accepting for Walter Campbell '60), Elizabeth Tobin '94, Kerey Schmergel (accepting for George Schmergel '66), Tanya Durni '83 (accepting for James Lennox '50), Monica Farren Warnsmann '92, '96 (MS), George Angle; (standing) Richard Miller, Mark Kivitz '73, Rishad Pandole '96, Thomas Murray '82, David Bence '81, John Luther '82.

York State Collegiate Track and Field indoor championships and finished fifth in the 3,000-meter steeplechase at the 1981 NCAA championships, earning All-America honors and setting a then University record in the event.

- **Richard Miller** '66 (Football). Miller was a three-year starter on both the offensive and defensive lines and served as co-captain his senior year. Former coach Don Smith credited Miller as being one of the finest leaders who played for him.

- **Tom Murray** '82 (Football/Baseball). A two-time All-American in football, Murray led the team in total tackles during his final

Basketball). Tobin led the soccer team to four straight NCAA appearances, reaching the title game in 1991. She helped anchor a defense that compiled 47 shutouts over her four-year career. A two-year starter on the basketball team, she is currently 21st on the career scoring list with 705 points, and she finished her career in the top 10 in free throw percentage (3rd), assists (6th), and steals (10th). **R**

—DENNIS O'DONNELL AND
SCOTT SABOCHECK

For more about the Hall of Fame, visit www.rochester.edu/athletics/halloffame.