**STUDENT ENSEMBLES**

## Inaugural Performance

PRESIDENTIAL PORTRAIT: Students from the Eastman School—graduate students Markiyan Melnychenko (violin) and Kelsey Farr (viola) and seniors Hyeok Kwon (cello) and Che Ho Lam (violin)—have been invited to perform as part of the ceremonies for President Barack Obama's second inauguration in January. The students, shown here in a balcony adjacent to Kodak Hall, were selected after U.S. Senator Charles Schumer (D-NY) asked the Eastman School to nominate an ensemble to perform as part of inauguration. Schumer chairs the Joint Congressional Committee on Inaugural Ceremonies. **PHOTOGRAPH BY ADAM FENSTER**

**CHEMISTRY**

## Helping Hydrogen

DOT PATTERN: Vials of colloidal cadmium selenide fluoresce under ultraviolet light as part of a project by chemistry graduate students Zhiji Han and Fen Qiu, who worked in collaboration with Richard Eisenberg, the Tracy H. Harris Professor of Chemistry, and chemistry professors Todd Krauss and Patrick Holland. The team, which reported results last fall in the journal *Science*, is exploring the use of nanocrystals—also known as quantum dots—to increase the output and lower the cost of current light-based systems used to produce hydrogen, an effort that could affect the cost and viability of using sunlight to provide clean, carbon-free energy. The particle sizes increase from green (about 2.5 nm in diameter) to red (about 6 nm). **PHOTOGRAPH BY ADAM FENSTER**


YELLOWJACKETS

## Game Faces

THREE POINTS! Danielle McNabb '14 and her teammates celebrate after the junior forward hit a game-winning three-point shot with 3.3 seconds left to lead the Yellowjackets to a 60–58 victory over SUNY Geneseo in the championship game of the Wendy's College Classic at the Palestra in December. Earlier in the tournament, the women posted win No. 259 for coach Jim Scheible as a Yellowjacket, making him the winningest coach in the program's history. The first-round victory also marked the 400th win of Scheible's coaching career. The men also won the 2012 Wendy's title as they jumped out to a 10–0 start as of the winter break. PHOTOGRAPH COURTESY OF THE DEPARTMENT OF ATHLETICS AND RECREATION


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TEACHING

# Starting an Online Conversation

## Rochester begins to map a course as the world of higher education adjusts to rapidly changing technology.

Interview by Kathleen McGarvey

LAST FALL, THE UNIVERSITY ANNOUNCED that it planned to partner with nine peer institutions to explore an innovative initiative in online education. Rather than leap into the world of so-called "massive open online courses," or MOOCs, that have made recent headlines, Rochester and its peers—Brandeis, Duke, Emory, Northwestern, UNC–Chapel Hill, Notre Dame, Vanderbilt, Wake Forest, and Washington University in St. Louis—hope to test a different model, one that remains true to the values of residential colleges.

▲ **LOOKING AHEAD: Rob Clark is heading a University effort to explore the best options for deploying technology in the classroom and, potentially, online.**

As part of the new initiative, the universities will be partners in a consortium to support an online course program called Semester Online. The consortium will work with the company 2U, which was created in 2008 to develop for-credit online courses.

Rob Clark, dean of the Hajim School and interim senior vice president for research, is leading Rochester's participation in the new initiative as well as a University-wide task force to make sure that Rochester is a "part of the conversation" about fast-evolving developments in higher education.

**Why are universities exploring online models of instruction?**

It's clear at this point that online education and technology are here to stay. Better online delivery platforms, social networks, the capacity to personalize instructional material—these are all making online education a more feasible option than it has ever been before. The technology is more readily available, and there's a fair bit of momentum. Stanford and other universities, such as Princeton, Johns Hopkins, the University of Pennsylvania, and Duke, have joined Coursera, a company that offers more than 100 MOOCs that can draw millions of

ADAM FENSTER

students from across the globe. Stanford announced in the fall that it has also established Class2Go, a new open-source platform for online education that already hosted two MOOCs. There's no question that we're at a moment of transition for higher education, as technology and online education create new options for instruction.

**What has Rochester done to date?**

Our faculty have been exploring the role of technology in education for some time. For example, in the late 1990s, faculty in the Department of Mathematics developed WeBWorK, a web-based interactive system to improve teaching and learning in math, that was later used by universities across the country. At the Eastman School, some faculty have used the web to provide supplemental instruction as well as web-based courses in theory and other areas. The School of Nursing has offered online courses since 2002. It's a program they established to meet the needs of their students, whose work and family commitments created a need for them to have more flexible instruction. They offer 41 online courses or hybrid online programs, and 26 percent of their enrollment last year was in online programs.

For the University as a whole, we want to find the right approach, the one that works best for who we are. There are a number of directions we could take, but we want to have an active dialogue with faculty and with students to explore what we think works best for us.

A benefit of working with the peer institutions of Semester Online is that the consortium is made up of institutions that see the same value in the residential experience that we do—and they're also interested in exploring the options that technology is creating.

**What will be offered through Semester Online?**

The idea is to offer academically qualified students an expanded selection of courses from some of the country's best schools, giving them freedom to work, travel, and participate in off-campus research programs, or manage personal commitments as they pursue their academic goals. Unique offerings at one consortium school may become accessible to students at other consortium schools. Curricular options may be expanded for our students who want to study abroad. For students in areas such as engineering, where there are fairly rigid curricular requirements, that's a very valuable benefit.

**How is Rochester developing its plans?**

Our faculty are engaged in active discussions about instruction and how we can improve our work as teachers. Part of that discussion, increasingly, involves technology and how—and when—to leverage it in ways that are appropriate to what we do. I'm currently working with a newly established, University-wide task force, the Committee on Online Learning, as well as other groups within academic divisions, to discuss possible online learning initiatives. We're informally surveying faculty on how they're already using technology, and the task force is working to identify technologies that could benefit broad groups of faculty and students.

**What are the implications of online education for brick-and-mortar institutions?**

I'm more interested in how we deploy technology on campus than what we do online. It's possible that things that work well on campus could also work well online.

## Peer Group

Rochester is one of 10 institutions in a new consortium exploring online education. Others are:

- Brandeis
- Duke
- Emory
- Northwestern
- UNC-Chapel Hill
- Notre Dame
- Vanderbilt
- Wake Forest
- Washington University in St. Louis

But there's no reason to see online education as an "either-or" proposition. I can't imagine that institutions like Harvard and MIT—which are offering free online courses as part on an online learning project—are coming together to put themselves out of business.

I think there's something about the residential piece of education—bringing a community together, physically—that online education can't duplicate. I'm confident that in 20 years, the residential experience will be thriving. We may be able to develop online courses that are as good—in some cases, perhaps, that are even better—than what's offered in the classroom.

But online education will never substitute for the residential experience.

**What benefits do you see for Rochester? What risks?**

I'd rather that we be part of the conversation on online education than sit on the sidelines and see what other universities are doing. Projects like Semester Online are an opportunity to explore things that work and don't work. A large benefit of the project is that it puts us in conversation with like-minded universities to see if we can shape online education. And we're really at no risk, because if the institutions find that we should go in a different direction, it would be in the best interest of both the consortium and 2U to terminate the initiative.

Beyond that, it's a matter of our doing very small experiments in a number of areas involving technology and instruction to see what works best for the students and faculty at Rochester. From humanities to medicine, music to engineering, and beyond, we have different audiences, and how technology is deployed to enhance learning will have to be worked out differently for all those groups. R

The idea is to offer academically qualified students an expanded selection of courses from some of the country's best schools, giving them freedom to work, travel … or manage personal commitments as they pursue their academic goals.

# From a Violent Collision Comes Celestial Beauty

Beautiful "space gems"—a rare form of meteorite called pallasites—have fascinated scientists since they were first identified as originating from outer space more than 200 years ago.

Now new research by a team led by geophysicist **John Tarduno** indicates that the origins of pallasites are more dramatic and violent than first thought.

In a study published in *Science*, the geophysicists report that pallasites were likely formed when a smaller asteroid crashed into a planet-like body about 30 times smaller than Earth, resulting in the distinctive mix of materials—olive-green crystals embedded in an iron-nickel matrix—that make up the meteorites.

Forged from iron-nickel and the translucent, gem-like mineral olivine, pallasites were thought by many scientists to have formed where those two materials typically come together: at the boundary of the iron core and rocky mantle in an asteroid or other planetary body. Tarduno discovered that tiny metal grains in the olivine were magnetized in a common direction, a revelation that led the researchers to conclude that the pallasites must have been created much farther from the core.

The research also helps to answer affirmatively questions about whether small celestial bodies can have "dynamo action"—a rotating, liquid iron core that can create a magnetic field. —Peter Iglinski

**PRETTY PALLASITES: Rochester geophysicists have found that the unusual materials in a rare form of meteorite likely come from a collision between an asteroid and a planet-like body smaller than Earth.**

NATIONAL GEOGRAPHIC STOCK

## Neuroticism Can Be Good for Your Health

It may be time to stop worrying about a little anxiety: under certain circumstances, neuroticism can be good for your health, according to a Medical Center study showing that some self-described neurotics also tended to have the lowest levels of interleukin 6, a biomarker for inflammation and chronic disease.

Researchers made the preliminary discovery while conducting research into how psychosocial factors such as personality traits influence underlying biology to predict harmful conditions such as inflammation.

Considered by psychologists to be one of the five basic dimensions of personality—along with openness, extraversion, agreeableness, and conscientiousness—neuroticism is usually marked by moodiness, nervousness, and worry and is linked to hostility, depression, and excessive drinking and smoking.

**Nicholas Turiano**, a postdoctoral fellow in psychiatry, wondered about the gray area of people with average-to-high levels of neuroticism who are also conscientious. Exhibiting higher levels of conscientiousness as well as neuroticism points to people who tend to be high-functioning in society, very organized, and goal-oriented planners. They're also more likely to be reflective.

"These people are likely to weigh the consequences of their actions, and therefore their level of neuroticism coupled with conscientiousness probably stops them from engaging in risky behaviors," says Turiano, whose study is published online by the journal *Brain, Behavior, and Immunity.*

—Leslie Orr

**SWEPT CLEAN: Blind mole rats have a unique biological mechanism that sweeps abnormal cells and nearby cells from their bodies.**

## A Life Underground—But Cancer-Free

Just a few years after pinpointing a cancer-fighting mechanism in one species of mole rats, biologists have discovered a different anticancer mechanism in another.

Blind mole rats and naked mole rats are the only mammals never known to develop cancer. Three years ago, **Vera Gorbunova**, professor of biology, and **Andrei Seluanov**, assistant professor of biology, determined the anticancer mechanism in the naked mole rat.

Their research found that a specific gene—*P16*—makes the cancerous cells in naked mole rats hypersensitive to overcrowding, and stops them from proliferating when too many crowd together.

They expected blind mole rats to have the same mechanism—but found instead that they have developed one of their own. The precancerous cells in blind mole rats died by a mechanism that kills both abnormal cells and their neighbors, resulting in a "clean sweep." The findings have been published in the *Proceedings of the National Academy of Sciences.*

While people don't have the same mechanism, researchers hope it may be possible to simulate a similar clean-sweep reaction in cancerous human cells.

—Peter Iglinski

## Language Shaped By Brain's Desire for Clarity, Ease

For linguistic purists terrified of the corruption of their mother tongue, cognitive scientists have good news.

A team of researchers from Rochester and Georgetown University has found that many changes to language are simply the brain's way of ensuring that communication is as precise and concise as possible. The study—by lead author **Maryia Fedzechkina,** a doctoral candidate, and coauthors **T. Florian Jaeger,** the Wilmot Assistant Professor of the Sciences, and **Elissa Newport,** the former George Eastman Professor of Brain and Cognitive Sciences—was published in the *Proceedings of the National Academy of Sciences.*

The team used an artificial language in a carefully controlled laboratory experiment to observe the language acquisition process. When faced with sentence constructions that could be confusing or ambiguous, the language learners chose to alter the rules of the language they were taught in order to make their meaning clearer.

The brain's tendency toward efficient communication may also be an underlying reason that many human languages are structurally similar.

Linguists have long identified nearly identical grammatical conventions in seemingly unrelated languages scattered across the globe, but wondered whether these recurrent structures are artifacts of distant common origins, random accidents, or reflections of fundamental aspects of human cognition. This research supports the latter, say investigators.

—Susan Hagen

CORBIS

CLINICAL CARE

# Good Medicine Is Personal

Geneticist **Chin-To Fong**, associate professor of pediatrics, has received the 2012 Arnold P. Gold Humanism in Medicine Award. He was nominated by Rochester medical students who consider him a caring and compassionate mentor who doesn't just teach them to be caring physicians, but also exemplifies one.

**How did you realize the importance of human connection?**
The patients teach you that. Every person you meet. Maybe it's because I'm in genetics—most of the time, we make diagnoses we can't fix. My job is really to understand where people come from, to get a sense of how to change their perspective so that they still can have a very high quality of life and a very positive outlook, despite the seeming odds against them.

**How do you teach students to connect with patients?**
In medical schools, we are very good at teaching science and technology—and I suppose a lot of the intellectual challenges lie in those arenas. But the medical science textbook doesn't teach you that you're working with real people.

For first-year medical students, I bring patients into the classroom, and I don't do it in the traditional grand rounds sort of way. I usually have patients talk about their lives. So these sessions are not so much clinical-diagnosis-and-management-driven but life-perspective-driven.

**Has it become harder for doctors and patients to connect?**
Sometimes we get so wrapped up in the latest gadgets and latest nuance about science and technology that we forget the underlying human essence really hasn't changed. A good example is the new push toward "personalized medicine"—the idea is that you can genetically determine each person's vulnerabilities and give appropriate lifestyle changes or preventive management. But the term is actually very misleading in suggesting that being "personal" is something new. Good medicine has always been personal. You've just got to deal with each person, each patient, as an individual. You try to know what they do, how they were raised, what interests them, what is important to them—and when they get sick, what do they lose that matters to them? If it's somebody who likes to read and they can't read anymore, that's a huge suffering.

**Do you rely on patients to tell you about themselves to get a sense of who they are?**
You have to be observant. There's no magic. You've got to care to observe. And you've got to think to assess what the patient is thinking, what he or she really needs or wants, what he or she is missing. It sounds a little clichéd, but caring goes first. If you don't care enough to look, you won't find.

Knowing what to look for, of course, that takes some training. But people who never really care, they will never see.

Sometimes the word "caring" is limited to physical acts: you care for patients, meaning that you do things for them, but it really starts from the precept that you connect. You care in that sense. —Kathleen McGarvey

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COGNITIVE SCIENCE

# How Do You Make a Decision?

**Benjamin Hayden**, assistant professor of cognitive sciences, is helping unravel the mysteries of how we make decisions. Selected as a 2012 Sloan research fellow by the Alfred P. Sloan Foundation, Hayden, who specializes in the new field of neuroeconomics, studies self-control and decision making from a range of perspectives, including psychology, animal behavior, philosophy, and popular culture.

**When I'm making a decision, am I rationally weighing choices?**
If you're like most people, you think of your decision making as being like a scale. We believe that we think about the good things, the bad things, and we see where the balance is. And that's not at all the way it works. We really have a lot of mental shortcuts, rules of thumb—we call them heuristics—hundreds of them. They compete against each other, and that's what produces our choices. It's messy and complicated.

**How do we create those shortcuts—and why?**
From the moment you're born, you start coming up with these rules of thumb. Some of them might even be hardwired in your brain. These are things that we develop, learn about, and then are constantly cultivating, pruning, and improving.

Part of what we're doing as a research team is trying to dis-



CORBIS

MUSIC THEORY

# Pitch Perfect?

**Elizabeth West Marvin** '81E (MA), '89E (PhD) was first appointed at the Eastman School to lead its aural skills program—teaching students to sing by sight, to hear music in their heads, and to write music in dictation. A professor of music theory and of brain and cognitive sciences, she has directed some of her research toward perfect pitch and how best to teach students who have it. This fall, she received the Gail Boyd de Stwolinski Prize for Lifetime Achievement in Music Theory Teaching and Scholarship for outstanding pedagogical contributions in the discipline.

**What is perfect pitch?**
In music-cognitive literature, it's known as absolute pitch. When you ask someone with absolute pitch to sing a G-sharp, they can. Or if you play a note, they can say, "That's B-flat," without any external reference note. Most people use relative pitch, hearing a pitch in relation to other pitches.

But people with absolute pitch have associated in long-term memory the names of notes, just the way most of us have names for colors. When you say something is blue, you don't have to think about it; you don't have to dredge it up from your memory. It's just immediately available. That's how pitch is for people with absolute pitch.

**Does everyone process pitches through absolute pitch or relative pitch?**
There is a tiny minority of people, probably similar in size to the absolute pitch group, who have amusia, or tone deafness. People with amusia have difficulty discriminating small pitch changes, and so they never create a mental tonal hierarchy for the structure of scales and chords. For some of the people who have it, they can't even discriminate between musical timbres—the sound of one instrument as compared to another. For them, music can sound like noise, like crashing pots and pans.

**What is it like to teach students with absolute pitch?**
At Eastman, about 12 percent of our entering undergraduate class in any year has absolute pitch, which is much higher than the published norm—something like one in 10,000 people. It's because, as a music school, we have a biased sample: we only see the highest-caliber musicians, who have years of specialized training.

It's a challenge to have a mixed class of some students with absolute pitch and some without. If you treat them all the same, the students with absolute pitch won't be challenged. But it you try to challenge them too much, they'll feel persecuted, imagining that you're intentionally putting barriers in the way of something that's normally simple for them.

**Do people with absolute pitch have an advantage as music students?**
That's a controversial topic. Certainly a person with absolute pitch has an advantage in playing atonal music, where there's no tonal center to use as a convenient reference point. But absolute pitch doesn't confer superior musicianship. Just because you can label a note doesn't mean you can play that note more beautifully or with more meaning.

—Kathleen McGarvey

ISTOCKPHOTO

entangle those, at least in some very simple cases, to see what those shortcuts and processes would be.

**What's the effect of heuristics?**
The brain is designed to be as efficient as possible, using as few calories as it can. But it's not as rational a process as we think it is. We're very easily swayed by things that should be completely irrelevant. Advertisers use this against us all the time. The take-home message is not to be so trusting of our gut feelings. We should educate ourselves on all kinds of biases, as a corrective to the heuristic. We want to keep a skeptical position, and if we reflect on the sorts of decisions we've made, fairly openly and honestly, that helps cultivate new rules that we can use as we make decisions.

**What's going on in the brain when we make a decision?**
We now know that about seven or eight of the roughly 150 areas of the brain are really important to decision making, and we're starting to understand what they do.

The brain areas that seem to be the key areas for economic decisions are the same areas that are targeted by drugs of abuse and that are disregulated by mood disorders and depression. At the very basic level—the level of neurons—that my team is working at, drug addiction and mood disorders look very similar, so what we do is basic research that we hope will have implications for mental health and drug addiction.

—Kathleen McGarvey

EASTMAN WIND ENSEMBLE

# A 60th Celebration

## A groundbreaking ensemble celebrates six decades of setting a musical standard.

By Robin L. Flanigan

LEAN AND ADVENTUROUS, THE INTERNATIONALLY acclaimed Eastman Wind Ensemble helped popularize symphonic wind music, choosing innovative compositional techniques over the conservative constraints typically associated with the classical orchestra.

"It is the Eastman School of Music's crown jewel," says Mark Davis Scatterday '89E (DMA), professor of conducting and chair of the Eastman School's Department of Conducting and Ensembles. "It created a standard in the wind world that put the Eastman Wind Ensemble on a par with the best ensembles in the world, including professional orchestras. In fact, many people think the Eastman Wind Ensemble is a professional group."

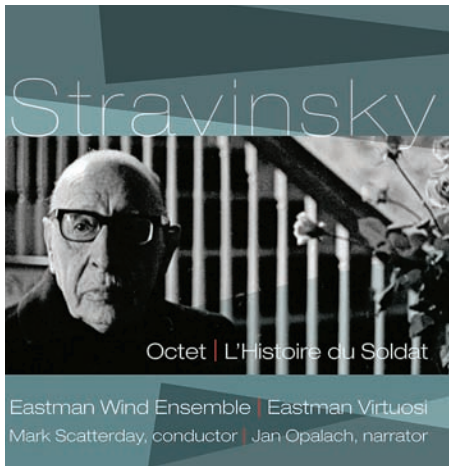
The group will mark 60 years of pioneering its own symphonic sound with a four-day celebration from February 6 to 9. Events include programs and performances as well as the release of a new CD that pays tribute to an Eastman visit by composer Igor Stravinsky.

Founded in 1952 by legendary conductor Frederick Fennell '37E, '39E (MS), '88E (Honorary), the ensemble includes undergraduate and graduate students of the Eastman School, where Fennell was a faculty member. The group earned a Grammy nomination in 1987 and has had a global impact on the way composers view wind and percussion players.

"It's just phenomenal to see what kind of influence it has," says Donald Hunsberger '54E, '59E (MM), '63E (DMA), who conducted the ensemble from 1965 to 2002 and was a professor of conducting at the Eastman School. "People are constantly writing works, hoping to have us play them."

Over the past six decades, the ensemble has premiered more than 150 pieces of music from composers around the world. Many of the pieces "were really ahead of the curve

**▲ SOUND DIRECTION: Since debuting in 1953 under Frederick Fennell (opposite), the Eastman Wind Ensemble has been directed by (above, from left) Fennell, who died in 2004, Donald Hunsberger, Mark Davis Scatterday, and Clyde Roller, who gathered at the ensemble's 50th anniversary.**




**SINGING STRAVINSKY: A collaboration with the Eastman Virtuosi, the Eastman Wind Ensemble's new recording marks a visit to the school by composer Igor Stravinsky.**

from legitimate composers" who deserved to be heard but struggled to find an appreciative audience, says Hunsberger. "Unless you're doing something people are comfortable with at that moment, it sits on a shelf."

While the ensemble has transformed the fields of music education and performance and spawned similar groups, Scatterday notes that none other can quite match the original. He points out its hometown advantages: the Eastman School's faculty, the distinctive Kodak Hall and Kilbourn Hall venues, and the ensemble's former conductors and composers who have written works for the group with whom they share a deep connection.

With a history of performing in Asia, the musicians will embark on their first European tour within the next few years. The ensemble also continues to develop new repertoire, and plans to record the music of Rochester Philharmonic Orchestra Principal Pops Conductor Jeff Tyzik '73E, '77E (Mas), contemporary classical music composer Roberto Sierra, and classical composer and conductor Karel Husa.

The anniversary's highlight will be a concert on February 8 at Kodak Hall, featuring music by Mozart and Stravinsky (both were performed at the premiere concert in 1953), as well as two new works recently commissioned by the ensemble from Sierra and from Douglas Lowry, the Joan and Martin Messinger Dean of the Eastman School of Music. The concert takes place 60 years to the day after the Eastman Wind Ensemble debuted—with Hunsberger, an undergraduate at the time, playing trombone and euphonium. (Before Fennell died in 2004, he sent Hunsberger, with whom he became a friend and collaborator, a birthday card every year on February 8.)

Timed for the event, the Eastman Wind Ensemble will release a new CD, *Stravinsky at Eastman: Octet and L'histoire du Soldat* (Avie Records), featuring the ensemble and the Eastman Virtuosi together for the first time. The release date is February 12.

Guest artists and scholars, master classes with young conductors, and additional music round out the celebration.

Says Scatterday: "This all represents the core of the Eastman Wind Ensemble philosophy—the greatest and most challenging music, important scholarly research and discovery, and real-world professional experience." R

*Robin L. Flanigan is a Rochester-based freelance writer.*

Q&A

# Opening Doors and Expanding Imaginations

## A century on, the Memorial Art Gallery stays true to its original goals of drawing the community in and helping people to look outward beyond the familiar.

**Interview by Kathleen McGarvey**

GRANT HOLCOMB WAS FIRST INTRODUCED to "the gallery family" nearly three decades ago, in 1985. The Mary W. and Donald R. Clark Director of the Memorial Art Gallery, Holcomb credits that web of engaged artists, patrons, board members, and volunteers as a fundamental reason for the gallery's success during its first 100 years.

"I now know fully what the phrase means," Holcomb says. "Which is that different entities of the city come together to have, not only an art museum, but a nationally acclaimed art museum."

The level of community interest and commitment is unusual for a major art museum, Holcomb says. And such support is key to guiding the gallery as it prepares to celebrate its centennial in fall 2013.

"That was in place from the beginning, and it has grown," he says. "If I could bequeath anything to the next director, or the next generation, it would be working with boards and staffs that I've worked with for over a quarter of a century."

**What are the constants, the signatures, of the gallery's first 100 years?**

From the beginning, the commitment to community—fundamental to the founding of the gallery—is something we take pride in today. At the same time, a consistent initiative has been to establish and develop and enhance a collection of world art, oftentimes major examples of art by major European and American artists.

I've often referred to "pilgrimage paintings" in our collection, like Winslow Homer and Thomas Eakins, and by that I mean, these are not only great paintings but they're by major American artists. If I pulled out a book surveying American art, I could show you artists who are really well represented: they're not B paintings, they're not C paintings, they're A paintings by recognized masters in American art.

On a per capita basis, our memberships, with 5,000, and our annual attendance, with more than 240,000 visitors, are among the highest of any art museum in the country.

With more than 1,100 volunteers, we have more volunteers than any other art museum in the Northeast, and numerically, we're number three or four in the country. It's a shared commitment throughout our staff, our board, and our volunteers.

**How has the gallery shifted and evolved over the years?**

What we've changed is the scope and the quality of the collection—you hope that you do that, just professionally. But the other is to open the doors to the diversity that is Rochester, and I think it's fair to say that in the past quarter century and earlier, this museum has been committed to opening those doors. Symbolically, we did it 25 years ago.

When I first came here, the entrance was on the north side, and people didn't know how to get in. If you came down University Avenue, there was no entrance—and there was a big fence. Twenty-eight years later, the entrance is on University, where most people drive by, and the fence is down.

Those two acts symbolize what the gallery has always been about: becoming more accessible, physically, architecturally, programmatically, to a broader community.

**What are some of the challenges facing art museums?**

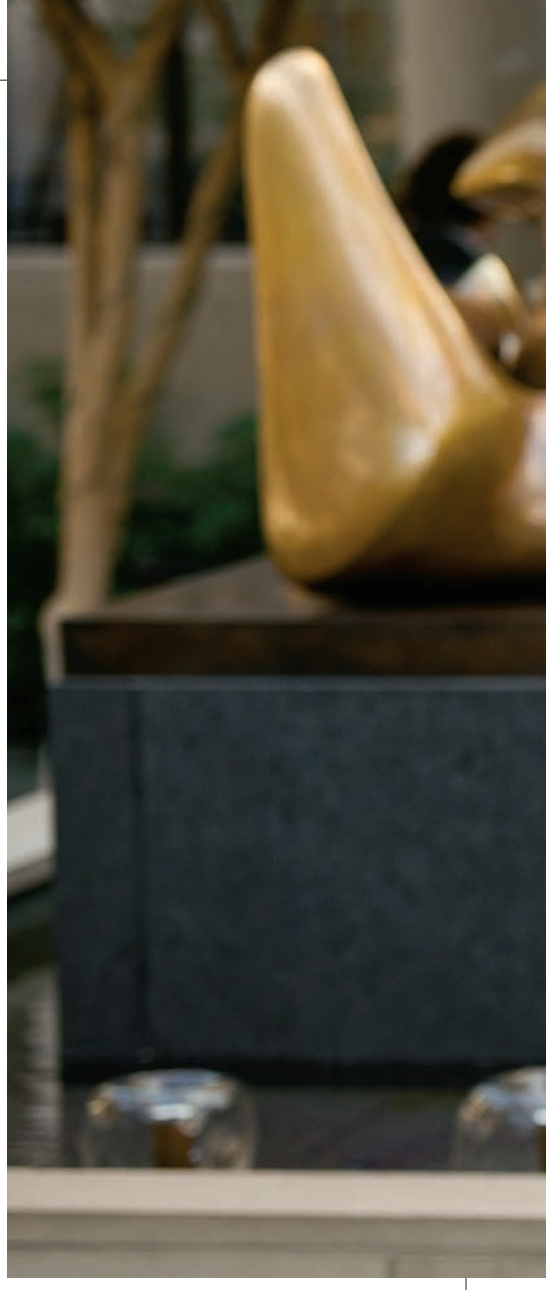
For my 28 years here, the financial challenge—it's always been so. That's why you want a community engaged. How do you keep a not-for-profit going when government funds have been cut back?

This place survives on its individual members. They call it "time, talent, and treasure," and we get all of that from a broad swath of the community. That's always a constant, and I don't think it goes away.

I think another challenge is new technology. We've developed the first app for a museum in the city of Rochester. It will change a visit to an art museum. Over the years, surveys have indicated that the time spent by an average visitor in front of a work of art can be as little as 10 seconds and no more than 35 seconds. So it's like walking through the airport. "There's Gate number 12: Rembrandt."

What the app can do is let visitors go back, to know more about the artist, in depth. So you're with a resident scholar in your pocket, in that sense. Museums have been, are, and will be affected by developments in this new age of electronics.

Another challenge is, how do you make



▲ **FAMILY MAN: Director Grant Holcomb says the gallery's success is the result of a family of staff, volunteers, artists, and community members who have rallied around it for 100 years.**

ADAM FENSTER

an art museum a cloister for contemplation and insight and beauty, and at the same time impact lives that are so diverse? How do you make the gallery accessible?

To move into other lives, other cultures—that's what an art museum can do.

**How does the new Centennial Sculpture Park fit into that vision?**

The sculpture park reflects our commitment to community by opening up the grounds, taking down the fence, creating a park that you can walk through or sit in, read a book, play a guitar, have a wedding.

At the same time, it honors not only nationally and internationally recognized artists but also those artists who work in this area who are also of that stature.

So again it reflects Rochester, quality of art, and the significance of the artistic experience—inside and out now.

**What about plans with the University?**

The gallery will be much more integrated in programs at the University, as well as programs at other Rochester schools. There's an interest on all sides in finding good, creative, supportive ways that are good for students and good for the art museum. There's a wealth of talent at the University, and we have a wonderful collection here. There's material culture here that is at their disposal for study. So I see a new movement for the gallery, not away from the community, but in a richer way integrated with the academic mission of the University.

**How do you balance being a place of memory, engaging with a changing community, and adapting to new technologies?**

It's a great challenge. There was a school group here once, and because of the weather, they had their lunch in the ballroom. And there was this little fellow, probably in first grade, looking around. He'd never been here before, and was just looking around, at the architecture, the space, the scale. And he said, "Is this where the king lives?"

Art museums offer an expansion of the imagination, of what's possible, and where people are at this particular time. You honor that sense of history and memory, hoping both together stimulate the imagination and take, in this case, this young fellow, into new areas of life.

At the same time, you're looking for technologies that help you do that. So you don't want to destroy one in order to have the other. You want to take the best of both and integrate them when appropriate. ®

*To learn more about the gallery's centennial and the events it has planned, visit http://mag.rochester.edu/centennial/.*

# In Brief

**NEILLY DEAN: Mary Ann Mavrinac is the new dean of River Campus Libraries.**

## Library Leader Installed as Dean

Mary Ann Mavrinac, an internationally recognized library leader, was formally installed as the new Andrew H. and Janet Dayton Neilly Dean of River Campus Libraries during a December ceremony. An expert in the creation of learning spaces and the development of digital services, Mavrinac served for a decade as chief librarian at the University of Toronto's Mississauga campus, part of the University of Toronto Libraries.

Appointed to the position last June, Mavrinac is the third recipient of the library deanship, one of the few endowed library directorships in the nation.

The deanship was established in 2000 through a gift from Andrew Neilly '47 and his wife, Janet Dayton Neilly. The former president, CEO, and vice chairman of the board of John Wiley & Sons, Andrew Neilly is a life trustee of the University.

**NEW ADDITION: A restored 19th-century organ originally built by a premier American organ company has joined Eastman's collection.**

## Notable Organ Has Debut

Rochester's collection of notable organs has expanded by one, with the addition of a restored 1893 organ. Originally made by Hook and Hastings, one of the premier American organ builders of the 19th century, the instrument has a new home in Christ Church on the city's historic East Avenue.

Acquired by the Eastman School as part of its Eastman-Rochester Organ Initiative (EROI), the instrument will be used for teaching, practice, and public recitals and concerts by Eastman students and faculty and other guest musicians, as well as for services at the church. For more than a decade, EROI has worked to make Rochester a center for organ research and performance.

The organ had its inaugural concert at the end of November.

## Bridging Stem Cell Therapy and Research

The Medical Center in December opened the doors of a new facility expected to bridge stem cell research and therapies.

The Upstate Stem Cell cGMP Facility—which will be used by academic and private-sector scientists from across the state—was created with $3.5 million in support from the Empire State Stem Cell Board.

"One of the critical barriers to moving cell-based therapies into clinical trials is the requirement that these cells be manufactured in a facility that meets strict federal requirements," says Steve Dewhurst, chair of the Department of Microbiology and Immunology and principal investigator for the state grant. "Without this resource, much of this science remains stuck in the lab."

The "cGMP" in the facility's name stands for "current good manufacturing practice," a term that means that the facility, its operation, and the people who work in it meet federal manufacturing guidelines to ensure that biological materials produced at the center are suitable for human clinical trials.

There are more than 40 labs at the Medical Center that are working with stem cells.

The new, 3,600-square-foot facility, located in the Ernest J. Del Monte Neuromedicine Institute, consists of three separate labs that can each support different cell production projects.

"[Quantum information] could well usher in a radical new era of technology, one that makes today's fastest computers look like hand-cranked adding machines."

—Physics professor **Adam Frank,** writing in the *New York Times,* on implications for work that won the 2012 Nobel Prize.



ADAM FENSTER (MAVRINAC); EASTMAN SCHOOL (ORGAN)

## New University Counsel Appointed

Gail Norris became vice president and general counsel for the University on January 1, succeeding Sue Stewart after a national search. Since joining the University in 2005, Norris has served as senior legal counsel for all aspects of operations. In 2007, she became director of the College Office of Technology Transfer, and in 2009, was named vice provost of technology transfer, responsible for the development of University-wide policies in that area, as well as procedures for review of invention disclosures, patenting, and licensing.

**LEGAL COUNSEL: Gail Norris has been named University vice president and general counsel.**

## Popular Music Institute Founded

Scholars of popular music have a new academic resource at Rochester. A new Institute for Popular Music, directed by John Covach, chair of the College Department of Music and a professor of music theory at the Eastman School, was formally established late last year.

Dedicated to promoting the scholarly study of popular music among students and professional scholars, the institute will also work to support research in fields touched by popular music, including musicology, music theory, ethnomusicology, and performance.

Jocelyn Neal '02E (PhD), associate professor of music at the University of North Carolina at Chapel Hill and director of the UNC Center for the Study of the American South, will deliver the institute's Inaugural Lecture on January 23.

For details, visit www.rochester.edu/popmusic.

**FIRST COUPLE: President Joel Seligman and Delores Conway, professor of real estate economics and statistics, were married in the fall. Conway is also associate dean for master's degree programs at the Simon School.**

> "If you're in a place where things get taken all of the time, then you get used to things being taken away."
>
> **—Celeste Kidd,** a doctoral candidate in brain and cognitive sciences, in *USA Today,* talking about her study that examined how environmental factors influence children's ability to delay gratification in an experiment known as the "marshmallow test."

## MSNBC Host and Scholar to Deliver 2013 MLK Address

Melissa Harris-Perry, a noted scholar and host of her own MSNBC current affairs program, will deliver the University's 2013 Martin Luther King Jr. Commemorative Address on January 17. As a political analyst and professor of political science at Tulane, Harris-Perry will focus her address on racial issues, religious questions, and gender concerns related to American politics.

In her book, *Sister Citizen: Shame, Stereotypes, and Black Women in America* (Yale, 2011), Harris-Perry argues that persistent, harmful stereotypes can limit black women's ability to participate in the political process. Her first book, *Barbershops, Bibles, and BET: Everyday Talk and Black Political Thought* (Princeton, 2004) won the 2005 W. E. B. Du Bois Book Award from the National Conference of Black Political Scientists and the 2005 Best Book Award from the Race and Ethnic Politics Section of the American Political Science Association.

Free and open to the public, the address kicks off the University's Black History Month Celebration.

**GUEST SPEAKER: Melissa Harris-Perry will deliver the annual Martin Luther King Jr. Commemorative Address.**

ADAM FENSTER (NORRIS AND SELIGMAN/CONWAY); COURTESY OF MSNBC (HARRIS-PERRY)

SWIMMING

# League of Winners

## Swimming and diving continue their run of league championships.

By Scott Sabocheck

DURING HIS SIX-AND-A-HALF SEASONS leading the swimming and diving programs, coach Pete Thompson has stuck by his plan to build his teams so they can compete with some of the best schools in the nation.

Over the past few seasons, the Yellowjackets have demonstrated that they are on the right track with a string of impressive Liberty League performances. Claiming both the men's and women's league titles in December, the men have won back-to-back championships and three of the last four, while the women have won four consecutive league titles.

The Yellowjackets have been ranked in the College Swimming Coaches Association of America's top 20 in each of the last two years. At the end of December, the women were ranked No. 13 in the poll.

During Thompson's time, the team has set 49 new school records and has 37 Liberty League event champions.

"We have been noticeably improving as a team since my freshman year, and now as a senior, I can tell that we are ready to take a big step forward," says Adam Bossert '12, who was 2011–12 Liberty League Male Swimmer of the Year.

Karen Meess '12 says the success of the past few years adds to the team's confidence going into each new challenge in the pool.

"It is a well-known fact on this team that you are to leave it better than you found it by swimming your fastest and recruiting swimmers faster and more intelligent than you," she says. "We're a strong team in ability and spirit, and with this attitude more is yet to come."

For Thompson's part, he prides himself on getting athletes with three key characteristics: being a student first, having a passion for the sport, and contributing to a positive team atmosphere. "[Recruits] see how our program works and realize that this is something they want to be a part of."

Rochester's reputation also works in the team's favor, he says. "The University of Rochester sells itself with its name recognition and research opportunities, along with the great history and tradition of the entire university, including athletics." He credits former coach Bill Boomer, who in the 1980s put a stamp on Yellowjacket swimming and diving as a nationally recognized program.

As Thompson looks to the rest of the winter season, including the UAA championships in February, and beyond, the outlook is bright.

"I want this team to get better over the course of the rest of the season, and the results will take care of themselves," he says. "We not only want to make it to nationals, we want to make an impact there." R

**MAJOR LEAGUE : At this winter's Liberty League championships, diver Sara Spielman '12 (above) qualified for the three-meter regional NCAA championships, while Brian Wong '15 was named Swimmer of the Year.**

*Scott Sabocheck is assistant director of Athletics Communications.*

HIGHLIGHTS

# Cross Country Leads Strong Fall Showing

## Women's and men's cross country teams, men's soccer, and field hockey earn NCAA bids.

LAUREN NORTON '13 MADE HER FINAL SEASON a memorable one for the women's cross country team, winning the New York State Collegiate Track Conference individual championship, earning first team All–UAA and All-Region honors, and earning All-America honors at the NCAA Division III national championship meet in Terre Haute, Ind.

Norton is the first women's cross country All-American since 1988 and the latest Rochester woman to win the New York State individual crown. Josefa Benzoni '88 pulled off the same double in 1988. Norton was third at the UAA championships and second at the NCAA Atlantic regional, both hosted by Rochester. As a team, the women finished sixth at the UAA championships and fourth at the state meet.

### Fall

**Men's soccer:** Rochester received an at-large bid to the NCAA Division III playoffs, marking the team's seventh invitation in the last eight years. In the first round, Rochester defeated Misericordia University in a shootout after a 1–1 tie, thanks to a dramatic tying goal by Alex Swanger '15 in the 86th minute to force overtime. The Yellowjackets lost in the second round to 15th-ranked Susquehanna University, 1–0. Seven players earned All–UAA honors, including Max Eberhardt '13 as a first team selection. Eberhardt and Jakob Seidlitz '13 earned first team All-Region honors from the NSCAA. Rochester finished with a 10–4–4 record, 3–1–3 in the UAA, a conference that had five teams invited to the NCAAs. The team was ranked 20th in the final NSCAA poll.

**Women's soccer:** Bridget Lang '13 was a runaway choice as the UAA first-team goalkeeper. She posted a 1.37 goals-against average and played in 15 one-goal decisions. She was named second team All-Region by the NSCAA. Rochester was 3–13–1 against the third-toughest schedule in Division III.

**Football:** Quarterback Dean Kennedy '14 passed for a single-season record 2,028 yards and completed 15 TD passes in a 4–5 season. Rochester finished 3–4 in the Liberty League with wins over St. Lawrence, Merchant Marine, and WPI. Six players were named All-Liberty League: defensive back Kobie Hamm '13, tight end Ken Apostolakos '14, and linebacker Tony Ortega '14 were first team honorees.

**Men's cross country:** The Yellowjackets broke into the Division III poll early and finished the season with an at-large invitation to the NCAA championships as a team, finishing 21st out of 32 teams. The team was fourth at the NCAA Atlantic Regional, sixth at UAAs, and won the New York State conference championship. Three men finished in the top 10 at states: John Bernstein '14 (fourth), Adam Pacheck '14 (seventh), and Dan Hamilton '13 (eighth).

**Women's volleyball:** With a 22–12 record, Rochester posted its most successful season since the 2006 campaign (23–13). The Yellowjackets finished sixth at the UAA championships. Three players earned All–UAA honors: Alma Guevara '13 on the second team, while Kelly Mulrey '13 and Savannah Benton '14 were honorable mention.

### Winter

**Men's basketball:** As the end of the year approached, Rochester sported a 10–0 record and was ranked eighth nationally. The Yellowjackets won three tournaments in the Palestra, including the Wendy's Classic. Rochester defeated Hobart for the Wendy's title, then beat the Statesmen again a week later in a regular season game.

**Women's basketball:** Coach Jim Scheible became the winningest coach in the program's history, posting his 259th win early in the Wendy's Classic, which the Yellowjackets won for the eighth straight year (see page 10).

**Squash:** The Yellowjackets repeated as Liberty League champions and was ranked fifth nationally. At the semester break, the team's record was 5–2.

**Men's and women's indoor track:** Three Yellowjackets and a relay team qualified for March's ECAC championships: Emily VanDenburgh '16 in the long jump, Carina Luck '13 in the triple jump, Yuji Wakimoto '14 in the 3,000-meter run, and the 4-by-200-meter team of Gene O'Hanlon '14, Jonathan Kuberka '16, Jeffrey Hrebenach '16, and Boubacar Diallo '16. R

GOAL ORIENTED: Michelle Relin '16 earned Liberty League Rookie of the Year honors after setting Yellowjacket records for goals and points.

### Field Hockey History

The Yellowjacket field hockey team advanced to the round of eight during the first NCAA tournament appearance in the program's history. The tournament run capped a season that included the most wins in a single season with 18 and the most goals for a season with 84.

"It was a really special season, the work ethic, desire, and determination of the team was unmatched," says coach Wendy Andreatta.

Following their banner year, the Yellowjackets raked in several accolades, including honors for five All-Region and seven All-Liberty League players.

Madison Wagner '14 and Katie Flaschner '14 earned National Field Hockey Coaches Association All-America honors. Freshman Michelle Relin '16 was Liberty League Rookie of the Year after setting school records for points (47) and goals (19). Shelby Hall '13 earned a spot at the Division III Senior All-Star game at the Field Hockey Final Four.

Andreatta was named 2012 North Atlantic Region Coach of the Year, a month after she was Liberty League Coach of the Year.

—Scott Sabocheck