

Teaching *Centered*

Faculty members from across disciplines are developing new methods of teaching, informed by research on the brain and human learning.

By Karen McCally '02 (PhD)

ASSISTING PROFESSORS:
Since 1990, Vicki Roth, the founding director of the College Office of Learning Assistance Services, has collaborated with faculty members to bring innovative teaching methods to University classrooms.

TEACHING AND RESEARCH. THESE ARE THE stated missions of research universities such as Rochester. While the two are often viewed as separate enterprises, Terry Platt, a professor of biology, biochemistry, and biophysics, says they shouldn't be.

"One of the models that I try to use is the research lab group," says Platt, who has been teaching at the University since 1985.

"Research labs generally have a lab meeting once a week. Everybody from the undergraduate dishwasher to the principal investigator talks about the problem. What were your results? What are the alternative explanations?"

It's an approach that mirrors the way life and physical scientists think about their work as researchers and teachers, but would it work as well in other disciplines?



“What we now know about the conditions most conducive to learning flies in the face of most traditional approaches to teaching.”—Provost Ralph Kuncel

Platt is among a group of faculty members across the University who have joined with learning specialists on Rochester’s professional staff and Provost Ralph Kuncel to explore such questions. They’ve established a set of initiatives to help faculty share teaching methods and to encourage new research-based approaches that have emerged over the past few decades.

Those initiatives—the Year One program for new faculty, the Future Faculty Initiative for aspiring academics, the Sharing Innovations in Teaching lunchtime seminar series, among others—cover a wide range of topics. How humans learn. Group dynamics. How to assess students’ progress. And using technology creatively and effectively. (See “Teaching Resources at Rochester,” below.)

In the coming academic year, the College plans to launch a Center for Excellence in Teaching and Learning that promises to bring a new focus to the role of teaching and to serve as a hub in which faculty as well as graduate teaching assistants across the disciplines in Arts, Sciences, and Engineering can discover and share approaches to teaching.

Vicki Roth, the director of the College Office of Learning Assistance Services, will oversee the center, while its day-to-day operations will be in the hands of Jennifer Hadingham, a pedagogy expert from the University of the Witwatersrand in South Africa.

In January, in his annual address to the Faculty Senate, Kuncel cited two landmark studies that drew on the latest research in neuroscience and psychology to suggest teaching practices in higher education need to change: a 1998 report funded by the Carnegie Foundation, *Reinventing Undergraduate Education*; and a 2000 Na-

tional Research Council report, published as a book, *How People Learn: Brain, Mind, Experience, and School* (National Academies Press).

“What we now know about the conditions most conducive to learning,” said Kuncel, referring to the reports, “flies in the face of most traditional approaches to teaching.”

In higher education, perhaps the most universal approach—and one that has distinguished it from education at the secondary level—is one in which a professor lectures and a classroom of students, from as few as 20 to well over 200, take notes.

Judith Fonzi, an associate professor at the Warner School and the director of its Center for Professional Development and Education Reform, advances one explanation why the lecture has proved so enduring.

For a long time, she says, “we thought that people were just these empty vessels. And you just had to tell them clearly enough what you wanted them to learn, and all they had to do was listen carefully enough, and of course, practice it enough, and then they would know it, whatever the ‘it’ was.”

As masters of their subjects, professors have a great deal to tell their students. And their students have tended to be young adults, who, it’s been long assumed, don’t need or benefit from the educational strategies necessary to engage younger learners.

BUT RECENT RESEARCH ON THE BRAIN CHALLENGES those assumptions. Fonzi taught mathematics at the kindergarten through graduate school level before becoming a specialist in math education and instructor of aspiring math teachers. When she became director of the Warner Center, she says, “I had to start thinking about education in other areas, and I discovered that there was a kernel that was in common, and it didn’t matter what you were teaching, or really even who you were teaching.”

That kernel involves taking students beyond mere information gathering and helping them develop real knowledge.

“We can share information, but it’s just information,” says Fonzi. “It doesn’t become something that’s learned, or knowledge that students have gained, until they actually do something with that.”

Educators call this type of learning “inquiry-based.” Active rather than passive, inquiry-based learning draws information out from within a framework, such as a research question or hypothesis that students pursue themselves, with guidance from the instructor and interaction with fellow students. Inquiry-based learning is what faculty do in their research.

In fall 1995, the College embraced inquiry-based teaching with the introduction of “Quest” courses. Designed for freshmen, Quest courses permit a small number of students with a shared interest to explore that interest, together under the guidance of a professor, through research. Faculty leading such courses teach students how to formulate good questions, develop reliable methods for exploring them, use a variety of sources, and draw conclusions.

But do the advantages of inquiry-based learning mean that the lecture is outmoded? To the extent there’s consensus, the answer is “no” at Rochester. But the lecture should be supplemented by other, inquiry-based course components, say faculty members such as Alyssa Ney, the James P. Wilmot Assistant Professor of Philosophy in the College. Among her courses is Introduction to Philosophy, a survey of the works of notable thinkers, from antiquity to modernity, and their ideas on topics such as the (Continued on page 33)

Teaching Resources at Rochester

The new College Center for Excellence in Teaching and Learning builds on the work of several programs and offices at Rochester designed to enhance the quality of teaching at the University.

- Center for Workshop Education: www.rochester.edu/college/CWE
- Leadership in Education: www.rochester.edu/ucis/leadershipineducation.htm
- Office of Faculty Development, School of Medicine and Dentistry: www.urmc.rochester.edu/education/faculty-development
- College Teaching, Learning, and Technology Roundtable: www.rochester.edu/college/ctltr
- UR Year One: www.rochester.edu/diversity/faculty/uryearone
- Future Faculty Initiative: www.rochester.edu/provost/futurefaculty

Teaching Innovator

Remembering Jack Kampmeier, a former dean, professor of chemistry, and a champion of teaching at Rochester.

EVERY MONTH OR SO, AT 7:30 IN THE MORNING, A SMALL group of faculty from across divisions of the University meets for breakfast at the Mt. Hope Family Diner, about a half mile from the River Campus, just south of the Medical Center.

It's a gathering of friends with a common interest and a serious purpose: to foster innovative teaching at the University, grounded in the copious research on the brain and human learning that has emerged in the past couple of decades.

This spring, there's an empty seat at the group's circular table. That seat belonged to Jack Kampmeier, professor emeritus of chemistry, who by many accounts did more than any single person at the University to promote innovative teaching since he joined the faculty in 1960.

Kampmeier died in March after a short illness. Although he'd become a professor emeritus in 2005, he was "the most unretired retired person I've ever known," says Vicki Roth, the director of Learning Assistance Services at the College who collaborated with Kampmeier on many projects.

Just weeks before his death, he was in the midst of preparing a lunchtime seminar as part of a program called Sharing Innovations in Teaching, spearheaded by the Mt. Hope group.

"In my last meeting with him, he asked me, in the nicest possible way, if I would kind of pick up the pace a little bit on some work that we were doing together," says Roth. "He wanted me to keep up with the work he was doing. He was very busy at the end of February, with a lot of things he was planning to do and work with us on."

Kampmeier demonstrated his commitment to teaching early in his career. In the late 1960s, he led an overhaul of the undergraduate chemistry curriculum, making students better prepared for independent research. He won the two most prestigious teaching awards for faculty who teach undergraduates: in 1974, the Edward Peck Curtis Award for Excellence in Undergraduate Teaching, and in 1999, the Goergen Award for Excellence in Undergraduate Teaching.

As dean of the College of Arts and Sciences, a position he held from 1988 to 1991, he oversaw the hiring of Roth to establish Learning Assistance Services. The two worked side-by-side developing and honing the workshop model of teaching and learning at Rochester (see "Teaching Centered," page 22). That model, in which undergraduates who have previously excelled in the course lead groups of between eight and ten students as they work through problems collaboratively, began in Kampmeier's organic chemistry class. The

method was later adopted, largely in response to student demand, in other chemistry courses, as well as in biology and philosophy courses, and in graduate courses at the Simon School and the School of Nursing.

The success of the workshop program inspired Kampmeier to forge a University-wide interest group, called a cluster, in Leadership in Education. Established in 2008 and funded by the University Committee on Interdisciplinary Studies, the cluster members organize lunchtime seminars in which a guest faculty member shares methods of teaching developed in one




TOP TEACHER: Shortly after joining the faculty in 1960, Kampmeier emphasized ways to improve teaching, first in his home department of chemistry and later through initiatives such as peer-led teaching workshops and other efforts throughout the University.

discipline, with the idea that often methods adapted to one discipline may inspire effective innovations in others as well.

In his annual address to the Faculty Senate last January, Provost Ralph Kuncel reflected on the attributes found in the finest teachers: passion for the subject, caring for the students, and confidence in the ability of learners to take materials and form connections on their own.

About midway through his address, he asked the group: "Are excellent teachers born, or is teaching excellence a skill that can be learned?"

Kampmeier stood up and said, simply, "There is a reliable research literature about how people learn. And the more we learn about that literature, I think we can hone and develop our skills." 

—KAREN MCCALLY

Profiles *in* Teaching

By Kathleen McGarvey/Photographs by Adam Fenster

THE GOERGEN AWARDS FOR EXCELLENCE IN UNDERGRADUATE TEACHING recognize the distinctive teaching accomplishments and skills of faculty in Arts, Sciences, and Engineering. Presented each year since 1997, the awards were established by trustee Robert Goergen '60 and his wife, Pamela, to recognize, reward, and encourage strong and innovative undergraduate teaching.

“The Goergen Awards have really driven a University-wide discussion about the importance of teaching,” says Andrew Berger, a professor of optics and a recipient of the award in 2007.

As the College Class of 2011 leaves Rochester’s classrooms, meet a few of the recent winners who have inspired them.

■ Carmala Garzione, 2010

It was love of the outdoors that first drew Carmala Garzione, an associate professor and chair of the Department of Earth and Environmental Sciences, to her field of sedimentology and tectonics—but more abstract attractions have provided its enduring appeal.

“Many geologists will tell you the ability to spend time outside is a big draw,” she says, “and for me, early on, it was. But I also really like the big questions I ask in my research. What does the elevation history of mountains tell us about how they grew? How have mountains altered Earth’s climate over time? What are the larger-scale tectonic processes at play in convergent tectonic settings?”

When Garzione teaches her undergraduate courses—Introduction to Geological Sciences and Sedimentology and Stratigraphy—she leads her students to the terrain of those large questions, but she never loses sight of their own grasp of the material.

“I think that’s what’s really important about teaching—you can’t teach in the same mode for all levels,” she says. “You have to understand where the students are in their understanding. You really need to develop a dialogue that’s consistent with their level.”

And dialogue is fundamental to Garzione’s courses, even when she’s lecturing. She aims never to convey facts and concepts alone, but to guide students to comprehend the thought processes behind them.

“It’s a really active approach to learning,” she says, and she works to-

ward solutions to problems in class rather than laying out information.

“I love to use chalk and overheads—which I know seems old-fashioned. But it allows me to write student feedback on the median. PowerPoint just isn’t as dynamic.”

Garzione teaches her introductory lab course as a workshop, breaking students into teams with a peer leader—a fellow student who’s taken the course before and performed well—who helps guide the team by asking questions.

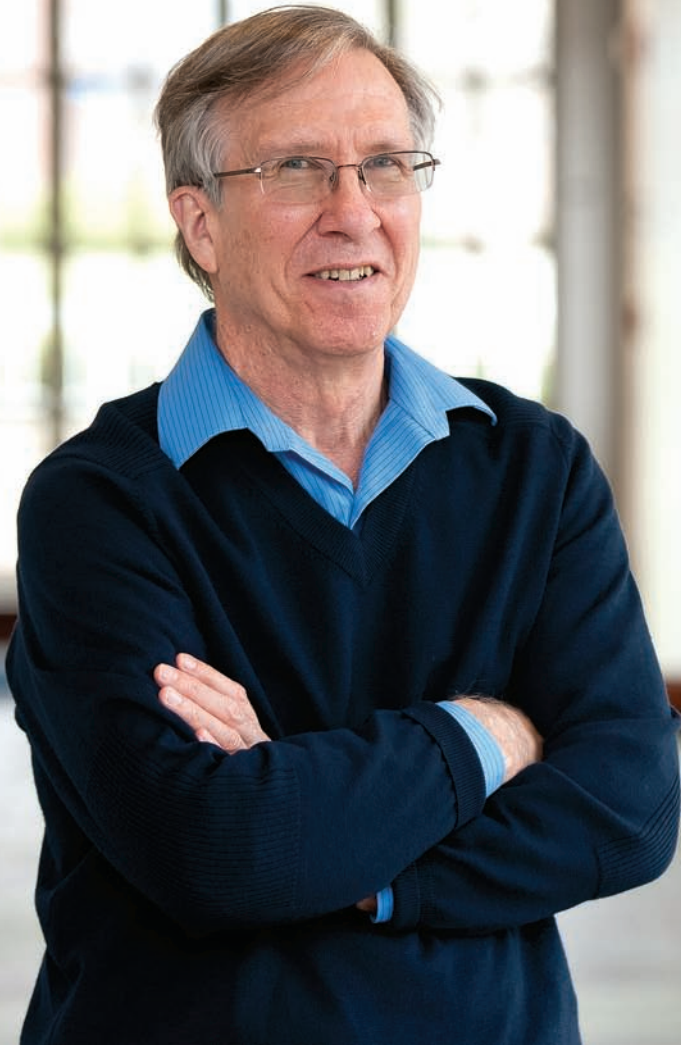
“The ideas in this course are more challenging than what they’d encounter in a typical lab, where the problems often have single-response answers,” Garzione says.

She often includes undergraduates in her fieldwork teams in places such as Bolivia and Tibet, determining the age of rocks, collecting chemical information, and interpreting their depositional environment in a quest to unlock mountains’ secrets about their growth mechanisms and the paleoclimate of the region.

“They usually do a lot of grunt work, but that’s what we all do in the field as geologists.”

Back in the classroom, she relies on a whittled down approach. “Initially I tried to put everything in my classes. But over time I’ve realized it’s not the volume of information but the thought process that gives students an intellectual edge.”





■ G. Bingham Powell, 2009

G. Bingham Powell, the Marie C. Wilson and Joseph C. Wilson Professor of Political Science, is an avid observer and analyst of political systems—with a particular taste for tensions and disputes and the divergent paths they can take.

And teaching, he says, is a way to impart his curiosity to others.

“I was drawn to political science by my interest in conflict,” Powell explains. “Teaching is a chance to share my interest in and enthusiasm for political science.”

As incoming president in 2011-12 of the American Political Science Association and a highly regarded expert on comparative politics and European politics, Powell nonetheless works day to day with Rochester students just dipping their toes into the field with the course Introduction to Comparative Politics.

“It’s an opportunity to argue to them that there are a lot of ways to run a political system—the way we do it isn’t the only one,” he says.

Coauthor and coeditor of a leading undergraduate comparative politics text, *Comparative Politics Today*, Powell aims to give the course a narrow focus, such as how citizens use elections to influence politics, while familiarizing students with basic political science theories and concepts.

“I’ve found, historically, that if I try to do everything, it satisfies nobody. The course becomes a welter of unconnected facts and concepts.”

In his upper-division undergraduate courses, Powell focuses on how democracies work and how conflict functions within them.

“Disagreement in politics is everywhere,” he says. “Sometimes the disagreements are expressed through institutions. And sometimes things boil over.”

He tends to concentrate these courses on a handful of countries. “When I’m feeling brave, which is most of the time, I let the students choose one of the countries. Sometimes it’s one I know well, and sometimes not. Then I have to go to the books.”

That plunge into new information—studying the development of democracy in South Africa, for instance, or the political workings of India—are “fascinating. They pull me out of my comfort zone, which is European democracies.”

Even in large courses, Powell aims to foster dialogue with students. “Political science is in some ways straightforward,” he says, “but it’s more subtle in its concepts than students often realize. Discussions can help them make their way through that.”

“In so far as there’s a common denominator” in what appeals to him about teaching, “it’s sharing something you care about,” he says.

“It’s always seemed to me that politics is intrinsically interesting. And most of the students find it so, too.”

■ Susan Gustafson, 2006

The courses taught by Susan Gustafson, the Karl F. and Bertha A. Fuchs Professor in German, are full of magical and mysterious things: monsters, wizards, aliens, and ghosts. But the true enchantment, she says, lies in the love of learning.

“The very best learning is ultimately the result of a magical, personal excitement about something on the part of the students,” she says.

Chair of the Department of Modern Languages and Cultures and a specialist in 18th- to 20th-century German literature, Gustafson uses students’ own curiosity as the fuel that drives her courses.

“I want students to own the class, to follow their inspirations,” she says. In service of that goal, she never assigns paper topics, asking students instead to develop projects of their own conception.

“They follow what they’re passionate about. That’s what we do as scholars.”

Gustafson teaches courses on German literature and culture, comparative literature, and women’s studies. As she guides students through works by Edgar Allan Poe, E.T.A. Hoffmann, Franz Kafka, Sigmund Freud, and others, she trains them in the scholarly practice of close reading, helping students attune themselves to the significance of the smallest textual details.

“I like to look at minute changes and structural shifts in a text,” she says, asking students to consider where a particular passage leads its reader. And she emphasizes the importance of rereading and rewriting—the process of scholarship.

“At the beginning of my career, I was much more lecture-oriented,” she says. “And I didn’t let students rewrite their essays. But over the years I’ve seen what’s more successful. Unless students are actively engaged in analyzing texts, they’re just wondering, ‘How did you see that?’”

Gustafson’s department is a multidisciplinary one, and her own courses—often informed by theories from other fields, such as gender studies, psychology, and film studies—draw a wide variety of students.

Gustafson credits her students and her own former teachers for her success in teaching, and places her interactions with students at the top of her professional responsibilities.

“Teaching is why we’re here.”



■ Andrew Berger, 2007

When Andrew Berger got his first taste of teaching—as a volunteer tutor in the New Haven, Conn., public schools—he was hooked. As a graduate student, he sought out teaching opportunities in a program that didn't require them.

Now, as an associate professor of optics, Berger helps students to navigate their way through electromagnetic theory and to tackle advanced lab courses devoted to building lasers and studying how to manipulate light.

"I'm always energized by the thought of how I can reach students, how I can help them wrestle with this material," he says.

Advisor to alternate-year incoming optics freshmen and chair of the Institute of Optics undergraduate committee, Berger is captivated by the college experience.

"Everyone's transformative process is fascinating," he says. "How do you guide people to what's best for them" as they consider possible fields to pursue?

A specialist in biomedical optics, particularly spectroscopic diagnostic techniques, Berger admits to being an actor on the side. And in the optics classroom, his emphasis is on pulling back the curtain so that students can look carefully at what's happening "backstage."

"In optics, the challenge of teaching to undergraduates is not to be too abstract—to put your energy not into presenting a seamless train of thought but into chopping it up," he says. So he uses peer-led workshops, and in lectures checks in with students frequently, using questions, hypothetical scenarios, and other techniques to engage them.

"If the students don't understand most of the content of what's discussed, you've wasted very precious time in the classroom."

Berger thinks of himself as the students' guide in working with difficult material, always explaining explicitly what he's trying to teach them and keeping their questions at the forefront of the course. The biggest challenge, he says, is building in the time to listen during class.

"As long as I'm prepared, I love being up in front of people. I'm as happy as the next guy to hear myself talk," he says.

"But I try to fight that temptation. I strive to talk as little as I can."



■ James Farrar, 2005

For James Farrar, a professor of chemistry, it's all about clarity.

"When I can explain something clearly to a student, I understand it better," he says. "As a teacher, I'm also a learner."

Teaching freshman chemistry—a large lecture course, with only a small fraction of students who go on to become chemistry majors—has given Farrar much occasion to think about how to make an often difficult subject clear, comprehensible, and even fun.

He models himself on favorite teachers he himself had. "My teaching style comes from taking things I admired in them. They were very good at connecting words and equations. They wrote good explanations. And they had a sense of humor."

Farrar tries to put a "more human face" on science by sharing jokes and stories about eminent chemists, figures who'd otherwise just be names in textbooks for the students.

"The freshmen come in with boundless enthusiasm," he says. "They're interested in everything."

And whether they become majors or not, "the way of thinking about science, and logical thinking about science, will be part of their lives."

To help students master that thinking, he uses peer-led workshops—crediting the late chemistry professor Jack Kampmeier with inspiring him to bring that method into play. He relies on them, too, in his physical chemistry and other upper-division courses.

"I learned I could improve my teaching through workshops, and for that I'm grateful to the culture of this department," he says. "Workshops are an arena where people have to make their thinking visible to others. And that's where the real learning gets done—explaining and defending your thinking to other people."

Farrar's father was a chemist, "and he'd say I became one despite his advice." But he finds the challenge of science irresistible.

"I like thinking about atoms and molecules and how they interact with each other," he says simply. In his research, he uses molecular beam techniques to investigate where energy goes in chemical reactions.

But while he's proud of his research, he finds more fulfillment "when I think about the people I've worked with over the years."

"I take satisfaction in watching people succeed. I think that's the bottom line."





■ Emil Homerin, 2005

“In the humanities, I believe we’ve implicitly taken a ‘Socratic oath,’” says Emil Homerin, a professor of religion. “In times of crisis or loss, we can help people ask cogent questions to address the situation.”

Recent history has kept Homerin, a specialist in Islam, Arabic literature, and mysticism, particularly busy. A committed teacher, he takes the work of his classroom beyond the campus, talking with the media and addressing local groups to promote greater understanding of Islamic cultures and societies.

Homerin—who says he knew from the second semester of his freshman year in college that he wanted to be a professor—is the University’s first professor of Islam.

At the time of the Iranian Revolution in 1979, “there weren’t people on most faculties who were experts” on Islam, he recalls. By the time he completed his doctorate in 1987, at the University of Chicago, universities were hiring specialists.

“I’ve had to cap my classes since I came,” he says. “Student interest was here.”

Homerin teaches an introductory course on the history of Islam and another, called Islam and the Third World, that examines effects on the religion from historical, political, social, and economic factors in the developing world.

Another course—Speaking Stones—was inspired by Homerin’s efforts to draw undergraduate students into the process of academic research. Students meet at Rochester’s historic Mt. Hope Cemetery, the sprawling, Victorian resting place of Frederick Douglass, Susan B. Anthony, some of Rochester’s wealthiest citizens, and some of its most vulnerable—one corner holds the graves of children who died at the city’s orphan asylum.

Homerin’s primary area of research is medieval Arabic poetry. The difficulty of learning Arabic is an almost insurmountable obstacle for drawing students into research there, but he realized that his work on medieval Muslim saints does offer a way in.

“Essentially, I’m looking at gravestones and reading obituaries,” he says. So he devised a course in which students learn about Western funeral rites and practices and about funerary art. They turn to the rich resources of Mt. Hope Cemetery to carry out original research on a gravesite there of their own choosing—work that has repeatedly found a home in local historical publications, Homerin notes with pride.

He weaves poetry into all of his courses—something many students aren’t used to reading, he says, but an art form of enduring popularity in the Middle East.

“Poetry can bring an emotional dimension to learning that’s often lacking—to see into the world of others, and perhaps, through that, into our own.

“When you can help students understand others, you’ve done something.”

“In real science, when you get an answer, there’s not a thunder clap from on high telling you ‘Hey! You got the right answer!’ Or ‘Nope, sorry, that’s wrong.’”

—Terry Platt, professor of biology

(Continued from page 24) nature of truth, relativism, and free will. The class seems made for lively discussion.

But, says Ney, “You still need lectures.” Using the example of the 17th-century French philosopher René Descartes, she says, “there are certain facts about what Descartes did say and what he didn’t.” At the introductory level, students need that clarification to grasp the complexities they encounter in their readings.

Platt, too, says lectures are an important component in his Introduction to Biochemistry course.

“My job as a lecturer is to illuminate—to help students make the connections,” he says. “And in courses like biology where the content is enormous, it’s to help them sort out the wheat from the chaff.”

Platt is also codirector, along with Roth, of Rochester’s Center for Workshop Education, a pioneering effort to use a workshop model based on “peer-led team learning.”

Workshops are groups of about 10 students who work through problems collaboratively, guided by a trained peer facilitator who has performed well in the same course, usually as recently as the previous year.

In 1995, the late Jack Kampmeier, a professor of chemistry and former dean of the College of Arts and Sciences, joined with Roth to craft a workshop model for Kampmeier’s organic chemistry class. Rochester joined an early consortium of universities that had experimentally adopted the workshop model.

Students registered for the course could choose to sign up for either a workshop or a traditional recitation. Roth, who had already been experimenting with forming student-led study groups, recalls they divided roughly in half.

And when the grades were in, “the half of the class in workshops did so much better than the half in recitations that we were quite sure we were doing something useful.”

Roth, who has worked with faculty for nearly two decades to hone the workshop model and train peer leaders, says the workshop model spread largely through informal networks—through students talking to professors and through professors in one department talking with counterparts in another. In 1996, Kampmeier made workshops universal in organic chemistry, and the model spread to other courses and other departments largely in response to student demand.

In recent years, they’ve been adopted in select courses at the Si-

mon School and the School of Nursing as well. Formal studies at other universities as well as one coauthored by Roth, Kampmeier, and Platt have shown over several years that students in workshops consistently scored higher on exams, earned more grades of A or B, and had lower rates of withdrawal from the courses than student in recitations.

Faculty who have used workshops argue that a peer leader is essential. Ney says she wishes that she could see her Introduction to Philosophy workshops in action.

“But if I were to sit in, it would just disrupt the whole dynamic,” she argues. When the professor leads discussion, she says, students become “very tentative in their responses. They’ll look at me and wonder ‘Well, what is she looking for?’” rather than develop confidence in evaluating their own arguments and conclusions.

Platt, too, says that working under the guidance of a peer leader forces students to wrestle with problems rather than look at an authority to provide answers.

“In real science, when you get an answer, there’s not a thunder clap from on high telling you ‘Hey! You got the right answer!’ Or ‘Nope, sorry, that’s wrong.’ You have to, among other things, develop the tools to decide what confidence level you have in your answer, and maybe at the same time, what are the alternative explanations for your answer that you can now test with a subsequent experiment,” he says.

What’s also compelling about the workshop method, faculty note, is that it’s an innovation that is not based on new technology.

DISCUSSIONS ABOUT STUDENT ENGAGEMENT OFTEN lead to questions such as, Which technologies, used in which ways, enhance student engagement? And are there ways in which technology can undermine it?

“It’s a challenge for any instructor to sort from all of the burgeoning educational technology that’s out there,” says Roth. “Almost every day there’s something new or emerging. How do you sort out what’s useful or valuable out of any of that for the sort of things that you want to do as an instructor?”


Based on the “prototypes” of the initiatives already in place, the goals of the new center include helping foster such discussions so that new, aspiring, and senior faculty can find support and resources for their roles as teachers.

Fonzi says she hopes the center, which will begin in the College, will eventually become a resource for the entire University.

Right now, she says, many University-wide teaching initiatives have no permanent home. The Future Faculty Initiative “is running out of the briefcases of six or eight of us who put it together and keep it going.”

The same is true, she says, of the Leadership in Education cluster, an informal group of faculty, staff, graduate students, and post-docs who organize the Sharing Innovations in Teaching lunchtime seminars.

Roth, who will oversee the College’s new center for teaching as it gets under way later this year, hopes the new initiative sparks a robust discussion about teaching at Rochester.

“A faculty member may bring us something that they want to share,” says Roth about her vision for the center. “They may have just tried a new idea. It doesn’t have to be earth shattering. It doesn’t have to be paradigm shifting. But maybe it’s a small way that they’ve made something go better.” 

View Finders

Rochester students turn their lenses to the world in *Rochester Review's* third annual Study Abroad Photo Contest.

WHERE HAVE YOU BEEN LATELY? THAT'S THE question we ask Rochester undergraduates each spring in our Study Abroad Photo Contest. The answer for 2010 included entries from 40 students who studied in 33 countries in more than three dozen academic programs recognized by the Center for Study Abroad and Interdepartmental Programs.

Students sent us 142 photos, covering the categories of people, culture, and the physical world.

This year's grand prize winner receives a Play-sport video camera from Eastman Kodak Co., the competition's lead prize sponsor. Winners of each category as well as those earning honorable mention also receive prizes.

To see all the entrants in this year's contest, visit www.rochester.edu/pr/Review.

Culture: Cowinner

VIETNAM

Heading to the market

Eric Phamdo '11, a psychology major from Lake Oswego, Ore. Semester at Sea, February 2010





People: Winner and Grand Prize

CHINA

A preschooler demonstrates his calligraphy skills during a weekend at the Temple of Heaven

Isthier Chaudhury '11, a chemical engineering and Chinese studies major from Rochester. CIEE Beijing, March 2010

Physical World: Winner

EGYPT

Chalk formation in the White Desert

Maya Dukmasova '12, a philosophy and religion major from Liverpool, N.Y. American University in Cairo, October 2010







Physical World: Honorable Mention

SCOTLAND

Edinburgh Castle

Cayla Huppert '12, a financial economics and mathematics major from Merion, Pa.

Edinburgh EPA, July 2010

Physical World: Honorable Mention

SWITZERLAND

The Matterhorn

Drew Alessi '11 (T5), a Take Five Scholar from Belfast, N.Y. *Internship in Europe, July 2010*



Culture: Cowinner

EGYPT

Attendant closes the doors to a side room inside the Madrasa of Sultan Barquq in Cairo

Maya Dukmasova '12, a philosophy and religion major from Liverpool, N.Y. *American University in Cairo, October 2010*



Culture: Honorable Mention

TANZANIA

The walk to the Maasai Mountain of God

Eric Phamdo '11, a psychology major from Lake Oswego, Ore.
SIT Tanzania: Wildlife Conservation and Political Ecology, October 2010

People: Honorable Mention

INDIA

An afternoon fishing at the pond

Eric Phamdo '11, a psychology major from Lake Oswego, Ore. Semester at Sea, March 2010



People: Honorable Mention

TANZANIA

Maasai Girl and child

Eric Phamdo '11, a psychology major from Lake Oswego, Ore. Semester at Sea, February 2010

Thanks to Our Judges and Sponsors

Our panel of judges included Adam Fenster, University photographer; Allen Topolski, professor and chair of the Department of Art and Art History; Jennifer Rynda, photographer for the *Rochester Democrat and Chronicle*; and Brandon Vick, digital assets manager for University Communications. Jacqueline Levine '80, '84 (Mas), director of the Center for Study Abroad and Interdepartmental Programs, helped oversee the contest. For more about study abroad, visit www.rochester.edu/College/abroad.

Grand prize winner Isthier Chaudhury '11 receives a Playsport video camera from Kodak, which serves as the primary sponsor for the contest. Each category winner receives a gift certificate to the University bookstore.

Paperback Writer

You may know him from *Lemonade Mouth*, a hit Disney Channel movie adapted from his second novel that premiered this spring, but Mark Peter Hughes '88 has always been a writer. Even when he was an engineer.

By Karen McCally '02 (PhD)

THE PAST YEAR HAS BEEN A WILD RIDE FOR MARK PETER HUGHES '88.

In August, he released his third teen novel, *A Crack In the Sky* (Delacorte), the adventure of a 13-year-old boy and his pet mongoose, who save the planet from environmental catastrophe.

In April, he, his wife, Karen, and their three children traveled from their home outside Boston to New York City to attend an advance screening of *Lemonade Mouth*, a Disney Channel movie adapted from Hughes's 2007 novel of the same title. The story follows five maladjusted freshmen who are thrown together to form the most beloved band ever to grace the stage at their fictional high school.

"You have to remember," says Hughes, "I'm a guy who lives in a small cape house. And we've got a couple of really old cars. And there I was at this very real, unbelievable dream moment."

For someone who earns accolades for his ability to bring a fresh perspective to such "dream moments" in the lives of fictional teenagers, it seems fitting that Hughes is getting a taste of what it's like to find success in pursuit of a dream. Since his 2005 debut novel, *I Am the Wallpaper*, Hughes has specialized in crafting winning portraits of precocious underdogs who find their voices and discover that they can achieve more than they thought possible.

"It was over-the-top surreal," says Hughes of seeing his work brought to life on screen, a week before its national premiere.

Arriving at Rochester in the fall of 1984 to study electrical engineering, thinking at the time that it was "a safe bet," Hughes has been writing for a long time. Like many successful authors, pretty much his entire life.

He chronicles his interests in writing and storytelling through social networking sites such as Facebook and Twitter and on www.markpeterhughes.com and www.lemonademouth.com. The



MEET THE AUTHOR: Addressing an audience steeped in social media, Hughes is adept at relating to readers of his fiction, connecting to them through Facebook, Twitter, and the sites www.markpeterhughes.com and www.lemonademouth.com.



venues are particularly important for tween and young adult novelists, because their audience, more than any other, will not only turn online for sources of information, but also wants to feel personally connected to the writers of the books they like.

In all these outlets, Hughes is as vivid and colorful as the characters he creates. Sometimes he'll address his fans on video. Occasionally he'll appear on video and in song, as in a recent post featuring Hughes answering a reader's letter in a tune he sings and plays on his ukulele: "*Lemonade Mouth* Letter Song (Dear Mark)." And there are plenty of pictures of him with his three children Evan (13), Lucy (11), and Zoe (9).

Hughes was the director of data analysis at a Boston-area health care company when he got the break any fiction writer would die for: an offer from Random House to publish his first novel, *I Am the Wallpaper*. He had entered the manuscript in Random House's Delacorte Press Young Adult Novel Competition. It was among five finalists, attracting the attention of a Delacorte editor, Stephanie Lane Elliott. "She worked with me on a rewrite and then offered

HIS GUITAR DOESN'T WEEP: Finding the inspiration for *Lemonade Mouth* in the 2000 book *The Beatles Anthology*, Hughes (who, like his character in the novel, Stella, really does play the ukulele) has been widely praised for his portrayals of sympathetic, true-to-life teen characters.

me a contract," says Hughes. "Stephanie and I have worked together ever since."

I Am the Wallpaper tells the story of 13-year-old Floey Packer, the frumpy little sister of a much more popular girl, who feels very much like wallpaper. The book established Hughes's reputation for wild humor and uncanny insight into the lives of adolescents—as well as his tendency to insert references to the Beatles into his work, in this case, the 1967 song, "I Am the Walrus." (A bit of Hughes trivia: He was born in the Fab Four's hometown of Liverpool, England, and in the very same hospital as John Lennon).

Like Disney Channel movie favorites *High School Musical* and *Camp Rock*, *Lemonade Mouth* centers on music and big dreams. Its heroes are five freshmen at fictional Opequonsett High School who face social challenges at school and in their lives at home. They feel small, but then make it big—at least among their classmates—when they form a band they call Lemonade Mouth, which comes to overshadow the once hands-down school favorite among garage bands, Mudslide Crush.

Hollywood film producer Debra Martin Chase, whose movie credits include big tween and teen hits such as *The Princess Diaries* and *The Cheetah Girls*, first noticed *Lemonade Mouth*. Talking with *Women and Hollywood* in April, she noted that many young adult novels that come across her desk are "cookie cutter, not original." But not Hughes's novel. "The moment I finished *Lemonade Mouth*

I knew that it was something special. The characters are rich and textured, the messages age appropriate but nonetheless mature, the drama universal and compelling.”

The story is told in the first person, not by one narrator, but by at least five, and arguably, six. Naomi Fishmeier, the self-described “Scene Queen and Official Biographer of Lemonade Mouth,” as well as a columnist for the student newspaper, introduces the book. From there, band members take turns telling the story of themselves and of Lemonade Mouth.

Hughes says he got the idea for the structure from *The Beatles Anthology*, a 300-plus-page hardcover coffee-table book published in 2000 that, in scrapbook style, offers the foursome’s “own permanent written record of events.” Constructed from interviews conducted over years by both print and broadcast sources, as well as from the private archives of the then three surviving band members, the book is arranged to construct a chronological narrative.

Lennon opens the anthology, but in *Lemonade Mouth*, it’s trumpeter Wendel (Wen) Gifford. Much of Hughes’s success derives from his penchant for the absurd, and it’s a preposterous chain of events that culminates in Wen’s expletive, which lands him in detention where he meets his future bandmates, each of whom lives under challenging circumstances.

Stella Penn (electric ukulele) comes from “a family of geniuses,” she says, with an older sister at Brown. As the story opens, Stella has opened a letter reporting her IQ test result of 84. Mortified to be “a documented dummy,” as she puts it, she shines as a leader, activist, and spirited rebel whose fashion faux pas—at least in the eyes of the school’s administration—places her in detention.

Olivia Whitehead (lead vocalist) is quiet and taciturn offstage, the product of a mother who abandoned her and a father who’s in prison for armed robbery and manslaughter. She lands in detention after cutting American Lit class, instead savoring the assigned book, *The Great Gatsby*, for the third time, alone in a janitor’s closet.

Mohini (Mo) Banerjee is an overachieving, has-her-life-all-planned-out daughter of Indian immigrants who strives to balance her parents’ expectations with her desire to assimilate into the American teenage mainstream.

And then there’s Charlie Hirsh. He’s a twin, but his brother, Aaron, was a stillborn, and his birthday celebration never takes place without a family visit to Aaron’s grave. Chubby, with unruly, frizzy hair, Charlie secures his path to detention when he retaliates to a spitball attack, missing his target and hitting Mo instead.

“They’re all part of me,” says Hughes of his eclectic cast of characters. “Stella is a lawbreak-

er and a defier and means really well and doesn’t always get it right. And that’s me. Olivia, on the other hand, is quite different. She’s very quiet, and she has a very hard time talking about herself, and her own work, and that’s me too, at different times.”

Mo is drawn from Hughes’s own experience as well.

Although raised in the United States, Hughes was born in England to an English family—a “very, very English” family, he adds. “I’m American, but I’m also British. I never feel more American than when I’m in Britain. And there are plenty of occasions here where I feel very British in the midst of America.”

Hughes says the movie leaves his story and characters “pretty much intact.”

“What struck me,” he says, “was how little they actually changed from my book. The characters are all there, and they are my characters. The story is there, and it’s my story.”

When Hughes wrote *Lemonade Mouth*, he was still working full time as a data analyst. After the novel’s publication—and its favorable reviews—he quit his job to become a full time writer, a story he told in May 2007 on National Public Radio’s “Take This Job and Shove It” segment.

“Suddenly dropping the job is way out of character for me,” he told Michele Norris, the host who interviews Americans who have left steady jobs to chase their dreams.

But the success of *Lemonade Mouth* may well have depended on that decision.

That summer, Hughes took his entire family on an eight-week book tour across the country in the family’s minivan, a 1996 Honda Odyssey wrapped in bright yellow plastic with images that mimicked the novel’s cover art.

Hughes gave readings and book signings at 60 stores across 38 states. And the car that was already 11 years old traveled more than 12,000 more miles on the journey.

For the time being, the opening of the movie has overshadowed Hughes’s latest novel. But he has no intention of letting *A Crack in the Sky* remain in the shadows.

True, he’s at work on a sequel to *Lemonade Mouth*. But he’s at work on a sequel to *A Crack in the Sky* as well.

He’s not giving any hints about what’s to come. But one thing is certain. Both sequels will be about big, dramatic events, because books about teens have to be.

“They’re looking at their successes as the greatest triumphs known to humankind. And their failures as the deep depths of depression and awfulness,” says Hughes of the modern teen.

“At that particular time in our lives, we see everything as one extreme or the other.” **R**

A Fab Five

Much like the five underdogs who form Lemonade Mouth, here’s a list of five extraordinary tween books that might have escaped your notice, but are exceptional nonetheless—and deserve a place on bookshelves.

—Mark Peter Hughes ’88

How to Steal a Dog by

Barbara O’Connor (Farrar, Straus and Giroux, 2007). A story about a southern town, a homeless family, and a girl with a plan to fix everything.

The Outlandish Adventures of Liberty Aimes by Kelly

Easton (Random House, 2009). A wild, raucous ride in a magical world a lot like our own except with mutant animals, terrifying inventions, and a talking chicken with human feet.

Galaxy Games by Greg R.

Fishbone (Tu Books, Fall 2011). The first in a series about a boy who stumbles into greatness after an alien spaceship visits Earth to recruit a team of kid athletes. Out this fall, I was lucky enough to get to read it early.

Newsgirl by Liza Ketchum

(Viking, 2009). During the gold rush of 1851, a young girl in San Francisco must disguise herself as a boy to sell newspapers and ends up in an accidental balloon ride adventure.

Climbing the Stairs by

Padma Venkatraman (Putnam, 2008). Set in India in 1941, it’s the first-person account of a teenage girl in the middle of political and family turmoil.