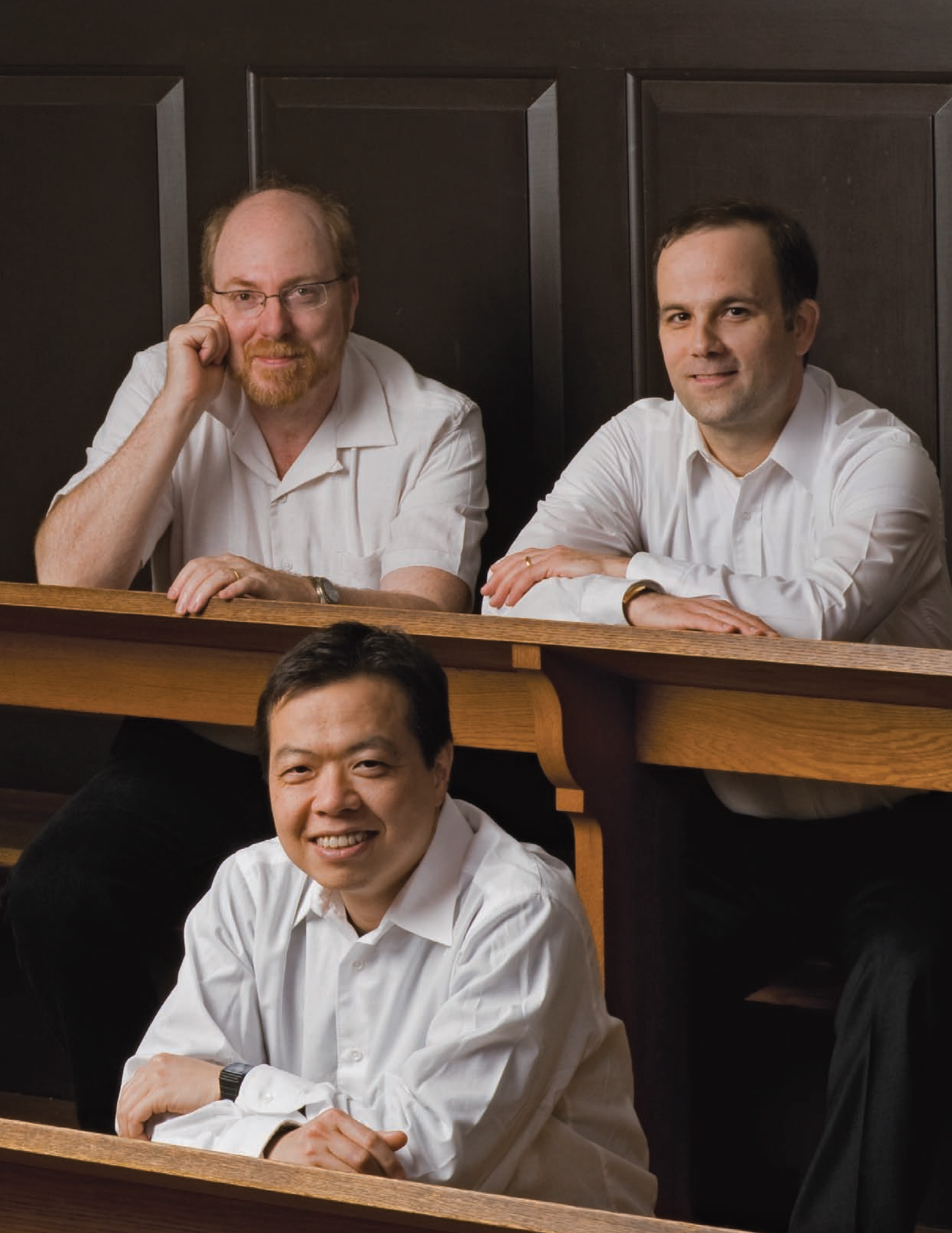


A GATHERING OF MINDS

THE 2009 ALUMNI FELLOWSHIP
AWARD RECIPIENTS TAKE AN
INTERDISCIPLINARY APPROACH
TO TEACHING AND RESEARCH

BY BEN KENNEDY '05
PHOTOS BY MARK MITCHELL





William and Mary professors have long been renowned for their devotion to their students' classroom experience; today's scholars must also embrace a variety of disciplines and approaches to a swiftly changing academic world. The recipients of the 2009 Alumni Fellowship Award — Christopher Del Negro, Robert S. Leventhal, Robin Looft-Wilson, Paul F. Manna and Kam W. Tang — are precisely those sorts of educators. They will be recognized at the Fall Awards Banquet in September with a \$1,000 honorarium, endowed by the Class of 1968 at their 25th Reunion. Beyond that, they will continue enriching students and expanding horizons, no matter which department they call home.

Christopher Del Negro

Associate Professor of Applied Science

B.A., Kinesiology/Exercise Science, Occidental College;
Ph.D., Physiological Science, University of California — Los Angeles

Christopher Del Negro, associate professor of applied science, remembers the moment in 2005 where his research — into the neural control of respiration — became even more than a formidable academic pursuit.

“I had a premature son born in 2005. ... I was sitting there in the delivery room, watching my son stop breathing for a while,” he says. “I would flick his chest and he'd start breathing again. It's a very real problem.”

Del Negro's son, Gaius, is healthy now and enjoys playing in the pool with his father and his mother, Heather; but his experience in that hospital lent new motivation to dad's work, which is directly relevant to preventing sudden infant death syndrome as well as sleep apnea in adults.

“Until I had my son, I would research it because of the intellectual challenge; it seemed like a great problem to me,” he says. “But after having my baby and seeing him not breathe, I said, ‘Yeah, I really believe this is important. I can really do something here.’”

After living for a year in Jamaica and studying exercise physiology and neuroscience in Southern California, Del Negro worked on the lower brain centers that control the basic movements of the mouth. Following his Ph.D., he began searching for the origins of



breathing rhythm within the context of neuroscience.

As a member of the applied science faculty, Del Negro is one of nine core faculty with widely varied research interests. Applied science professors tackle diverse topics like lasers, robotics and epidemiology with the goal of furthering research-focused graduate education at William and Mary.

Del Negro in particular is focused on the specific networks of brain cells that regulate breathing in mammals. A few undergraduates also get involved, even though the material is by its nature interdisciplinary and at a graduate level — challenging for undergraduates, and rewarding for professors like Del Negro.

“My philosophy is to prepare the upper division students on this campus for their next experience, be it medical school or Ph.D.-level education,” he says. “I’m trying to expose them to the type of approach they’re going to need on their next mission.”

Del Negro, a marathon runner, also travels frequently to collabo-

rate with colleagues at other universities, often delivering lectures to spread the word about his work and that of the students in his lab. By disseminating their work along with his, Del Negro is helping to build a network of scholars in his field.

“You can be in your lab doing the best research in the world, but if nobody knows about it, it’s going nowhere,” he says. “Giving lectures and sharing findings deepens the content of my own research and my own knowledge and expertise. I think it ultimately brings a more well-informed and better professor back to the classroom.”

And on a campus where interdisciplinary majors like neuroscience are becoming more popular, Del Negro’s enthusiasm for his work — and the knowledge of its vast importance — can only do good things for the discipline.

“As a neuroscientist, the explanation that I seek to explain the origin of a behavior doesn’t involve black boxes with mysteries in the middle,” he says. “I look at it as lifting up the hood on behavior.”

Robert S. Leventhal

Associate Professor of Modern Languages

B.A., German and Philosophy, Grinnell College;

M.A., German Literature and Ph.D., German Thought and Literature, Stanford University

Robert Leventhal can’t always confine himself to a single discipline.

“In a sense, the humanities have become more and more aware of their relationship to all sorts of other realms of discourse and realms of inquiry,” he says.

Leventhal, a professor in the German section of the modern languages and literatures department, is focused on what he calls a “prehistory” of the psychological case study, dealing with literature, history and medicine in the late 18th and early 19th centuries.

In 2007 and 2008, he led a group independent study to look at the emergence of the new Jewish community in Munich since 1990. The project took the group into the fields of sociology, urban planning and the history of postwar Judaism. Despite the challenging material and complex language, Leventhal’s students were able to match the task.

“I have taught at four institutions — my students here are far and away the best students I’ve had,” he says. “I can throw at them everything I’ve got and they’ll come back asking for more.” The German section alone will send four Fulbright scholars to Europe this year.

Leventhal began his fascination with the language while in high school in New York. A bilingual translation of Goethe’s *Faust* sparked an interest that manifested itself in college in Iowa and while studying abroad at the University of Friburg in Germany.

“What fascinates me about German is that it is an ontological, synthetic language; that is, it has an additive structure which seems to make certain claims about the world,” he says. “In a sense it’s already a language that inspires reflection.”

But it’s more than just the German language, though Leventhal does still teach advanced grammar and stylistics at the College. Equally drawn to both philosophy and literature, Leventhal’s coursework in graduate school translated to the wide range of courses he

teaches at William and Mary. In addition to grammar, he has taught introduction to literary studies, German literature from the 18th century to the present and modern German critical thought, as well as an interdisciplinary course on the cultural explosion in pre-World War II Munich.

“I’ve always been a hybrid creature, always existing between disciplines,” he says. “I love teaching crossdisciplinary courses — we get this great mix of people.”

Leventhal’s first book delved into 18th-century hermeneutics — interpretational theory, including unwritten aspects of the text such as presuppositions and reliability.

“It’s always a matter of interpretation,” he says. “Interpretation is infused into the very idea of understanding the structure of language and understanding the most reliable text.

“We haven’t lost the demand for rigor and for very close attention to the text and its terms,” he says. “We’ve gone from there to a much more expansive notion of what literature consists of and how the methods of literary analysis can be fruitfully applied to a number of different disciplines.”

Leventhal himself lives an interdisciplinary life — his wife, Janet Warren, teaches psychiatric medicine at the University of Virginia, while his daughters are in fields as diverse as real estate, electronic-acoustic music and health science.

“They’re very different; each is totally unique,” he says. “There’s never a dull moment.”



Robin Looft-Wilson

Associate Professor of Kinesiology

B.S., Physical Education and M.S., Exercise Science, University of California at Davis;
Ph.D., Physiology and Biophysics, University of Iowa

Robin Looft-Wilson studies the science of blood. Science is also *in* her blood: her father had a master's degree in meteorology and oceanography, so dinner table conversations often revolved around Einstein and black holes. As a kid, she wanted to be an astronaut, but she became hooked on science after her first semester in her master's program.

"From designing the experiment to analyzing results, I can't imagine anything more interesting," she says.

The early years of her career were spent focused largely on space physiology — astronaut health. After conducting experiments for NASA on how the circulatory system adapts to zero-gravity, Looft-Wilson got a Ph.D. and started focusing on the basics of blood vessels.

Specifically, she studies how blood vessel mechanics influence cardiovascular disease, one of the most dangerous and lethal conditions in American health. In her work, Looft-Wilson looks at an amino acid called homocysteine, high levels of which are a major risk factor for atherosclerosis along with cholesterol.

"It's not as recognized and hasn't been studied as long as high cholesterol," she says, "but it's thought to be a very important contributing factor." Homocysteine levels can be increased by a diet low in B-vitamins and folate, which is common in Americans.

"We study how this affects blood vessel function: its ability to dilate and contract. [Homocysteine] impairs it," she says. "When the blood vessels don't dilate and contract appropriately, not only do you lose the ability to control blood flow to your tissues but it promotes atherosclerosis."

The real-world application of her research is not lost on her students, many of whom have relatives with cardiovascular problems.

"It seems like a lot of the students just want to know as much as they possibly can. In my physiology classes I present much more about pathologies and treatments," she says. "It's more of the medical

aspects than I would have presented otherwise, but it all comes from student demand."

Looft-Wilson has her students read primary literature along with her lectures to ensure that she stays fresh and her students know about the cutting edge of research in her field. By learning to criticize and evaluate published findings, she prepares her students for even more rigorous graduate work. Her obvious enthusiasm is contagious.

"I've been amazed at how well students can read a paper and pick out the flaws. Some of these are real tough papers and are very technical. In essence, they are teaching themselves a whole new language, in addition to trying to understand the science," she says. "Some of them find flaws in the paper that I didn't find. I love when that happens; it's amazing."

Occasionally her students will request specific studies that have been in the news.

"When students are asking to do additional papers because they're interested in the topic, nothing's better than that. When the students are pushing me to work harder, I couldn't ask for more," says Looft-Wilson. "Those are the best moments as a professor here at William and Mary: when students exhibit that excitement. They want more, and they're asking more from me."

And the family enthusiasm for science may be genetic after all: her 9-year-old son Jacob is often hard at work playing with his toy molecule construction set.



Paul F. Manna

Associate Professor of Government

B.A., Political Science, Northwestern University; M.A. and Ph.D., Political Science, University of Wisconsin

Two years ago, Paul Manna abandoned PowerPoint and never looked back.

"It sort of dawned on me one day that there was a lot of good stuff in the readings that we were never really getting to," he says. "I thought, well, what if I just create more space for that in the class itself? ... I think it broadens who's able to get involved and it doesn't require them to have some knowledge about the topic that I'm only introducing for two minutes in class."

Manna's classes and research tackle the idea of policy implementation and federalism — the governmental interplay between Washington, D.C., and the 50 states. To do so, he uses education as a relevant example.

"One of the things I try to do is think in some of the broader theoretic

cal terms, using the concepts that political scientists use as a way to understand what's going on in education," he says. "I ask, 'What does this particular policy area say more generally about implementation? What does this thing say in general about the federal government's ability to hold lower levels of government accountable for performance?'"

Manna's teaching style also makes it easy for students to get feedback



on their performance in class. By making his standards clear and making himself available to discuss work with students, he improves the classroom experience for each student.

"I rarely have students come into my office and complain or question a grade," says Manna, who suggests room for improvement on each paper; then provides the student with more specific suggestions. "They can see my signals on their work on what they need to do better. Then, hopefully, I give them strategies on how to improve for the next time."

Some of the personal attention — as well as the interest in education policy — can be explained by Manna's first career: high school social studies teacher. After returning to his high school *alma mater* in Traverse City, Mich., for a few years to teach economics and history, Manna decided to go back to school and get his Ph.D.

Occasionally, though, first-year students are too quick to reach back to their own experience in primary and secondary school and Manna has to joke: "People who teach other classes don't have this problem. If this were

a freshman seminar on nuclear weapons, nobody's going to be able to say "Well, back in my hometown, the way we did nuclear negotiations was..."

Manna's current projects include a book about the implementation of No Child Left Behind and a project on education governance. His first book, *School's In*, dealt with how interactions between the federal government and the states have influenced education policy at both levels. Between his dedication to his students and his research, Manna believes that Williamsburg is a good fit for him, his wife Lisa and 1-year-old son Theo.

"I think it's fair to say that if you were just a great researcher, but a horrible teacher, you probably wouldn't make it here," he says. "At the same time, if you were just a great teacher but you didn't have an active scholarly agenda of your own, I don't think you would make it either. There's this idea that you need to be doing both. It fits me well because I like to do both. I'm glad I'm at a place where they both count."

Kam W. Tang

Associate Professor of Marine Science

B.S. and M.Phil., Biology, The Chinese University of Hong Kong;
Ph.D., Oceanography, University of Connecticut

Kam Tang has chased some of nature's smallest organisms across some of the world's longest distances. On one hand, you have all the various types of plankton: microscopic organisms that form the basis of the ocean's food web. On the other, you have the thousands of miles between Tang's home in Hong Kong and his academic pursuits in Connecticut, Denmark and Virginia.

Now a professor at William and Mary's Virginia Institute of Marine Science, Tang works with graduate students and other colleagues to investigate these tiny but vitally important organisms.

"I found it very interesting because oftentimes it's easier to think of large organisms like big animals and big plants. Things that we are familiar with are more intuitive," he says. "But when you consider the very small organisms, a lot of their behaviors, life histories and ecological functions are not as intuitive as the bigger things. It takes a lot more imagination to really understand what is going on in the microscopic world."

Unlike most of his colleagues on the undergraduate campus, Tang advises graduate students on the VIMS campus at Gloucester Point, Va. Most of his teaching is one on one: outside the classroom, in the laboratory or his office. Taking after his mentors in his master's and Ph.D. programs and his postdoctoral research, he sees his role as helping his students access resources and giving them advice when they need it.

"I was very fortunate to have very good advisors. These three mentors have been very important in my academic career; so basically I try to follow their style and how they mentored me," he says. "I try to let my students have as much freedom as possible to create and to learn actively. I stay on the sideline and try not to interfere with their creation too much."

Tang has a history of helping students become comfortable in their

surroundings. While a doctoral student at the University of Connecticut, he learned quickly that foreign students often need help adjusting to a new environment.

"When I was in Connecticut, I learned from my own experience how difficult it would be for foreign students to get settled and feel comfortable," he says. "Fortunately we had other foreign students in the department and we formed our own support network. I got some help from the other foreign students and tried to make an effort to help others."

"After that, I had become used to the idea of living in a new place and exposing myself to a new culture," he says. "Then, actually, I liked the adventure. When I moved from the U.S. to Denmark it was basically easy for me."

While in Denmark, Tang accepted the position at VIMS, a great place for marine scientists because of its location and its resources. Tang cites the Chesapeake Bay location and varied faculty research interests as two things that make it attractive.

"One thing we always emphasize here is interdisciplinary research. I think we have the capability to do that because we have so many scientists doing different things with different areas of expertise," he says. "The students are in a really good position to create an interdisciplinary research project."

In the classroom, however, Tang is always careful to explain the fundamentals of a topic before diving into the data sets. If a student has a question, he will stick around to try and answer it — no matter how small the question or how long it takes. ■

