

MolBio *on the Move*

Winter 2010 Volume 5, Edition 1



From the Chair

This year marked the 25th anniversary of the Department of Molecular Biology. The year 1984, a leap year, began with the breakup of the U.S. Bell system and saw the introduction of the Apple Macintosh. NASA launched the shuttle *Challenger*, and UCLA performed the first embryo transfer from one woman to another.

HIV was discovered and Margaret Heckler, President Reagan's secretary of Health and Human Services, predicted a vaccine was only a few years away. China and the U.K. agreed to return Hong Kong to China in 1997.

Nobel Prizes went to Jerne, Kohler, and Milstein for immunology breakthroughs, and Merrifield won the chemistry prize for solid phase protein synthesis. Desmond Tutu won the Nobel Peace Prize. The Bhopal catastrophe in India was the worst industrial disaster in history. A different kind of disaster, crack cocaine, hit the streets of Los Angeles. The recombinant DNA revolution was in full swing as we switched Maxam-Gilbert sequencing to Sanger sequencing. Automated sequencing was only two years away. Carol Greider saw evidence on an X-ray film for telomerase on Christmas Day. It was a time of change and of promise.

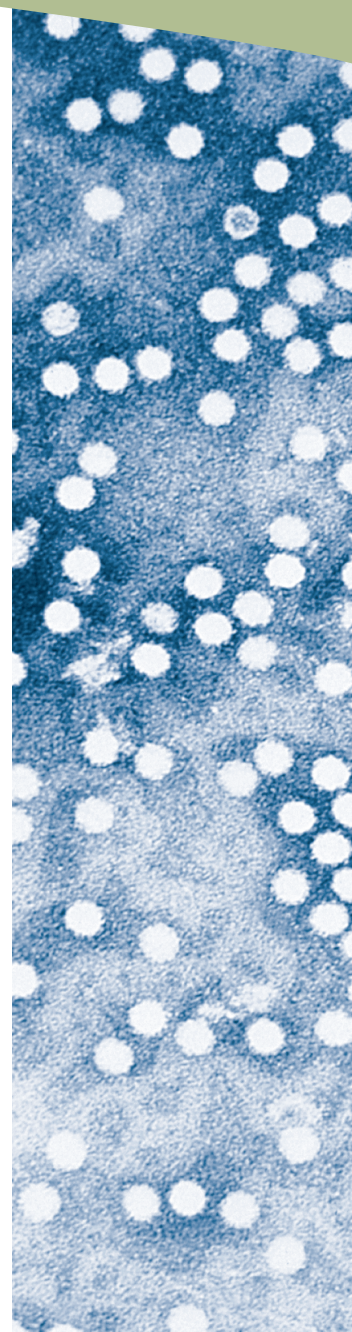
The formation of this department in 1984 capped an intensive effort that spanned several years. I must tell you, new departments at Princeton do not arrive easily—I cannot imagine what it must have been like to get the idea started and to keep the momentum going. Stories of the events leading up to the formation are worth hearing. Like good wine, they improve with age. The change was viewed through different colored glasses, depending upon where you were. Nevertheless, it is remarkable and telling that after 25 years, the excitement and energy in the field of biology and in the department itself show no signs of slowing down. That the department is vital, growing, and evolving is a sign that those who put this department together in the early 1980s knew what they were doing.

continued on page 2



In this issue:

Faculty news	2
Murthy joins faculty	2
Undergraduate notes	3
Graduate notes	5
Postdoc notes	8



William G. Bowen, currently the president of the Andrew W. Mellon Foundation, was president of Princeton University from 1971–88 and was present at the beginning of molecular biology at Princeton. Tom Shenk and Arnie Levine provided a dominant core of energy and enthusiasm that gave leadership and direction to the department. Arnie became the first chairman of the department and held the reins for 12 years. Tom became chair in 1996 and led the department for eight years. I accepted the challenge in 2004. I must add that Arnie, Tom, and I have followed another similar path in our careers. This may be for virology mavens only, but Arnie was editor in chief of the *Journal of Virology* for 10 years; Tom succeeded him for another 10 years; and I am the current editor in chief. Thirty consecutive years of *J. Virol.* leadership from Princeton molecular biology—that's not bad...but I digress.

Shirley M. Tilghman came to the department a few years after it was formed and the rest, as they say, is history. Her achievements in molecular, cell, and developmental biology are remarkable, but even when she and I were postdocs together at the NIH, it was clear she had the capability for larger things than research. I didn't guess she was destined to become the president of Princeton University, nor do I think, did she!

I was at DuPont in 1984 and was invited to participate in the symposium that marked the birth of the department. It was a career-changing opportunity for me, as it enabled me to develop a long-term relationship with the department. For several years, I taught a few lectures in Tom Silhavy's Proks course, tantalizing the students with the arcane genetics of phage lambda. I became more and more enthralled with Princeton, and, when offered the chance to come as a professor in 1993, I was ready to sign up.

I'm starting my sixth year as chair and view our future with optimism and enthusiasm. I have every reason to believe that the next 25 years will be as exceptional as the first.

Lynn Enquist

Faculty news

Bonnie Bassler, the Squibb Professor in Molecular Biology, received the eighth annual Wiley Prize in Biomedical Sciences. Bassler has been selected for her pioneering investigations into quorum sensing, a mechanism that allows bacteria to “talk” to one another with chemical languages and to coordinate group behaviors such as causing diseases in humans.

Carlos Brody, an associate professor of molecular biology and the Princeton Neuroscience Institute, received a program grant from the Human Frontier Science Program (HFSP). The research team is expected to develop new lines of research through the collaboration. Brody and his collaborators are working on “Decoding and Recoding Sensation.”

Ileana Cristea, an assistant professor of molecular biology, was awarded a 2009 HFSP Young Investigator Grant for the project “A hybrid approach to revealing intermediate structures of Herpes Simplex Virus during infection.”

Ben Garcia, an assistant professor of molecular biology, is one of two recipients of a 2009 American Society for Mass Spectrometry Research award.

Professor of molecular biology **Jeffrey Stock** was elected by the American Association for the Advancement of Science Council as one of the 486 fellows of AAAS.

Sam Wang's book, *Welcome to Your Brain* (with Sandra Aamodt, Bloomsbury, 2008), was a recipient of the American Association for the Advancement of Science/Subaru SB&F Prize for Excellence in Science Books. The judging committee, made up of scientists, librarians, and science literacy specialists, overwhelmingly chose the book as the winner in the Young Adult category. Wang is an associate professor of molecular biology and the Princeton Neuroscience Institute.

New faculty member Mala Murthy

The department is preparing to welcome Mala Murthy in the spring semester of 2010. Murthy is a native of Texas, and holds a B.S. in biology from the Massachusetts Institute of Technology and a Ph.D. in neuroscience from Stanford University. For her thesis, she studied the role of the exocyst (a large protein complex) in the trafficking of vesicles to the cell membrane, both within and outside of the nervous system in the fruit fly, *Drosophila melanogaster*. Most recently, she was a Helen Hay Whitney postdoctoral fellow in the lab of Gilles Laurent at Caltech, where she studied the neural codes, or patterns of electrical activity, underlying odor and sound



detection in flies. Murthy will join both the Department of Molecular Biology and the Princeton Neuroscience Institute as an assistant professor, and will continue to study olfactory and auditory perception in *Drosophila*. Her lab will address how sensory signals are represented within the fly brain, how sensory representations are transformed during learning, and how these representations are ultimately used to elicit important behaviors, such as flying toward a salient odor or responding to a specific courtship song. Achieving these research goals will lead to a better understanding of how our own brains translate sensory cues into thoughts and actions.

Undergraduate student notes

Michael Akins '99 (*Tsien Lab*)

I received my Ph.D. in neuroscience from Yale, where I also worked as a postdoc for a couple of years. Currently, I'm a postdoctoral fellow in the neuroscience department at Brown. In 2003, I married Amy Baumgartner '99 (EEB) and we have two kids—Jack, four, and Liam, very nearly one.

Rich Allan '02 (*Cox Lab*)

After teaching in Wuhan, China, through the Princeton in Asia program, I studied *C. elegans gonadogenesis* at NYU and cancer biology at Memorial Sloan-Kettering. I'm currently at Columbia, pursuing a Ph.D. in biochemistry and biophysics, exploring the transcriptional regulation leading to wing and leg progenitor cell differentiation in the *Drosophila* embryo. I keep some time for running, rooftop gardening, exploring the contemporary art world, and playing the cello.

Robert Anolik '00 (*Stock Lab*)

Since my time at Princeton, I earned a medical degree. Today, I live in New York City, where I will shortly finish a dermatology residency at New York University. Next year, I will remain in New York for a fellowship in laser and surgical dermatology.

Debbie Lee Bennet '03 (*Mahmoud Lab*)

I graduated from Harvard Medical School in 2008 and am now doing a radiology residency at Massachusetts General Hospital. I got married in May 2007 to Michael Bennett (also '03, but he was a chemistry major). No children yet!

Aiyanna Burton '99 (*Cox Lab*)

I attended UMDNJ-New Jersey Medical School, where I received my M.D. in 2003. In 2007, I completed my internship and residency in obstetrics and gynecology at Morehouse School of Medicine in Atlanta. I currently hold a maternal-fetal medicine fellowship at UMDNJ-Robert Wood Johnson Medical School. Upon completion of the fellowship in June 2010, I will be providing care for high-risk obstetrical patients who have medical or fetal complications during their pregnancies.

Adam Castaño '05 (*Zakian Lab*)

I will graduate this May with an M.D. from the University of Michigan Medical School. I'm now pursuing a residency in internal medicine with primary interests in the areas of cardiology and infectious diseases. I've worked for the World Health Organization in Geneva, Switzerland, on global containment

of antibiotic resistance, and published an interdepartmental report that helped revive the WHO's containment efforts. I've also completed a one-year NIH Academy Fellowship at the NIH, where I helped develop a vaccine candidate for parainfluenza virus, a major cause of pediatric respiratory-related hospitalizations. My publications include several reports in *Journal of Virology*, *Vaccine*, and *Virology Journal* on the vaccine candidate. In my free time, I enjoy canoeing, cycling, World Cup soccer, and cheering the New York Yankees. I have fond memories of my days in the Zakian Lab and in virology class with Dr. Enquist and am grateful for the mentorship I received there during my undergraduate MolBio years. My Princeton experience certainly would not have been the same were it not for lessons learned during late nights in the laboratories.

Alicia Zysman Cromwell '03 (*Zakian Lab*)

I completed medical school at the University of Rochester (New York) and am currently in my third year of family medicine residency at UR. I married Matthew Cromwell '03, who fell in love with Rochester (my hometown). We are planning on staying after residency.

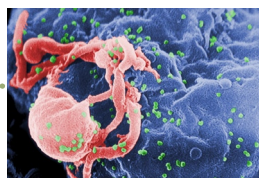
1984

AT&T's local operations are split into seven independent "Baby Bells."



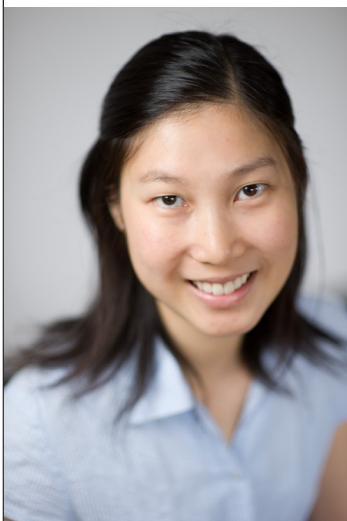
Beginning of the Department of Molecular Biology at Princeton University. Arnold Levine first chair of department.

U.S. Health and Human Services Secretary Margaret Heckler announces that Dr. Robert Gallo of the National Cancer Institute has isolated the virus which caused AIDS ... named HTLV-III (image courtesy of CDC).



Apple Computer introduces the first Macintosh personal computer.





Wendy Liu '08

Krista Dobi '00 (*Gavis Lab*)

After Princeton, I enrolled in Harvard University's biological and biomedical sciences graduate program, where I worked in the lab of Fred Winston, studying regulation of gene expression in budding yeast. I graduated with a Ph.D. in genetics in 2007. Since that time, I have been a postdoctoral fellow in the lab of Mary Baylies at the Sloan-Kettering Institute in New York City. The Baylies lab studies the development of muscles in fruit flies, and my project is specifically interested in how muscles of different sizes and shapes are specified.

Christine Eun '04 (*Schedl Lab*)

After Princeton, I worked in consulting and at Google, where I was a marketing manager in New York. I'm currently a second-year student at Harvard Business School and will most likely be returning to my old firm, McKinsey & Company, after graduation. This time I'll be moving out West, and I'm excited about relocating to the San Francisco area.

Meg Itoh '03 (*Rosenberg Lab*)

After graduation, I started medical school at the University of California–Davis. I took a year off to do HIV research in Botswana with Princeton in Africa. I'm currently a pediatric resident at Stanford, planning to specialize in infectious disease and work in the field of global health.

Wendy Liu '08 (*Enquist Lab*)

I am a second-year student in the Harvard-MIT M.D.-Ph.D. program. I am pursuing a Ph.D. in neuroscience and recently joined Rachel Wilson's lab for my Ph.D. thesis. My research centers on understanding how sensory information is processed by neural circuits and the mechanisms of sensory processing. In my free time, I enjoy exploring the streets of Boston, running, sailing, creative cooking, and traveling.

Marcy Maguire '00 (*Block Lab*)

After leaving Princeton, I attended the Medical College of Virginia. I then completed a residency in obstetrics and gynecology at Tufts Medical Center. I am currently at the NIH as a second-year fellow in reproductive endocrinology and infertility. If any other Tigers are visiting the D.C. area, look me up!

Matthew Mielke '07 (*Gitai Lab*)

After graduation, I spent two years working in a research lab at Massachusetts General Hospital studying the basic biology of Alzheimer's disease. I also spent much of that two years curling, attempting to qualify for the 2010 Winter Olympics. My team was eliminated in the second-to-last round, finishing in the top 16 in the country. In addition, I coached a junior team that progressed to the 2009 Junior National Championship. In August 2009, I started at Tufts University School of Medicine,

where I'll hopefully be spending the next four years.

Albert Pendleton '02

(*Schwarzbauer Lab*)

I'm a fourth-year resident in orthopedic surgery at Emory University, and I will be doing a fellowship in pediatric orthopedics.

Tisamarie Sherry '05

(*Silver Lab*)

After graduating from Princeton, I received a Princeton in Africa fellowship, which took me to Kampala, Uganda, for one year. In Uganda, I worked with the Centers for Disease Control and Prevention's Global AIDS Program and local NGOs on several projects to evaluate and strengthen HIV/AIDS care and prevention programs in the country. In 2006, I returned to the U.S. to attend Harvard Medical School. I am a student in the Harvard M.D.-Ph.D. Program, pursuing a Ph.D. in health policy with a concentration in economics in addition to my medical training. My current research examines the relationship between health and economic development, and mental health policy.

Ashish Sureka '00 (*Silver Lab*)

After medical school at Northwestern and a pediatrics residency in St. Louis, I am finishing training in pediatric cardiology at Stanford University. My wife, Dimple, and I are enjoying our six-month-old little girl, Neethi.

1986



At left, during construction of Lewis Thomas Laboratory. The building, named after entomologist Lewis Thomas '33, is dedicated in 1986.



Alexis Tingan '05 (*Shenk Lab*)

Following graduation, I worked for a year at Vanderbilt University doing research in sports medicine. The next year I enrolled at Emory University for medical school. I'm currently in my fourth year and applying for residency in orthopedics. Last April I got married at Princeton to Chanel Lattimer, who is also Princeton Class of 2005. We're both in Atlanta and enjoy spending time with our dog, a Welsh Terrier.

Matthew Wagers '03(*Wang Lab*)

I earned my Ph.D. in linguistics at the University of Maryland. Following a postdoc at NYU in psychology, I am now an assistant professor in the Department of Linguistics at the University of California–Santa Cruz. The focus of my research is psycholinguistics, specifically the interaction of human memory processes and grammatical structure. So my research life is now at some remove from molecular biology. However, my thinking is still shaped by my time in the department and finds anchors in my senior thesis research with Sam Wang on scaling laws and metabolic constraints, as well as John Hopfield's class on neurobiological computation.

Graduate student notes

J. Todd Blankenship *00(*Wieschaus Lab*)

After leaving Princeton, I held postdoc positions at Stanford University and the Memorial Sloan-Kettering Cancer Center, before moving into my current position as an assistant professor at the University of Denver. I'm one year in, and I have to say I love running my lab and living in Colorado. I spent too many weekends this summer high in the Rockies, camping, rafting, and backpacking. Mt. Princeton in the Collegiate Peaks is even lovelier than the University, and, yes, Mt. Princeton is a whole lot nicer than Mt. Harvard! At right: This little guy visits near my office on most evenings (and that's me up high).

Samantha Butler *96(*Hiromi Lab*)

After leaving Princeton, I was a postdoc for some years with Jane Dodd at Columbia University in New York, where I studied the mechanisms of neural circuit formation in the vertebrate spinal cord. On the basis of my work there, I set up my own laboratory at the University of Southern California in Los Angeles. Among our recent results, my lab has identified a novel mechanism by which the process of axon guidance is regulated, that the ability of



*J. Todd Blankenship *00 (above)
and friend (below)*



axons to interpret directional information (i.e., the "conventional" axon guidance signals) critically depends on the speed at which they approach them. In personal news, I recently got married to Ben Novitch (who has his lab at our cross-town arch rival UCLA) and had a baby, Jonas. Jonas is giving me an entirely new insight on the joys of developmental biology.

Amin S. Ghabrial *00(*Schüpbach Lab*)

I was a graduate student with Trudi Schüpbach until 2000, when I left to start my postdoc in Mark Krasnow's lab in the biochemistry department at Stanford. I began as an assistant professor in the Department of Cell and Developmental Biology at Penn in January of 2008. I married Alondra Schweizer Burguete, my long-time fiancée, later that year.



*Samantha Butler *96*

**1993**

Opening of George LaVie Schultz Laboratory addition to the existing Moffet Lab and Guyot Complex, containing teaching and research labs.



Ali Nouri *06

Ali Nouri *06

(Wieschaus Lab)

I completed my Ph.D. under the supervision of professor Eric Wieschaus. After graduating in 2006, I joined the Woodrow Wilson School's program on science and global security as research associate and worked on science policy issues. There I developed technical safeguards to help prevent the misapplication of dual-use biotechnologies. I also co-taught a course on preventing WMDs. I also spent one year working in the United Nations office of the Secretary General on a biotechnology initiative aimed at preventing the misapplication of biotechnology, while promoting its beneficial applications to health and food security—particularly throughout developing countries. In 2008, I became a congressional fellow for the American Association for the Advancement of Science. I joined the office of U.S. Senator Jim Webb to work on energy, climate change, and other science and technology-related issues. After my fellowship I joined Senator Webb's permanent staff and I continue to work on legislation in those areas. I'm enjoying life in Washington, D.C.

Jill Penn *06

(Schedl Lab 1999–2006)

I am now a postdoc in Ed Kravitz's lab at Harvard Medical School, still studying *Drosophila*, but now asking neurobiological questions. My current lab investigates

aggressive behavior in *Drosophila*. Specifically, I am working on the aspect of social defeat, a behavioral phenomenon in which an animal becomes less aggressive after losing a fighting contest. My husband, Dave, and I are enjoying city life in Boston and adopted a dog named King, who we love dearly, two years ago.

Jill Reiss Harper *01

(Silhavy Lab)

After leaving Princeton, I went to work in the office of U.S. Representative Rush Holt (NJ-12) as a Congressional Science Fellow sponsored by the American Society for Microbiology. In September 2002, I joined the National Institute of Allergy and Infectious Diseases (NIAID), a component of the NIH, to work on legislative issues. I am now the chief of the Legislative Affairs and Correspondence Management Branch in the NIAID Office of Communications and Government Relations, where I oversee all congressional liaison activities for the institute. I live with my husband, Scott (*01 in AOS), in Washington, D.C., and have two children—Alice, age five, and AJ, age two.

Ilya Ruvinsky *00 (Silver Lab)

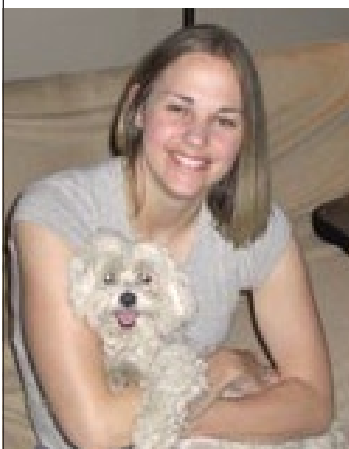
After leaving Princeton in 2000, I pursued postdoctoral research in the Department of Genetics at Harvard Medical School. I wanted to work with a small, genetically tractable animal model system and thus joined a laboratory studying neuronal

development, metabolism, and microRNAs in *C. elegans*. It was a fantastic experience and on many occasions I was grateful for the lessons (in genetics and the rest) learned while at Princeton. For four years now I've been running a lab (in truth, it's only been running for about a year and walking rather slowly during the first three) in the Department of Ecology and Evolution at the University of Chicago. My group works at the intersection of Evo-Devo and comparative and computational genomics. We are particularly interested in understanding the evolution of transcriptional gene regulation. We also study the evolution of nematode genomes and the genetic architecture of complex traits. The University of Chicago is a great academic community and the campus is full of former Princeton people.

Geraldine Seydoux *91

(Greenwald Lab)

I'm now a professor of molecular biology and genetics at the Johns Hopkins University School of Medicine in Baltimore. I still work on *C. elegans*, as I did during my Ph.D. with Iva Greenwald. I enjoy coming back to Princeton to serve on the Life Science Research Foundation Peer Review Committee with Jim Broach and Tom Silhavy. In Baltimore, I like to reminisce on the good old Princeton days with fellow classmate Pam Meluh *92. I have two children, Celine (12) and Nico (10).



Jill Penn *06

1995



Eric Wieschaus, presently the Squibb Professor in Molecular Biology, wins the Nobel Prize in Physiology or Medicine.

Meera Sundaram *92*(Greenwald Lab)*

After leaving Princeton, I spent four and a half years as a postdoc with Min Han at the University of Colorado–Boulder, then moved in 1997 to the University of Pennsylvania School of Medicine, where I am now an associate professor of genetics. My lab studies signal transduction and tubular organ development in the nematode *C. elegans*. I live with husband, Mike, and daughter, Ida (age six), in the art museum area of Philadelphia.

Lisa Taneyhill *00*(Levine Lab)*

After receiving my doctorate, I did a postdoc in the Division of Biology at the California Institute of Technology in the lab of Marianne Bronner-Fraser, where I switched research fields from my Ph.D. somewhat in order to embark on a career in developmental biology. I married in August 2007 and then took a three-week cross-country tour (hitting as many National Parks as possible!) as part of a move back across the country to my home state of Maryland, where I work as an assistant professor of developmental biology in the Department of Animal Sciences at the University of Maryland–College Park. My lab focuses on understanding the molecular mechanisms of neural crest cell development in the vertebrate embryo. While a postdoc, I took advantage of the perks offered by California (hiking, running, wine tasting) and started

running marathons, completing 14 to date. Marathons have been put on hold until 2010, however, as my husband and I are expecting the arrival of our first child (a boy!) in January.

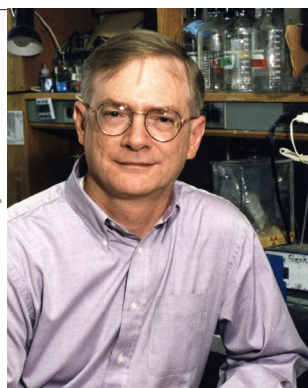
Elizabeth Vallen *92*(Rose Lab)*

I am an associate professor and currently chair of the biology department of Swarthmore College (outside of Philadelphia). I've been here since 1995—after a short postdoc at Yale and a longer one at the Rockefeller University. I teach part of our introductory course, an intermediate-level cell biology course, and an advanced seminar on symbiotic interactions. I run a summer program to teach science to middle school-aged children from a nearby underserved school district. I also have a small group of undergraduate students working on research projects in my lab. After working on *Saccharomyces cerevisiae* for the past 20 years (!), I've recently switched fields and currently focus on the cell biology of cnidarians (that's corals and anemones, for all you hard-core molecular types). Many cnidarians are in a symbiotic relationship with dinoflagellates that are intracellular—in specialized organelles called symbiosomes. The dinoflagellates provide fixed carbon to their cnidarian host as a result of photosynthesis, and the host supplies nitrogen and some other nutrients to the dinoflagellates. It is this symbiotic

relationship that breaks down when corals “bleach”—the white color that is associated with bleaching is due to loss of the dinoflagellates and their colored photosynthetic pigments, exposing the underlying very pale coral host. There's not much known about the cellular changes that occur in the host cells to accommodate or expel the relatively large dinoflagellates, or how the dinoflagellates evade the host innate immune system. There seems to be a lot of interesting and relatively unexplored cell biology here and because the field is less crowded than yeast, it is a good match for the undergraduate students in my research lab. I'm married to Steve DiNardo (since 1995), and we have two children, Zachary, 10 and a half, and Abby, six and a half.

*Elizabeth Vallen *92***Marcelo Wood *00** *(Cole Lab)*

Following my graduate work at Princeton in cancer molecular biology, I switched fields to study the neurobiology of learning and memory. I did my postdoc work at the University of Pennsylvania in Ted Abel's lab. In 2006, I became an assistant professor and started my lab in the Department of Neurobiology and Behavior at the University of California–Irvine. I am a fellow of the Center for the Neurobiology of Learning and Memory as well as the Institute for Memory Impairments and Neurological Disorders. My lab's research is focused on understanding the

*Marcelo Wood *00***1996**

Tom Shenk becomes department chair.

**2001**

Shirley M. Tilghman becomes president of Princeton.



Emre Aksay

role of chromatin-modifying enzymes in regulating transcription required for long-term memory and drug-seeking behavior. In 2008, I received an R01 grant from NIMH and a Whitehall Foundation grant for our research on learning and memory, as well as an R01 grant from NIDA for our research on drug addiction. In 2009, I received a Distinguished Assistant Professor Award for Teaching. I absolutely love the highly interactive and collaborative environment here at UCI, where I can continue my own education from other wonderful researchers.

Looking back at grad school, it was definitely one of the best experiences of my life in so many ways. I spent a very formative five years in Michael Cole's lab, learning how to approach scientific problems in new and creative ways. I have nothing but the fondest of memories of my time at Princeton. I am very thankful and grateful for the education I received there. I also met my wife, Dina Matheos, who received her Ph.D. from the department in 2003. We have two wonderful children, Siena Lucia Wood (age six) and Matteo Alvaro Wood (age two and a half). Siena is an avid dancer and reader, and enjoys watching *SpongeBob*, *Hanna Montana*, and *Twilight*. Matteo is an avid truck collector, outdoorsman, and general destroyer of anything that comes across his path.



Aaron Bowman (center)



Robert Endres

Postdoc notes

Emre Aksay

(Tank Lab 2002–05)

After completing postdoctoral work with David Tank, I took a faculty position at the Weill Medical College of Cornell University in the Department of Physiology and Biophysics. My lab studies the neural mechanisms of motor control, focusing on how the nervous system learns and stores patterns of activity. My wife, Donna, and I have two boys, Aldin (seven) and Tolan (five).

Aaron Bowman

(Tilghman Lab 2000–03)

After leaving the Tilghman Lab, I completed a second postdoctoral fellowship at Baylor College of Medicine in Huda Zoghbi's laboratory. In 2006, I was appointed an assistant professor in the Department of Neurology at Vanderbilt University, where my lab studies gene-environment interactions underlying neurodegenerative disease. My lab, from left to right: Bhavin Vadodaria, Gunnar Kwakye, Aaron Bowman (myself), Heather Tanner, and Blairanne Williams.

Ted Brodtkin

(Silver Lab 1998–2002)

Since leaving Princeton, I've been an assistant professor of psychiatry at the University of Pennsylvania School of Medicine, where my research

is focused on the genetics and neurobiology of social behavior phenotypes in mouse models relevant to autism or schizophrenia. My wife, Stephanie, and I have had two sons: Charlie, now age five, and Louis, now age two.

Erin Cram

(Schwarzbauer 2001–06)

Since August 2006, I have been an assistant professor of biology at Northeastern University in Boston. I am enjoying teaching genetics and molecular cell biology and working on worms. My group of four graduate students, one technician, and five undergrads is using the nematode *C. elegans* to investigate the conserved processes that control cell migration and mechanosensation *in vivo*. You can check out the lab at <http://nuweb.neu.edu/ecram>.

Robert Endres

(Wingreen Lab 2004–07)

During my time in the Wingreen Lab, I learned an immense amount in how to approach and model biological problems. In September 2007, I was appointed to the position of senior lecturer in systems biology at Imperial College London in the U.K. (This position is similar to an assistant professorship in the U.S.A.) Once relocated, I established the Biological Physics group, specializing in the quantitative

2001

Princeton establishes an undergraduate neuroscience certificate program.



2003

Opening and dedication of Lewis-Sigler Institute for Integrative Genomics and the Carl Icahn Laboratory building designed by architect Rafael Viñoly.

Biologists work in the institute's labs alongside physicists, computer scientists, chemists, engineers, and others toward the goal of creating common ground between scientists of very different backgrounds in pursuit of a wholly original approach to biology.

understanding of sensing, signaling, and cell mechanics. My current research topics are chemotaxis and phagocytosis. I am also heavily involved in teaching and outreach. I introduced and run the master's program in systems and synthetic biology, which is a short, one-year program for motivated students from diverse backgrounds. Furthermore, I am co-organizing the symposium on signalling and systems biology for the spring 2010 meeting of the Society for General Microbiology in the U.K., to take place in Edinburgh in March 2010. On a personal note, my daughter Sofia, born in Princeton in 2005, just started primary school in London and has picked up a nice, proper British accent.

Adrienne Fairhall
(Berry Lab 2001–03)

In 2004, I moved to a faculty position in the Department of Physiology and Biophysics at the University of Washington in Seattle, with an adjunct appointment in the physics department. I'm now going through the tenure process and am working on graduating my second and third students. I lead a theoretical lab with experimental collaborations across campus and beyond, working on mechanisms of neural computation and adaptive information processing. I am involved in building up our computational neuroscience and biophysics programs with

the help of another Princeton graduate, Eric Shea-Brown, who recently joined the applied math faculty, and am enjoying working again with Michael Berry as co-directors of the methods in computational neuroscience summer course in Woods Hole. My son, Anselm, was a well-known toddler in the MolBio department when we moved to Seattle; he is now seven and has a three-year-old sister! My husband, Blaise (undergraduate and most of a graduate degree from Princeton!), started a company in Seattle and is now at Microsoft.

Michael Federle
(Bassler Lab 2002–08)

In addition to the Bassler Lab, I also worked closely with the labs of Fred Hughson, Ned Wingreen, and Martin Semmelhack. In 2008, I was fortunate to begin my current position as an assistant professor at the University of Illinois at Chicago (UIC). My lab is continuing to study cell-cell communication of the bacterium *Streptococcus pyogenes*, the causative agent of strep throat, toxic shock, and what the popular press refers to as "flesh-eating" infections. We're still in our "generating enough data for a grant" phase, but we think we've discovered a communication system that relies on extracellular peptides.

Ramsey Foty

(Steinberg Lab 1991–98)

After leaving Princeton, I joined the Department of Surgery at UMDNJ-Robert Wood Johnson Medical School as an assistant professor. I was promoted to associate professor in July 2007. My laboratory studies the role of cell-cell and cell-substratum interactions in establishing spatial positioning between cells during embryonic development, malignant invasion, and tissue engineering. We've received funding from the New Jersey Commission on Cancer Research, the Foundation of UMDNJ, the Department of Defense, and the NIH/NCI. I'm also the program director of a newly established Master of Science in Clinical and Translational Science program here at the medical school.

Catherine Freudenreich
(Zakian Lab 1995–99)

In the fall of 1999, I started as an assistant professor in the biology department at Tufts University, which is in Medford, Massachusetts, just outside of Boston. I am still there, now as an associate professor. Over the past 10 years, I have continued the research I started in Ginger's lab on the mechanism of triplet repeat instability and chromosome fragility. I also teach courses in genetics and molecular biology. I am still married and now have two wonderful kids, Sheldon (11 years old, born in Princeton), and Sophie, six years old.



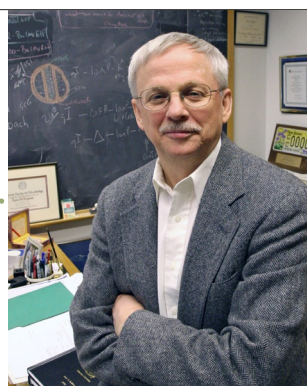
Adrienne Fairhall



Michael Federle



Catherine Freudenreich



2004

Lynn Enquist becomes department chair.



2004

Left to right: James Broach, Shirley M. Tilghman, Christopher Eisgruber, David Botstein, and Lynn Enquist at the opening of the neuroscience teaching laboratory in Lewis Thomas.



Felicia Goodrum

Felicia Goodrum

(Shenk Lab 2000–06)

After my training with Tom, I became an assistant professor at the University of Arizona in Tucson. My research continues to focus on viral latency. My work has been recognized with the Pew Scholar in Biomedical Sciences award and the Presidential Early Career Award for Scientists and Engineers. I have two daughters, Holland (eight) and Maya (six), who were both born in Princeton. I recently married Andrew Sterling (October 2009). Running a laboratory and being an assistant professor is a lot of work and fun—I love the diversity of the challenges. I typically have eight to ten people in the lab—a mixture of undergraduates, graduate students, and postdocs. It is fun to see students find a thrill in scientific discovery. My days at Princeton are missed and I am very grateful for the experience.

Joerg Grosshans

(Wieschaus Lab 1997–2001)

After leaving the Wieschaus Lab, I was at ZMBH in Heidelberg until 2008. I now attend medical school at Göttingen University. My research topics include the biological structure formation in the *Drosophila* embryo and ageing in *Drosophila*.

Scott Holmes

(Broach Lab 1992–96)

I'm in my 13th year as a faculty member in the Department of Molecular Biology and Biochemistry at Wesleyan University (currently a tenured associate professor). At Wesleyan, I teach undergraduate and graduate courses in molecular biology and genetics, and supervise an NSF-funded research lab where we pursue projects on transcriptional silencing in budding yeast that stem from the work I did at Princeton. I live in Connecticut with my wife (also a practicing scientist) and twin nine-year-old boys.

KC Huang

(Wingreen Lab 2004–08)

I'm now an assistant professor of bioengineering at Stanford. My research focuses on the determination of cell shape and its role in intracellular organization. My wedding to Tiffany Vora (Ph.D., Tavazoie lab, '07), was in August 2009, and we currently live in Palo Alto with our two Egyptian cats, India and Zanzibar. Tiffany and I were recently certified as dry-suit divers in Monterey, and we would welcome diving partners in the Bay Area.

Brian Lenzmeier

(Zakian Lab 1999–2003)

Since my postdoc, I have been teaching cell, microbiology, and biochemistry at the undergraduate level. I am currently an associate professor of biology at

Buena Vista University in Storm Lake, Iowa. Last year, I was recognized with the George Wythe Award for Teaching Excellence, which is the highest faculty honor at BVU and comes with a sabbatical and \$30,000 for professional development.

Ramit Mehr

(Weigert Lab 1996–99)

I am a computational immunologist, and, in addition to research, I am asked to enhance the theory-related activities in the group, including seminars, teaching part of the course "Advanced Immunology," etc. I recently won an NRSA fellowship from NIH. Yet I had to give it up after five months, as I won something even better—a Yigal Alon start-up fellowship from the Israeli Council of High Education, which is the best way to start a lab in Israel, my home country. Thus, in 1999, I joined the life sciences faculty in Bar-Ilan University. When I came to Princeton, I was a widow (with two small children), and, while in Princeton, I met and married my second husband, Eric Klein, a New Yorker. I came to Israel with a family "under construction," in parallel to starting my own lab. It wasn't easy, but 10 years later I am happy with the results of all the hard work. I am a tenured associate professor in Bar-Ilan University, I still enjoy my research immensely, the kids have grown up and are doing well, and all are very happy with our return to Israel.

2007



The January 9, 2007, episode of PBS's *NOVA: scienceNOW* profiles Bonnie Bassler, saying "her insight into how bacteria 'talk' has launched a revolution in biological and medical research."



2008

The Peter B. Lewis Library, designed by Frank Gehry, brings together many of the University's science collections.

Kim Midwood

(Schwarzbauer Lab 1999–2004)
I left Princeton to take up a lectureship post at Imperial College London. Inspired by the work I did with Jean, my lab focuses on defining the molecular mechanisms underlying a successful response to tissue injury and understanding how these are compromised in related diseases. Our research investigates how extracellular matrix molecules that are specifically induced upon tissue injury play a pivotal role in regulating cell phenotype during tissue repair and how these danger signals lead to the perpetuation of chronic inflammation during autoimmune diseases including rheumatoid arthritis.

Rajeev Misra

(Silhavy Lab 1986–1991)
I joined MolBio in August 1986 and at first worked with Spencer Benson, whose small group was organized within the Silhavy laboratories. After Spencer left in 1988, I remained with Tom Silhavy until 1991, when I moved to Tempe, Arizona, to take a faculty position at Arizona State University. In 2000, I became a full professor and hold this position today. While I was doing my postdoctoral work with Spencer and Tom, my wife, Leanne Misra, was working with Mark Rose as a research technician. We both have fond memories of our stay in Princeton, both academically and socially. I was a proud member of the mighty Dominant Lethals. Living in

the Hibben-Magie Apartments made it easy for us to walk to work. And while I had to deal with that pesky roof leak right over my work bench, the weekly delivery of beer right to our cold room made it all worth it. We stay in touch with all the Silhavy alumni through scientific conferences and the five-year Silhavy reunions. We are well settled here in Tempe, with our two lovely teenage daughters, Kimberly and Priya. Princeton will always be a special place for us.

Maureen Murphy

(Levine Lab 1994–98)
I very fondly remember my days as a postdoc at Princeton. During that time I was funded by a Jane Coffin Childs fellowship. Since 1998, I have been an independent investigator at the Fox Chase Cancer Center in Philadelphia, where I was promoted to associate professor in 2003. My research interests currently focus on the p53 and ARF tumor suppressor proteins and their roles in cell death pathways.

Greg Phillips

(Silhavy Lab 1987–1990)
After three years at the College of William and Mary in Virginia, I moved to Iowa State University in Ames, where I am now a professor of veterinary microbiology at the College of Veterinary Medicine. The picture was actually taken last year at the Silhavy lab reunion in Canada!

Lisa Satterwhite *(Rose Lab 1991–94; Block Lab 1995–99)*

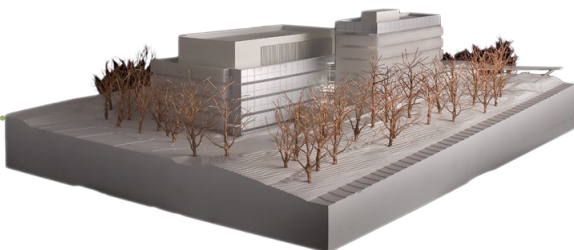
I studied yeast genetics at Princeton with Mark Rose and Steve Block. With high resolution time-lapse microscopy, we discovered that phosphorylation of the microtubule motor protein Kar3 (named for its role in karyogamy) controls spindle length during metaphase and anaphase, and, most strangely, high levels of Kar3 lead to apparent re-initiation of spindle assembly, resulting in numerous bipolar spindles! During these years, I also studied photography with Emmet Gowin, and this changed my life. My husband and I moved to North Carolina in 2001 and have raised two beautiful sons, who are now 16 years old. At Duke University, I'm developing transgenic fluorescent zebrafish based on gene expression signatures of cardiomyocytes exposed to persistent environmental toxins such as PCBs and pesticides. Our idea is to create a new testing paradigm where reporter fish are predictors for risk of developmental abnormalities from toxin exposure. Children of migrant farm workers suffer catastrophic birth defects, likely from pesticide overexposure, but it's also possible that exposure to multiple pesticides is the root cause. The reporter fish would allow testing for risk from exposure to complex mixtures. Badly in need of an antidote to this subject, I've continued to use photography to explore issues



Rajeev Misra



Greg Phillips

**2009**

Plans for Princeton Neuroscience Institute are finalized, to go in Natural Sciences Neighborhood and south of Icahn Lab.

Do you have news for our next MolBio on the Move?

Please e-mail
mmacfarl@princeton.edu.

of land development in the mountains and to communicate the power of connection to the natural world. One wonderful aspect of working at Duke is the freedom to teach courses between departments, and this year I'm teaching environmental conservation and documentary photography, which links documentary studies to the Nicholas School of the Environment.

Ronen Segev

(Berry Lab 2002–06)

Since 2006, I have held a faculty position in the life sciences department at Ben Gurion University of the Negev, Israel. In my lab, I still focus on the project that I started during my postdoc at Princeton, which is the use of the archer fish to study various aspects of information processing in the brain.

Greg Smith

(Enquist Lab 1996–2001)

My wife, Margrit Urbanek, and I both accepted assistant professorships at Northwestern University Feinberg School of Medicine near the end of 2001 (Margrit was a postdoc at the University of Pennsylvania). I am currently an associate professor of microbiology-immunology, and I am undergoing tenure review. Wish me luck! I have very fond memories of my time at Princeton, and working with Lynn in particular. I still rely on

Lynn for constant advice and a good scientific conversation when I can pull him away from his overwhelming schedule.

Christine Hirvonen Terry

(Newton Lab 2002–03)

In 2004, my husband and I moved to Augusta, Georgia. For the past five years, I have been an assistant professor in the Department of Biology at Augusta State University in Augusta (known for the Masters golf tournament). I am very happy to be teaching at ASU, a primarily undergraduate institution. My main focus is teaching; each semester I usually teach two of the following subjects: introductory biology, genetics, cell biology, anatomy and physiology. However, I am involved with some small undergrad research projects as well. In other news, our first child, Owen, was born on 5/27/08; life with a toddler definitely keeps you on your toes (and is a ton of fun)!

Daniel Ungar

(Waters and Hughson Labs 2000–07)

Since July 2007, I have been a lecturer in the biology department of the University of York in the U.K. I have a small research group—one technician, one postdoc, and one Ph.D. student. My time is divided between research and teaching, and I fortunately do find some time to visit medieval castles or the

North York Moors National Park with my family on weekends.

Anny Usheva

(Shenk Lab 1991–97)

I left Princeton to start a faculty position at the Harvard Medical School. Presently, I am an associate professor and director of basic science research at Beth Israel Deaconess Medical Center, Harvard Medical School. I also hold an adjunct professor position at Dartmouth Medical School. In 2005, my daughter, Nevena Simidjiyska, graduated from Princeton University and is now a lawyer at Fox & Rothschild law firm in Philadelphia. We came to the U.S. from Bulgaria in 1993 because I was offered a postdoctoral position in Tom Shenk's laboratory. Princeton University was our first home in the U.S., and we remain thoroughly attached to Princeton.



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In the Nation's Service and in the Service of All Nations