

# BIOLOGY

AT LAFAYETTE

VOLUME 4

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## PROF. MANUEL OSPINA-GIRALDO IS PART OF \$2-MILLION NSF PROJECT

Assistant Prof. **Manuel Ospina-Giraldo** is among members of a research team that has received a \$2,130,497 National Science Foundation grant for a groundbreaking study of oomycetes, organisms that can cause disease in potatoes, soybeans, and other crops.

The project aims to annotate the genes of the *Phytophthora sojae* genome by determining what the genes code for and the function of the protein encoded by the gene. The investigators include scientists from Bowling Green State University, Virginia Tech, and the U.S. Department of Energy. They will employ a variety of experimental approaches.

Ospina-Giraldo says, "We know very little about how pathogens infect plants. Now that the genomes of

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Prof. Manuel Ospina-Giraldo (in white coat) works with students, from left, Jonathan Schimmel '09, Jessica McWalters '09, and Kari Horn '10.

## GRAYSON SIPE '10 STUDIES VISION WITH PROF. JAMES DEARWORTH

Over the summer, neuroscience major **Grayson Sipe '10** took part in ongoing research focusing on vision and perception with Assistant Prof. **James Dearworth**. As an EXCEL Scholar, Sipe studied the turtle's iris and its sensitivity to light.

Dearworth has explored this area for many years, involving numerous students. "Gray is completing a long-term project that has identified that the iris of a turtle can respond intrinsically to light without feedback from the brain."

Sipe has learned more than just anatomy through the interdisciplinary project: "Besides the professional expertise in vision that Professor Dearworth taught me, I have learned a myriad of useful information across several fields, including physics, computer science, and chemistry. Because these subjects were integrated into a biology setting, I gained a greater comprehensive understanding of my research topic."

Sipe plans to attend graduate school for a neuroscience degree focusing on the biological mechanisms associated with vision, perception and cognition. "This research experience is invaluable because it has allowed me to learn what the lab setting is all about," he says.

Sipe also believes that working on an individual level with a professor is by far the best opportunity that Lafayette offers its students: "I could not have asked for a better working relationship with Professor Dearworth. Together we made decisions, discussed and resolved problems, analyzed data, and reached conclusions. I was not just a lab assistant doing manual labor, which made the experience all the more enjoyable. The classroom-level teaching at Lafayette is



Prof. James Dearworth, left, works with Grayson Sipe '10 on research focusing on vision and perception.

excellent, but the teaching on an individual level is indispensable."

As well as the benefits student researchers take away from Dearworth's ongoing project, students in his courses also gain from the research.

"One course I teach is anatomy of vision, which covers the eye's anatomy and the neural pathways connecting it to the brain. Gray's project is an excellent resource for demonstrating to students in this class a method for determining the physical anatomy underlying a visual behavior or response," says Dearworth. ■

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# LAFAYETTE

## FROM THE DEPARTMENT HEAD

This past academic year was yet another year of progress toward our goal of making the Lafayette biology program the best it can be now and into the future. And that future in large part consists of the College's Life Science Initiative, in whose envisioning, creation, and realization we are playing a pivotal role.

The Life Science Initiative was approved by the Board of Trustees on Oct. 20, 2007, along with the rest of the strategic plan. Prof. **Robert Kurt** was appointed by the provost to be chair of the ad hoc committee that is beginning to implement several projected initiatives.

Prof. **Laurie Caslake** and I participated with representatives from the departments of geology and environmental geosciences and computer science on a related ad hoc building committee, which has begun to envision and map strategy for a new facility to house these departments along with the Life Science program and the related new programs in Environmental Science and Studies. We expect this new center to be called the Center for Life, Earth, and Environmental Studies.

The nascent expanded program in Environmental Science and Studies (it has been a minor available to Lafayette students since 1990) was the proud recipient this spring of a two-year, \$800,000 grant from the Andrew W. Mellon Foundation to support the creation of a "Community of Environmental Scholars." Chaired by **Dru Germanoski**, Van Arsdale Professor of Geology and Environmental Geosciences, biology is likewise represented on these committees by Profs. Caslake and **Nancy Waters** (Science) and myself (Studies).

The joint (biology/psychology) B.S. neuroscience program continues to attract and graduate robust numbers of excellent science students. As a step toward the creation of a parallel A.B. neuroscience major, a new course, Introduction to Neuroscience, was created by Prof. **Elaine Reynolds** and taught for the second time in spring '08. With the psychology department, biology will continue to refine and expand this very successful program,

supported in part by some projected new hirings in biology, psychology, and neuroscience as part of the president's commitment to increase the faculty.

I am happy to report that biology received a tenure-track faculty line—the department's 10th such line—in developmental biology. This crucial area of biology, taught at Lafayette for more than a century, is increasingly important as our understanding of how genes control early development has advanced. It had become underrepresented in our curriculum as Prof. Reynolds, a developmental neurogeneticist, increased her participation in the neuroscience program. The addition of this faculty position is welcome, given the increasing importance of developmental biology as a sub-discipline in modern biology (e.g., stem cells, *evo/devo*) and with the prospect of our future participation in several of the Life Science programs – including biotechnology.

Our lecture series called *BioConnections* continues to showcase biological-related research by faculty in related disciplines. Recent speakers included Profs. **Kira Lawrence** (geology and environmental geosciences), **Jeff Pfaffmann** (computer science), **Rob Root** (mathematics), and **Pete Zani** (biology). We also reached across the Lehigh Valley to other colleges and universities by sponsoring the LVIAC Ecology and Evolutionary Biology Meeting in April. The conference was the vision and hard work of **John Drummond**, our lab coordinator.

Prof. Caslake is on a yearlong sabbatical leave at Arizona State University, and Prof. Kurt was away on sabbatical in the fall. Visiting Prof. **Debra Walther** is teaching Molecular Biology this year, and Prof. **Fran Irish** returns to offer her seminar in Advanced Anatomy.



Wayne S. Leibel

## STUDENTS PRESENT RESEARCH AT PENNSYLVANIA ACADEMY OF SCIENCE

Eleven biology majors and one neuroscience major presented papers with their faculty advisers at the 84th annual meeting of the Pennsylvania Academy of Science in April.

**Alison Boyd '08** and **Dustin Bednarz '08** worked on projects with Assistant Prof. **James Dearworth**. Boyd presented "Isolation of melanopsin in the retina of the turtle, *Trachemys scripta elegans*," and Bednarz presented "Stimulation of the trochlear nerve in the turtle, *Trachemys scripta elegans*."

**Robert Peoples '08** and **Tyler Saxton '08** worked with Prof. Emeritus **Bernard Fried** on research on food-borne parasites. Peoples presented "The effects of various chemical and physical factors on encystment and excystment of *Zygoctyle lunata*." Saxton presented "Chemical excystation of *Echinostoma caproni*, *E. trivolvis*, and *Zygoctyle lunata*."

**Priyanka Nair '08** and **Chiquita Palha De Sousa '08** worked on breast-cancer research with Associate Prof. **Robert Kurt**. Nair presented "Investigation of immune response following LPS stimulation of 4T1 murine mammary carcinoma," and Palha De Sousa presented "TLR4 stimulation of 4t1 murine

mammary carcinoma cells and bone marrow-derived dendritic Cells."

**Michael Favara '08** and **Aviva Goel '08** performed research with Prof. Emeritus **Shyamal K. Majumdar**. Favara presented "Antiproliferative effects and cell death induction in 4t1 mouse breast cancer cells by tamoxifen, raloxifene, and their combination." Goel presented "Cytotoxic and antitumorigenic effects of tamoxifen, raloxifene and their combination in 4t1 mouse breast cancer cells."

Two students worked with Assistant Prof. **Manuel Ospina-Giraldo**. **Lauren Seyer '08** presented "Characterization of cutinase genes in *Phytophthora infestans*," and **John Griffith '09** presented "Isolation and cloning of glycoside hydrolase genes from *Phytophthora infestans*."

**Katherine Schultes '08** and neuroscience major **Tess Cross '08** worked with Associate Prof. **Elaine Reynolds**, chair of neuroscience. They presented "Effects of alcohol sedation on learning and memory in *Drosophila melanogaster*."

**Kevin M. Cunningham '08** worked with Associate Prof. **Nancy M. Waters**. He presented the "Impacts of the pesticide atrazine on crayfish motility and behavior."

## NEUROSCIENCE AND ART

It would seem on the surface that art and neuroscience are disciplines that share little common ground given the perceived differences in approach and practice. However, there are many ways these fields are connected, so many interfaces for interaction, cross-disciplinary teaching, and research. Art and science share a long history of similarity in process and in cross-fertilization of ideas that is not obvious in the current practice of each discipline. In addition, neuroscience and art can inform each other in their searches for an understanding of brain processes, consciousness, creativity, and self.

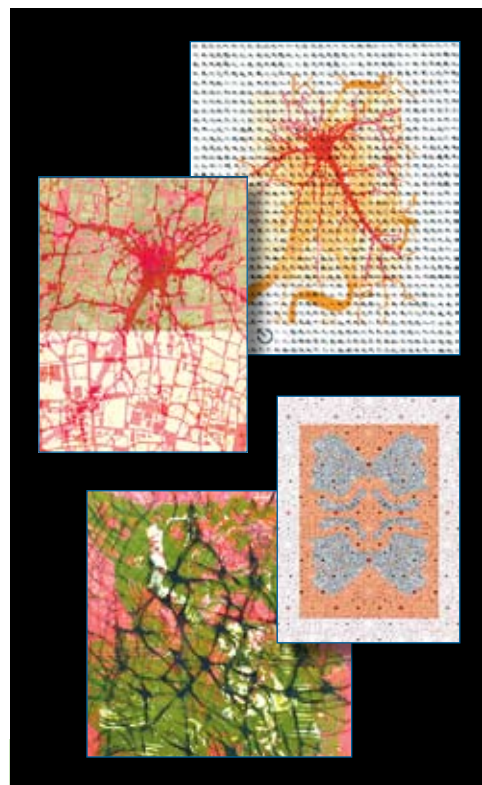
How artists create illusions of color, shape, depth, and motion is based on the organization of our visual system that independently processes these visual attributes. Artists play with our object identification pathways, our emotions, and particularly our memories. We can construct objects and feelings from just a few strokes of an artist's brush or a combination of colors. We also use different parts of our brain to create art depending on whether it is representational or abstract.

Prof. **Elaine Reynolds**, with Prof. **Ed Kerns** and professional artist and architect Elizabeth Chapman, has been working for the last three years to explore the intersections between the fields. Reynolds is chair of the neuroscience program and teaches many courses associated with its curriculum.

The collaboration began as she was developing an introductory course in neuroscience. She wanted to teach the fundamentals of the field, but also show the connections between neuroscience and other disciplines especially the humanities. Kerns and Chapman were immersed in a project looking at conservation of form at multiple levels of complexity, from the molecular to the planetary. Both artists have a long-term interest in biological form and neuroscience, working through metaphor to represent their ideas in their art. Conversations began on a regular basis, looking at metaphors involving the brain or mind as a city and communication through verbal and nonverbal processes.

These conversations were integral to the development of an exhibit entitled "Word Mind City; A Universal

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Prof. Ed Kerns and artist Elizabeth Chapman produced the artwork for the "Word Mind City; A Universal Resonance" exhibit.

# FACULTY AND STAFF UPDATE



**PHIL AUERBACH**, technician III, is an outstanding and skilled individual who continues to perform, as he has for many years, many complex and technical jobs in the department in an exceedingly competent fashion. He is truly “chief cook-and-bottle-washer” and “utility infielder,” and does it all with unflappable good humor. The biology staff continues to find Mr. Auerbach’s service and contributions invaluable. We could never do without him!



**LAURIE CASLAKE** taught Microbiology, Molecular Biology, and five independent research students. She had one active grant from the National Science Foundation with Profs. Mylon, Kney, and Tavakoli. Prof. Caslake served on the Environmental Science Advisory Committee and the Committee for Undergraduate Education for the American Society for Microbiology. Prof. Caslake was granted a Research Opportunity Award from NSF to support her yearlong enhanced sabbatical at Arizona State University. Her research project focuses on the mechanism of survival of desert-crust microbes. This award also supports a Lafayette student at ASU during interim session and summer 2009.



On return in spring from his research leave, **JAMES DEARWORTH** taught Neuroanatomy and supervised two students writing honors theses. He co-authored a pedagogical paper published in *JUNE (The Journal of Undergraduate Neuroscience Education)*. A research paper just published in the journal *Veterinary Ophthalmology* shows influence by the sympathetic system on the pupillary light response in turtles. A highlight of the year was an opportunity to meet Dr. Frederick F. Hartline, son of **Dr. Haldan K. Hartline '23**, who won a Nobel Prize in medicine for his research in vision.



**JOHN DRUMMOND**, general biology laboratory coordinator, worked with Profs. Caslake, Kurt, Ospina-Giraldo, and Reynolds to develop and successfully pilot a new curriculum for General Biology 101 laboratory. He also supervised 14 teaching assistants who helped facilitate the laboratories throughout the year. Drummond also was chair of the fifth annual Lehigh Valley Ecology and Evolution Symposium held at Lafayette in April, sponsored by the Department of Biology and Lehigh Valley Association of Independent Colleges.



**BERNIE FRIED** continues his successful research program with students. In addition to his ongoing work with students and research publications, Fried recently finished a new book with Rafael Toledo titled *The Biology of Echinostomes*. It discusses applications of new methodologies and concepts related to this group of parasites, and provides information for parasitologists, biologists, or advanced students interested in using echinostomes as an experimental model.



**CHUCK HOLLIDAY** taught Marine Biology, Human Physiology, Invertebrate Zoology, and Comparative Animal Physiology. In summer 2007, he traveled 10,000 miles in six weeks to perform field research on cicada-killer wasps in nine states, using his travel trailer as a field lab. Holliday and his colleagues, Prof. Joseph Coelho of Quincy University and Prof. Jon Hastings of Northern Kentucky University, published or had accepted for publication seven scientific papers on the biology of cicada killer wasps. These publications were funded by two grants from Lafayette’s Academic Research Committee. One more manuscript is in review for publication. Holliday is a member of the Health Professions Advisory Committee and the Student Appeals Committee.



**ROBERT KURT** taught Immunology, Infectious Diseases, Cell Biology, four independent research students, and two honors students. Three manuscripts he co-authored with students were accepted for publication. Two of his students made presentations at the Pennsylvania Academy of Science annual meeting. Prof. Kurt served on the Faculty Academic Policy Committee, Institutional Animal Care and Use Committee, Ad Hoc Life Sciences Initiative Committee, and Biotechnology/Bioengineering Advisory Committee.



**WAYNE LEIBEL** offered Evolutionary Genetics in the fall and General Biology in the spring (in two sections with 98 total students). This was exhilarating, if tedious. He oversaw the independent studies of **Brandon Mitchell '08** and **Kevin Logan '08**. Leibel attended one professional meeting and published 14 articles on cichlid fishes. He continued as associate editor/technical editor for the *Journal of the American Cichlid Association*, as chair of the Guy D. Jordan Endowment Fund of the American Cichlid Association, and as a member of the editorial board of *Tropical Fish Hobbyist Magazine*. At the College, he chaired the Academic Research Committee, continued on the Strategic Planning committee, Ad Hoc Building committee, and Environmental Studies working committee.



**SHYAMAL MAJUMDAR** supervised two independent research students in the fall and three in the spring. He continues his research with students and published several articles co-authored with students. He delivered two invited lectures on breast cancer at universities in India. Shyamal continues as editor of books and *Journal of the Pennsylvania Academy of Science* and has been serving on the editorial board of one national scientific journal (*In Vitro: Cellular and Developmental Biology*) and three

international scientific journals (*The Ecologia*, India; *Advances in Pharmacology and Toxicology*, Jalgaon, India; *Journal of Electron Microscopy*, Thailand).



**PAULETTE MCKENNA**, now in her 32nd year at Lafayette, has earned the title of Department Goddess. Anyone who knows her knows why. Faculty and students

depend on her countless talents, limitless dedication, and constantly expanding job responsibilities. Paulette looks forward to hosting the year-end graduation brunch for biology and neuroscience majors and their families. This allows her to unleash her creativity in one of her other major roles, that of department party planner.



**MANUEL OSPINA-GIRALDO** taught General Biology, Genetics, Genomics, two independent research students, and two honors thesis students. At the *Phytophthora infestans*

Genome Analysis meeting in Boston, he gave two talks on his research on genes encoding enzymes involved in the carbohydrate metabolism of *P. infestans*. A manuscript with a detailed analysis of the *P. infestans* genome is in preparation. At the Oomycete Molecular Genetics Network meeting in Birnam, Scotland, he presented posters containing the work of students **John Griffith '09** and **Lauren Seyer '08**. He and collaborators published the article "Alternate Intron Processing of Family 5 Endoglucanase Transcripts from the Genus *Phytophthora*" in the journal *Current Genetics*.



**ELAINE REYNOLDS** taught Neurobiology, Neuroscience, Advanced Neuroscience, and her First-Year Seminar entitled Fear. She supervised one honors thesis student

in biology, two students in advanced research in neuroscience, and jointly supervised three research students and one EXCEL scholar with Prof. Chun Wai Liew (computer science) on a project in neurocomputation. She presented a pedagogical talk on

## BIOLOGY STUDENT HONORS AND AWARDS

### HONORS STUDENTS

**Justin Blaum '08**, "Intrinsic photosensitivity of the turtle iris"

**Aviva Goel '08**, "Toxic and antitumorigenic potential of tamoxifen, raloxifene, and the combination on 4T1 mouse breast cancer cells in vitro and in Balb/c-j female mice in vivo"

**Andrew Lanzone '08**, "Does melanopsin exist in the retina of the turtle?"

**Katherine Schultes '08**, "The effects of acute ethanol intoxication on the cAMP and memory circuitry in fruit flies (*Drosophila melanogaster*)"

**Priyanka Nair '08**, "Implications of TLR expression by 4T1 murine mammary carcinoma"

**Chiquita Palha De Sousa '08**, "TLR4 stimulation of 4T1 murine mammary carcinoma cells and bone marrow-derived dendritic cells"

capstone neuroscience experiences and co-authored a poster presentation at the Society of Neuroscience meeting in San Diego. Reynolds continued as chair of neuroscience and a member of the Neuroscience Advisory Committee. She reviewed grants for the SOMAS program and several papers and is a coordinating editor for *Biochemical Genetics*.



**NANCY WATERS** offered Environmental Biology, Botany, and Biodiversity in addition to her VAST (Values and Science/Technology) seminar called Pharmaceuticals: Scientific Challenges and Ethical Dilemmas.

She also mentored four independent research students, who collectively presented results of their work in two papers at the National Conference on Undergraduate Research, one paper at the Ecological Society of America Mid-Atlantic Conference, two papers at the Pennsylvania Academy of Science annual meeting, and three papers at the Lehigh Valley Ecology and Evolution

**Lauren Seyer '08**, "Molecular characterization of the cutinase-coding genes in the Oomycete *Phytophthora infestans*, causal agent of the potato late blight disease"

### WILLIS ROBERTS HUNT PRIZE

**Kathryn Hamerslag '08**

**Chiquita Palha De Sousa '08**

**Katherine Schultes '08**

### DR. LORRAINE MINEO TEACHING ASSISTANT AWARD

**Jillian Carinci '08**

### NALVEN SUMMER 2008 RESEARCH FELLOWSHIPS

**Jacquelyn Marchese '09**, "Impact of Atrazine Exposure on Invertebrate Development"

**Sarah Schwartz '09**, "Behavioral Responses of Lizards to Different Predators"

Symposium. She advised a student developing an interdisciplinary major in computational biology and evaluated manuscripts for peer-reviewed journals.



**PETE ZANI** taught Conservation Biology, Integrative Biology, Ecology, Global Change Ecology, and three independent research students. With the

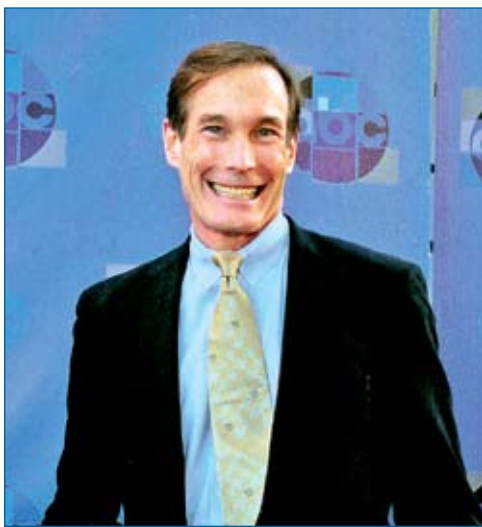
support of the Stableford Endowment, Sarah Schwartz '09 joined Dr. Zani for five weeks of field work in Oregon in summer 2008. He published papers in *Physiological and Biochemical Zoology*, *Journal of Herpetology*, and *Journal of Liquid Chromatography*. Dr. Zani and a student gave oral presentations at the Lehigh Valley Ecology and Evolution Symposium. Dr. Zani gave two presentations at the annual meetings of the Society for Integrative and Comparative Biology. He also presented a talk in the department's Bioconnections series.

Thanks to those who keep us updated. We would love to know how you are, what you are up to, and ways you have used your biology knowledge in your careers or everyday life.

**JON PERLMAN '69**, a cosmetic and reconstructive surgeon, performed over 40 extensive cosmetic surgeries on 27 different patients during the first run of the hit ABC show *Extreme Makeover*.

"I didn't know how gratifying the experience would become," he says. "The theme of taking someone and offering a chance for a makeover—in conjunction with corrective dentistry and vision surgery, physical fitness, and diet changes—seemed to resonate with millions of viewers around the world."

Perlman says he agreed to participate in the show after confirming that safety and medical ethics were priorities. He continues in his Beverly Hills practice and volunteers as clinical assistant professor of plastic surgery at UCLA Medical Center.



Jon Perlman '69, a cosmetic and reconstructive surgeon, performed over 40 extensive cosmetic surgeries for ABC's show *Extreme Makeover*.

**WINSTON E. THOMPSON '86** says young women who survive cancer with the help of chemotherapy or radiation often experience a bittersweet victory. Many are left infertile by the lifesaving treatment—unable to bring new life into the world.

Thompson is working to provide more options to these women, including collecting and storing follicles that contain eggs before the eggs are fully developed—and before aggressive cancer treatment begins.

Thompson heads the Cooperative Reproductive Science Research Center at the Morehouse School of Medicine in Atlanta. He conducts and oversees research aimed at understanding the anti-proliferative and tumor-suppressive properties of the gene prohibitin.

His work focuses on finding the best ways to store and preserve premature egg follicles and how to grow them in vitro. Already, he says, "we have demonstrated that we can have live births of mice and some primates after egg follicles have been preserved and thawed." His prohibitin research also could lead to new strategies for diagnosing or offering prognoses for ovarian cancer and other problems, helping in the "design of a more rational basis for drug development," he adds.

Thompson, a native of Jamaica, became interested in biological research by collaborating and publishing a scientific paper with Lafayette Prof. Chuck Holliday. He graduated in 1986, earned a master's degree in endocrinology from Rutgers University in 1988 and a Ph.D. in cell and developmental biology from Rutgers in 1993.

**LISA LACROCE PATTERSON '86** earned a master's degree in arts management at New York University following her B.S. in biology and is working at Princeton University's McCarter Theatre Center as a fundraiser.



Dr. Winston Thompson researches reproductive health at the Morehouse School of Medicine in Atlanta.

While pursuing a career outside of biology, Lisa continues to use what she learned at Lafayette in her everyday life. "My younger daughter, Audrey, was born with a cleft palate. We learned this just moments after she was born. Memories of genetics class came flooding back. At 9 months of age, when we brought her to have it repaired, we discovered that she has a minor sub-glottic stenosis. These rare anatomical differences reminded me of the cat one of my students was dissecting that had two left renal veins. I kept in mind that these things happen, but as living beings we are equipped to adapt so that we can survive and thrive. Audrey also had to have tubes put in her ears because the lack of the palate closure did not allow her Eustachian tubes to drain properly. Ah, how everything is connected!"

**MARA SHAINHEIT '03** received a grant from the National Institute of Allergy and Infectious Diseases for her project "Induction of pathogenic innate and adaptive immune responses to *schistosoma helminthes*." Mara is working in the lab of Miguel Stadecker at Tufts University and anticipates defending her Ph.D. thesis in summer 2009.

**JIM TRAINER '04** earned his master's degree in biology at the University of Oregon.

**ADAM GLICKMAN '04** earned a master's degree in microbiology from the University of Massachusetts.

## NALVEN FELLOWSHIP PROVIDES HANDS-ON LEARNING EXPERIENCES

Every summer, the **David M. Nalven '88** Summer Research Fellowship provides two students with the opportunity to assist one of their biology professors in field-based ecology research.

Associate Prof. **Nancy McCreary Waters** says that, when she began her Lafayette career in 1985, there were far fewer opportunities for students to engage in this type of hands-on summer learning experience.

"There were some students doing summer work back then, just not many, and certainly not under a unified rubric with a catchy name like EXCEL," says Waters. Along with her colleagues, Waters recognized the need for students to apply what they learned in an environmental biology/ecology classroom to the natural world. "The EXCEL Scholar program became official in 1986, but there still seemed to be issues concerning the funding and resources necessary for natural science research."

In 1991, however, Arthur Nalven, his wife, Rami, and their daughter, Dr. Lisa Nalven, met that need by establishing a fund in the memory of David Nalven. Nalven was one of Waters' earliest summer research assistants, and she feels it is only fitting that a fund named in his honor supports a learning experience that was so instrumental in the young man's life.

"Some students know they want to pursue a research

career, but others, like David, are uncertain," she says. "It is important for students to learn their likes and dislikes before investing precious time and money in a graduate program that ultimately may not be a match for them." Waters believes this is one of the reasons why the Nalven family initially established and continues to support the fund. "It is also why Mr. Nalven returns to campus every summer to host a luncheon for the student recipients," she says.

To date, 24 students have been Nalven fund recipients, more than half of whom have worked under Waters' guidance. Recent scholars include **Jacquelyn Marchese '09** and **Kevin Cunningham '08**, who both studied organisms of the Merrill Creek Reservoir near Washington, N.J.

"This program provides me with the best possible opportunity to teach by example, while still giving students freedom to make their own choices," says Waters. "In turn, many students, like Dave, look back on the experience as a turning point in their lives, one that fosters personal development and maturity."

"I do wonder sometimes how many of our students walk right past the Nalven fund plaque displayed just outside Kunkel 117, or if they have any inkling about the marvelous but truncated life that David led, and just how strongly Lafayette figured into it." ■

**DEREK STEFANIK '04** completed his first year Boston University's doctoral program in cell and molecular biology. He will be working there in John Finnerty's laboratory doing evo-devo research with sea anemones.

In pursuit of her master's degree in public health, **CARA O'DONNELL '07** accepted a fellowship in microbial risk assessment. She will conduct research on *B. anthracis* and feasible remediation efforts while working at Drexel's Center for Advancing Microbial Risk Assessment and will participate in two six-month internships at HS-STEM (Homeland Security-related Science, Technology, Engineering, Mathematics) sites.

**JACQUELINE GOLDEN '07** completed a year in Teach for America. She taught science at a middle school in Miami, Fla. "While extremely challenging at times, it was rewarding to see students' skills and interest in topics such as cells and genetics flourish over the year." In August, she began medical school at the University of Miami's Miller School of Medicine.

### PROF. MANUEL OSPINA-GIRALDO IS PART OF \$2-MILLION NSF PROJECT (Continued from page 1)

several oomycete pathogens are available, it would be possible to further examine these genomes in a comparative manner, and eventually find key aspects of pathogenicity that will help us design effective means to control plant diseases."

The funds are supporting two Lafayette students' participation in the project over two years. They are being paid as research assistants in the summers of 2008 and 2009 and will present their findings at national scientific meetings.

"We aim to build repositories of skill and experience at undergraduate institutions like Lafayette that will enable long-term undergraduate research programs to be sustained," says Ospina-Giraldo, a member of the steering committee of the international Oomycete Molecular Genetics Research Collaboration Network. ■

### NEUROSCIENCE AND ART (Continued from page 3)

Resonance," which was shown at Muhlenberg College during the fall semester and Skillman Library during the spring semester. At each location, panels comprised of participants from each school discussed the common ideas and metaphors involved in the work and the connections between science and art. The conversations also led to an art segment within the introductory course. Kerns and Chapman have both appeared as guest lectures in Intro. An upper level course is in development, and the scholarly collaboration is continuing.

The Kerns/Chapman/Reynolds collaboration has expanded to include several students who are continuing to research aspects of consciousness including about how abstract qualities are represented in art and in the brain. Gina Colaizzo '09 is working on a thesis project related to these ideas. The collaborative work is also in conjunction with a larger project involving students and Prof. **Chun Wei Liew** exploring computational representation of connectivity and consciousness. ■



## THE LEGACY OF LOUIS T. STABLEFORD

BY WAYNE S. LEIBEL

If you visit Kunkel Hall, you will notice a new addition (actually a bookend to the plaque honoring **David Nalven '88**) outside Room 117. To the right of the door is a plaque commemorating the life and contributions of Prof. **Louis T. Stableford**.

Several current faculty members (e.g., Profs. **Chuck Holliday**, **Nancy Waters**, and myself and Profs. Emeriti **Bernie Fried** and **Shyamal Majumdar**) had the great fortune to know and work with Stableford who, though retiring officially in 1978, continued to be an active and regular presence in the department until moving to East Thetford, Vt., in the late 1980s. He passed away June 30, 1998 while living there with his daughter.

Louis Stableford (pronounced "Lou-ee" by his friends) joined the biology department in 1941, but in 1942 took a leave of absence to serve in the U.S. Army Air Corps, returning in 1946. He received his B.S. in biology from the University of Virginia in 1937 and his Ph.D. in zoology from Yale University in 1941, working there with Ross G. Harrison, an internationally known and respected vertebrate embryologist.

At Lafayette, Stableford taught embryology and related courses in vertebrate biology. A faculty member for 37 years, he became head of the department in 1959, when **Beverly Kunkel** retired, and served in the role for 19 years until his retirement in 1978. He was appointed Dana Professor of Biology.

He was well-loved by students and among other notable achievements, was responsible for initiating the Student Teaching Assistantship Program in 1961. He said this program "exposed students to biology in a way other than through the traditional student-professor rela-



A faculty member for 37 years, Louis T. Stableford served as biology department head from 1959-1978.

tionship." This TA program still remains central to our pedagogy, particularly for the teaching of General Biology.

Stableford was quite the character, and I mean that in a nice, eccentric sort of way (takes one to know one, I suppose!). For starters, his office and lab were messier than mine. Upon retirement, he gave me his desk sign, which reads: "A messy desk is a sign of a brilliant mind." I don't know if that is true, but I cherish the artifact. And, oh yes, his was a world-class mess!

He was married to Nancy White, who had also gotten her Ph.D. in zoology at Yale, where they met, and who was the daughter of the famous author E.B. White (*Charlotte's Web*). Stableford was truly a Renaissance man, an old-school academic whose lectures were filled with literary quotes and connections. I was in awe when I sat in on some of his

embryology lectures before I took over the course in 1984. He also remained active in Student-Faculty Theater, acting in many productions and directing several. Outside of Lafayette, he founded the Trinity Players Guild at Trinity Episcopal Church in Easton, where he also served as vestryman and warden. He had a habit of reading the *New York Times* every day and putting appropriate clippings in our mailboxes.

Former students of his who went on to medical school, in particular Drs. **Nancy Hochberg Kahn '75** and **Gary Schaer '75**, wanted to do something to honor Stableford's memory. This took the form of a significant augmentation to the Stableford Endowment Fund, which supports student and faculty trips in keeping with Stableford's primary pedagogical mission of providing non-traditional educational experiences to our students. They were able to raise a considerable amount of money from like-minded alumni who wished to express their appreciation for their own "Stableford Experience."

Nancy and Gary wanted a plaque honoring Stableford to be hung in the building. After attempting to find suitable photographs, they commissioned a water colorist to paint the portrait that now hangs outside the lecture hall.

Their efforts to commemorate the life and legacy of their beloved teacher live on in the form of the Stableford Endowment Fund, which has made and will continue to make a significant impact on the lives of our students in a way that appropriately and effectively honors the late and beloved Louis Stableford. ■