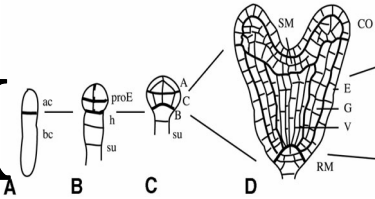


BIOFEEDBACK

The Newsletter of the Biology Department at Rhodes



Volume 22

18 October 2007

Number 1

The purpose of *BIOFEEDBACK* is to provide an important and timely vehicle for the dissemination of information concerning BOTH faculty and students of the Biology Department. Any notices or information that you wish to include in *BIOFEEDBACK* should be submitted to either Dr. Carolyn or Dr. Alan Jaslow. *BIOFEEDBACK* will be published each semester.



The Chair's Niche:

With homecoming approaching, I recently e-mailed alumni inviting them to join us in the Dino Lounge for a reception prior the football game. After I sent the message on a Friday, I gave it little thought until I returned to the office on Monday. What I didn't anticipate was the tremendous number of responses.

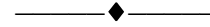
As I began reading, I was struck by two features many replies shared. First, it was clear that Rhodes graduates can do very well for themselves. I heard from an OB/Gyn who also serves as Director of Informatics for his group, a Professor of Plant Pathology at UC Davis, an Army officer on his second tour of duty in Iraq, a former Memphis City School teacher who is now an Education Programs Consultant in the California Department of Education, a lawyer, a member of the World Affairs Council, an ICU nurse, an Assistant Vice President at the University of Louisville, and others.

The second point I noticed was that our alumni attributed much to their time at Rhodes. Responses included: "My biology education provided me with great enjoyment in my hobbies, and the Rhodes College liberal arts education has been invaluable to my quality of life." "I am grateful for the educational experience that Rhodes provided me, which stood me in good stead as I specialized in my career. With age and perspective, and especially in contrast to what I have witnessed at large research universities, I also have come to have a greater appreciation for the high quality teaching and mentoring that are hallmarks of a Rhodes education." "Rhodes College occupies a centerpiece in my life. While I wandered far from my biology major at Rhodes when I went to graduate school and in my career, I have always considered the instruction I received from my professors at Rhodes, the attention they give to me as an individual, and lessons that I received by just be-

ing on the campus to have been the best foundation in life anyone could hope for."

I have chosen to write about these alumni to provide encouragement to your studies. I often feel that the work faculty assign is best appreciated by students long after they've left our gated community. In the words of one alumna, "You teach really young people who may not 'get it' 100% while in college, but Rhodes gives them the lifelong ability to learn and enjoy, and I, for one, did finally 'get it'."

---- Gary Lindquister



Primary Productivity and Secondary Growth

The following is a list of honors, awards, publications and meeting participation of our faculty and students since March 19, 2007.

Honors and Awards:



CONGRATULATIONS TO ...

.....**Adam Bohnert '07**, who won the Outstanding Biology Senior Award for the '06-'07 academic year. **Will Sheftall '07** was named the recipient of the 2007 Award for Outstanding Student Research in Biology, and **Jackie Hancock '10** won the Award for Excellence in First Year Biology.

.....**Aaron Creek '07**, for being the first Rhodes student to receive a Luce Scholarship for study in Asia. Aaron was also named to the Rhodes Hall of Fame.

.....**Kelly Hoth '08** and **Megan McKenna '08**, who both were awarded the Michael E. Hendrick Award in Organic Chemistry.

.....**Kimberly Green '09**, whose scholarly essay earned a Jane Donaldson Kepple Writing Prize.

.....**Orri Croft '08**, who won a John Henry Davis Scholarship for British Studies.

.....**Kristina Lynch '08** and **Kristen Wheeler '09**, who were awarded Margaret Hyde Council International Scholarships for Women.



.....**Dusty Long '09** and **Kelly Brier San Miguel '08** for receiving *Buckman Scholarships for Study Abroad*.

.....**Stephanie Juchs '08**, **Kacie Ross '08**, and **Brian Darrith Neuro '08**, who were selected as summer fellows in the *Rhodes Institute for Regional Studies*.

.....**Sarah Mercer '08** and **Tyler Cullender '08**, who won first place awards for their research presentations at the Southeastern Regional Yeast Meeting (only three of these awards were given to undergraduates). See the "Meetings" section below for the titles of their talks.

.....**Adam Robinson '07**, for earning a "Best Presentation Award" at the Tennessee Academy of Science Meeting. See the "Meetings" section below for the title of his presentation.

.....the Phi Beta Kappa initiates of the class of **2007**: **Adam Bohnert**, **Aaron Creek**, **Kate Key**, **Daniel Lombardo**, and **Suvarna Murti**. Also initiated were **Tara E. Daniel '08** and **Sarah Mercer '08**.

.....**Taylor Butker '08**, **Brian Darrith Neuro '08**, and **Amanda Lutzy '08**, who were initiated into Mortar Board honor society.

.....the new ODK honor society members and officers: **Ryan Dagen '08** (Vice-President), **Tara Daniel '08** (Membership Chair), **Amanda Lutzy '08**, and **Nici Thomas BCMB '08** (President).

.....the new officers of Rhodes' chapter of $\beta\beta\beta$: **Amy Ross '08** (President), **Lucas Routh '08** (Vice-President), **Natasha Jain '08** (Secretary), **Matthew Breeden '08** (Treasurer), and **Jill McCall '08** (Historian). For more information about $\beta\beta\beta$, see p. 5.

PLEASE BE SURE TO LET US KNOW ABOUT YOUR AWARDS, HONORS AND ACTIVITIES.

Publications:

(Be sure to send us copies of your publications when they appear. Thanks!)

Pratt, Z.L., **B.J. Drehman '06**, **M.E. Miller**, and SD Johnston. 2007. Mutual interdependence of MSII (CAC3) and YAK1 in *Saccharomyces cerevisiae*. *Journal of Molecular Biology*. 368: 30-43.

K. Van Sickle '08, L.M. Culberson, **J.L. Holzmacher BCMB '07**, and M. Cafiero. 2007. Evaluation of density functional theory methods for the electronic interactions between indole and substituted benzene: applications to horseradish peroxidase. *International Journal of Quantum Chemistry*. 107:1523-1531.

Grants and Fellowships:



Two Hill-Mellon grants for course development were awarded to Biology faculty. Dr. David Kesler's grant allowed him to travel to Costa Rica to explore possibilities for a new field course. The grant of

\$8,746.50 received by Drs. Terry Hill & Darlene Loreprete was to help to promote development of molecular biology laboratory exercises in BCMB-310 (Methods in Biochemistry and Cell Biology).

Meetings:

In March, **Dr. Mary Miller**, **Sarah Mercer '08**, **Tyler Cullender '08**, **Mary Landon Downs '08**, and **Jackie Hancock '10** attended the 14th Southeastern Regional Yeast Meeting (SERYM) at the University of Alabama at Birmingham. There, the students presented, "Links between the dependency of the *S. cerevisiae* G1 cyclin CLN3 NLS on nucleoporin components Nup2 and Nup188" (Downs & Miller), "The activity of the budding yeast G1 cyclin Cln3 NLS in the absence of genes normally associated with mRNA" (Cullender & Miller), and "KAP114 and YLR004C impact G1cyclin Cln3 dependent ability in the budding yeast *S. cerevisiae*; a link between protein localization and cell cycle regulation export" (Mercer & Miller). Both Tyler and Sara won awards for their presentations:

Dr. David Kesler and **Will Sheftall '07** attended the March meeting of the Tennessee Academy of Science in Memphis. Will presented on annulus formation in the freshwater mussel, *Elliptio complanata*. **Dr. Jim Armacost** also attended this meeting with **Adam Robinson '07**, who presented "Tree species selectivity of wintering birds in an urban forest" winning the 1st Place Presentation Award in the Ecology section.

Also in March, **Dr. Kesler**, **Will Sheftall '07** and **Cianna Pender '07** attended the Freshwater Mollusk Conservation Society Meeting in Little Rock, Arkansas where they presented the following posters:

Sheftall, W.L. and **D.H. Kesler**. Do freshwater mussels form a single growth ring every year?

Pender, C. and **D.H. Kesler**. Abundance and distribution of freshwater mussels in the Chipola River below the Dead Lakes in Gulf County, Florida with focus on the Chipola Slabshell, *Elliptio chipolaensis*.

Kesler, D.H., T.J. Newton, and L. Green. Long-term monitoring of growth in the Eastern *Elliptio*, *Elliptio complanata* (Bivalvia:Unionidae), in Rhode Island: a transplant experiment.

Kesler, D.H., N.V. Tol, D. Manning, and D. Hubbs. Freshwater mussels of the Hatchie River in West Tennessee.

Last May, **Dr. Jonathan Fitz Gerald** presented a talk entitled "Direct regulation of an actin nucleating formin by Polycomb: a link between pattern and morphogenesis" at the EMBO Conference on Chromatin and Epigenetics in Heidelberg, Germany.

This summer, **Dr. Gary Lindquister** traveled to Asheville, NC to the 32nd International Herpesvirus





Workshop. There, along with **Kristin Campbell '05** and **Kimberly Green '09**, he presented "Functional Analysis of Epstein-Barr Virus Viral Interleukin 10 in a Murine Gammaherpesvirus Model".

Kimberly Green '09 and **Dr. Gary Lindquister** presented "Role of the vIL-10 Protein of Epstein-Barr Virus in Establishing Viral Latency in a Mouse Model" at the 21st National Conference on Undergraduate Research (NCUR 21) at Dominican University of California, April 2007.

Dr. Kesler, along with **Tyler Cullender '08**, **Kelsey Dean '09**, and **Stephanie Juchs '08**, attended a session of the Society of Wetland Scientists South-Central Chapter meeting, held October 6 in Memphis

The following student presentations were given in April at Rhodes' Undergraduate Research and Creative Activity Symposium.

Aaron Creek '07 and Jay Blundon. H₂O₂-p38 MAPK induced protection from calcium-induced proteolysis in ventricular myocytes.

Kimberly Green '09 and Gary Lindquister. Role of the vIL-10 protein of Epstein-Barr virus in establishing viral latency in a mouse model.

Kelly Hoth '08 and Jay Blundon. Dosimetric correlation of skin toxicity in pediatric sarcoma patients receiving radiation therapy.

Teresa Bell '07 (Neuro) and Jay Blundon. Neural circuits mediating nursing analgesia in neonatal rats.

Sarah Mercer '08 and Mary Miller. KAP114 and YLR004C impact G1 Cyclin Cln3 dependent viability in the budding yeast *S. cerevisiae*; a link between protein localization and cell cycle regulation.

Ross Dawkins '07 (BCMB) and Gary Lindquister. Mathematical modeling of a biological system.

Haynes Kleimeyer '08. Immunogenicity of Multiple Vaccine Vehicles for Vaccination against Influenza B Virus.

Amy Wells '07. Neurotransmitters in serial cerebrospinal fluid samples of patients with medulloblastoma.

Lauren Bartling '07, **Emily Smith '07**, and **Elizabeth Erny '07** and Rosanna Cappellato. Red-bellied woodpecker, *Melanerpes carolinus*, abundance and habitat use in Overton Park.

Sarah Beeson '08, **Jacy Gentry '09**, **Ben Halbrooks '08**, and Rosanna Cappellato. The effect of habitat area on bird species diversity in Memphis city parks.

Adam Bohnert '07 and Rosanna Cappellato. Soil Respiration in forested versus non-forested urban areas in Memphis, TN.

Joseph Bynum '07, **Aaron Creek '07**, **Sinifunanya Nwaobi '07**, **Daniel Lombardo '07**, and Rosanna Cappellato. Mapping the invasive plant species of Overton Park.

Courtney Cockerell '07, **Kimberly Godwin '07**, **Alison Lohse '07**, and Rosanna Cappellato. The economic value of Overton Park and its effects upon conservation efforts.

Tyler Cullender '08 and Mary Miller. The activity of the budding yeast G1 Cyclin Cln3 in the absence of genes primarily associated with mRNA export.

Ryan Dagen '08, **Crystal Phelps '08** and Terry Hill. A broad spectrum high-copy suppressor of calcofluor hypersensitivity in *Aspergillus nidulans*.

Mary Landon Downs '08 and Mary Miller. The importance of NUP2 and NUP188 in the G1 cyclin Cln3 activity in *Saccharomyces cerevisiae*.

Keller Bankston '08, **Stephanie Juchs '08**, **Kacie Ross '08** and Rosanna Cappellato. Distribution of *Acer negundo* in relation to past environmental disturbance.

Akram Knefati '07, **Sina Nezakatgoo '07**, **Susannah Schwartz '08**, and Rosanna Cappellato. Analysis of *Asimina triloba* (pawpaw) rate of growth over time in undisturbed and disturbed habitats of Overton Park (Memphis).

Megan McKenna '08 and Gary Lindquister. Reversion of a recombinant murine herpesvirus to wild-type by sequence-specific recombination.

Sarah Mercer '08, **Claire Litherland '09**, and Terry Hill. A gene encoding COG4 complements a cell polarity defect in the filamentous fungus *Aspergillus nidulans*.

Cianna Pender '07 and David Kesler. Abundance and distribution of freshwater mussels in the Chipola River below the dead lakes in Gulf County, Florida with focus on the Chipola slabshell, *Elliptio chipolaensis*.

Caroline Sartain '07 (BCMB) and Mary Miller. Prox1 is a critical regulator of pancreatic organogenesis.

Will Sheftall '07 and David Kesler. Do freshwater mussels from a growth ring every year?

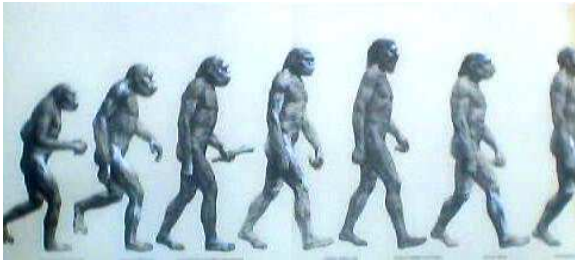
Lane Levett '09 (BCMB). Studies directed toward the synthesis of a potential antimalarial agent, Febri-fugine.

Stuart Martin '08 and **Ravi Patel '08** (BCMB). Characterization of the two GDP-mannose transporter gene null strains in *Aspergillus nidulans*.





Curricular Evolution:



Course Changes and Announcements

Biology and the New Curriculum

By now, you have undoubtedly noticed that most upper-level Biology courses with lab are 4-credit lecture sections and 1-credit labs. Even though lab and lecture are listed separately for these classes, you still have to take lab and lecture together, just as you always have!

Crediting labs requires that they receive their own CRN. When you enter these 4+1 upper-level courses on your tree during pre-registration, the lecture section CRN should be entered, as always, in the A1, B1, or C1 slots on your tree (note that your upper-level Biology classes should be listed first to give you the best chances for getting the one you want). The lab CRNs for the courses on your A, B, and C trees should be entered in Lab tree.

The Return of Bio 204: Mechanisms of Development

"One of the critical differences between you and a machine is that the machine is never required to function until after it is built." Scott Gilbert

Animals and plants typically begin their lives as single cells with half a nucleus. But from this single humble beginning emerges the diversity of life that enriches our planet.

How does this happen?

This spring in Mechanisms of Development, we will find answers to this question. Our stage will be the evolutionary history of today's organisms, and our actors will be the conserved genetic and morphogenic processes that play lead roles in development. In class, we will discuss both the classical and modern experiments that have led to our current knowledge of development. In lab, we will work with a variety of model organisms that have themselves been stars in developmental studies.

Genetics, Microbiology, Animal Physiology and Neuroscience Plans for '08-'09

In '08-'09, Drs. Miller and Blundon will be back from sabbatical and no other Biology faculty are scheduled to take sabbaticals that year. Current plans are for Dr. Blundon to teach Animal Physiology in the fall, and Neuroscience in the spring, and for Dr. Miller to teach Genetics in the fall. Because of her NSF grant commitments, Dr. Miller will not teach Microbiology in the spring, and the Biology Department will search to hire someone to teach it in her place. Thus we hope to be able to offer Microbiology in the spring of 2009, but students who require the course by the end of '08-'09 for their immediate post-graduate plans should recognize the possibility we will be unable to offer it

Bio 380: Topics in Biomedical Science

Topics in Biomedical Science will be offered a second time in the spring. Students in the fall section of the course have found that the postdoctoral fellows

Optimal Foraging

The following courses will be offered next semester

NUMBER	COURSE TITLE	HOURS OFFERED
140	Biology II 3 lecture sections	MWF 8:00-8:50 MWF 9:00-9:50 MWF 10:00-10:50
201	Mycology	TuTh 9:30-10:45, Wed lab
204	Mechanisms of Develop.	MWF 9:00-9:50, Fri lab
209	Embryology	TuTh 8:00-9:15
212	Env. Iss. In So Africa	Tu 12:30-1:45
213	Env Iss in So Africa-Tut.	TBA
253	Coral Reef Ecology	M3:00-3:50, W 7:15-8:30pm
304	Genetics	MWF 11:00-11:50, Wed lab
325	Molecular Biology	MWF 10:00-10:50, Thu lab
340	Animal Physiology	TuTh 9:30-10:45 Tues lab
380	Topics in Biomed Science	WF 7:30-8:45 am
<u>Senior Seminar Sections</u>		
486-1	Reproductive Biology	TuTh 11:00-12:15
486-2	Eukaryotic Cell Cycle	TuTh 4:00-5:15
<u>For Non-majors</u>		
105-1	Environmental Science	MWF 10:00-10:50 Mon lab
105-2	Biology in Society	TuTh 9:30-10:45 Tues lab





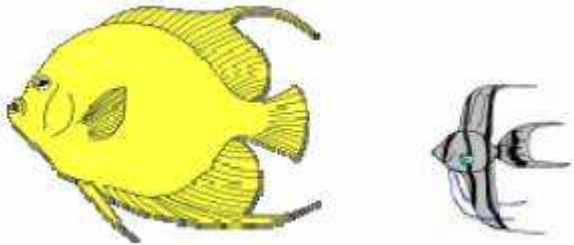
from St Jude who have taught in the course have brought an excitement to their topics with the ability to relate the basic science to important advances in clinical applications. The course is appropriate for sophomores through seniors and satisfies an upper level requirement without lab or a BMB elective.

Environmental Science Minor

If you are not familiar with our new Environmental Science minor, stop by to see Drs. Kesler or Cappellato and/or you can consult <http://www.rhodes.edu/es>. For most biology majors, the minor only requires two additional courses you might not think of taking.

Coral Reef Ecology

Coral Reef Ecology is now two, two-hour courses - Bio 253 on campus and Bio 254 in Honduras. Since admission into this course is by permission only, you must talk with Dr. Kesler before registration if you are interested in gaining admittance to Bio 253.



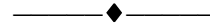
There will be an information session October 29th in FJ-B at 4:15 PM. Please try to attend if you have any interest in this course.

New Course – Bio 213: Environmental Issues in Southern Africa Tutorial

Environmental issues in Southern Africa is best known because of its field experience in Namibia. Now there is a way to engage locally in this important topic through a tutorial. Students taking BIO 212: Environmental Issues in Southern Africa have three options. One is to take BIO 212 alone for 2 credits; this does not satisfy an upper level requirement for the major. A second is to take BIO 212 along with BIO 214, the 2 credit Maymester trip to Namibia; BIO 212 and BIO 214 together satisfy an upper level with lab requirement. A new, third option is to take BIO 212 concurrently with BIO 213, a 2 credit tutorial; BIO 212 and BIO 213 together satisfy an upper level without lab requirement. (Note that there is not an option to take 213 in a later semester; 212 is a co-requisite to 213 and must be taken at the same time.) **Enrollment in all three courses will be by permission of Dr. Rosanna Cappellato.** Up to fifteen students may enroll in BIO 212 with limits of nine in 214 and six in 213. If you are interested in these courses, or want to know more about

them, or want to sign up for them, please come to FJ140E on Tuesday, October 30 at 4:00pm.

Nine students (six Biology majors) joined Dr. Cappellato on a very successful field study trip to Namibia during the summer, 2007. In a student's word: *"The program was outstanding. Frankly, it was the most amazing way to learn about conservation."* Elephant and cheetah tracking was the highlight of the trip, along with a visit to a village of indigenous Himba people.



Signals and Displays (short communications)

Costa Rica Research Opportunity

Last May, Drs. Kesler and Gottlieb were invited to visit the Firestone Ecology Center on the west coast of Costa Rica to learn about this new center run by Pitzer Collete. During the week they were there, they traipsed through the tropical rainforest, walked along the Pacific Ocean, and experienced the cloud forest at 11,000 feet. Dr. Kesler is hoping to return in May with two or three research students to conduct a stream drift study comparing streams draining the primary and secondary rainforests there. If you are interested, please contact Dr. Kesler at kesler@rhodes.edu.

TRI-BETA: The Biology Honor Society

Students interested in associate membership in the Mu Rho chapter of Tri Beta ($\beta\beta\beta$) should contact Amy Ross at rosas@rhodes.edu. Requirements for associate membership are 1) the completion of at least one biology course at Rhodes with an overall 'B' average and 2) a \$40 initiation fee, which may count later towards regular membership. Fall induction will be in November. Eligible sophomores and juniors will be contacted within the next two weeks.

Tri-Beta Officers for 2007-2008 are: **Amy Ross '08** (President), **Lucas Routh '08** (Vice-President), **Natasha Jain '08** (Secretary), **Matthew Breeden '08** (Treasurer), and **Jill McCall '08** (Historian).

This semester Tri Beta is offering many opportunities to get involved in the biology department at Rhodes. Details on all events will be posted on the Tri Beta bulletin board. The faculty advisor for Tri Beta is Dr. Rosanna Cappellato (cappellator@rhodes.edu).

Get Your Work in Print!

After hours of hard work in the lab or field, why not publish your research in the Rhodes Journal of Biological Science? If you're doing research this year or have a completed project, contact Dr. Kesler about submitting your paper. Dr. Kesler is also looking for students to work as editors for this year's journal.





St. Jude research program going strong

Applications for next year's Summer Plus Research Program will be due in mid-January. Keep a lookout for notices or e-mails informing you of the details. See <http://www.rhodes.edu/academics/1115.asp> for additional information, or contact Dr. Robert Strandburg (strandburg@rhodes.edu or x3169).

BIOLOGY RESEARCH AWARD

Each spring, the Biology Department honors a student with its **Award for Outstanding Student Research in Biology**. Any student who has completed research at Rhodes or elsewhere is eligible for this award and cash prize. To be considered, a student must submit a five to seven page research paper, plus a recommendation from the research supervisor. If you are interested in submitting your work for this prize, please speak to your advisor or to **Dr. C. Jaslow**. The deadline for applications for this Research Award will be announced in the spring issue of *BIOFEEDBACK*.

BIOLOGY SEMINAR NEWS

Don't forget the upcoming three fall seminars sponsored by the Biology Department. On October 22, AAAS/Merck is cosponsoring Dr. A.J. Robison, a postdoctoral Scholar in the Neuroscience Department from University of Texas Southwestern Medical Center. Dr. Robison, who graduated from Rhodes in 1999, will present "Decoding the Brain: A Molecular Approach to Neural Circuitry" covering his research on the molecular basis of synapse formation and function in the central nervous system. Dr. Robison's work impacts our understanding of neuronal circuit formation, and is particularly relevant to our understanding of autism.



The second seminar which is in the area of Biochemistry and Molecular Biology, is scheduled on November 1. Dr. Brigitte LaVoie, who is the new CIHR Investigator and Assistant Professor in the Department of Genetics and Microbiology at the University of Toronto, Canada, will present "Genetic Inheritance at the Molecular Level: Size Does Matter!". Dr. Lavoie's work deals with understanding chromosome segregation during the anaphase of mitosis, a process crucial for understanding genetic abnormalities, including some of the initial stages of cancer.



Finally, the fall Biology seminar series will conclude on November 12 with "Beginning to Understand the End: Telomeres and Telomerase," by Dr. Kathy Friedman. Dr. Friedman is an Assistant Professor of Biology at Vanderbilt University. Her research on the telomeres and telomerase, the enzyme that maintains telomere length, impacts our understanding of the maintenance of the ends of chromosomes, and therefore molecular mechanisms of genome stability.



Biology seminars are scheduled at 4:15 in FJ-B. Refreshments, and an opportunity to meet the speakers, will be available in the Biology Library at 4:00.

HELLO FROM OUR NEWEST DEPARTMENT MEMBERS

DR. JONATHAN FITZ GERALD

Dr. Jonathan Fitz Gerald is a plant developmental biologist. He is teaching Biology I this semester and will teach Mechanisms of Development in the Spring. Dr. Fitz Gerald comes to Rhodes from the Temasek Lifesciences Laboratory at the National University of Singapore, where he spent three years as a post-doctoral research assistant. When asked how he ended up in Singapore, he replied "By finding a job in France. I met Frederic Berger at a conference in Spain. I quickly realized his project was perfect for me. However, while I was planning on going to Europe, he was apparently looking for jobs in Asia. I got to spend a little over a year in Lyon before he shipped us all to Singapore. So, two continents for the price of one."



Dr. Fitz Gerald works on the seed endosperm of *Arabidopsis thaliana*. "It's more a weed than a crop-plant, though I did make an Arabidopsis salad once for a pot luck. Despite my best culinary efforts, the world's interest in Arabidopsis remains as a research tool for plant biology. Arabidopsis is a powerful model system. It is easy to manipulate genetically, it grows fast and puts out hundreds of seeds. You can even grow it on a Petri dish. During my post-doc, I constructed a lot of fluorescent plant lines so that I can watch my favorite developmental processes in real time. The seed endosperm is also the only part of the plant where morphogenesis mimics animal embryogenesis. Some





of the molecular processes I study in the seed may actually tell us something about animal development. If anyone is interested in learning more about endosperm, or if you just want to see some cool pictures of fluorescent seeds, feel free to drop by my office.”

When he is not growing plants in lab, Dr. Fitz Gerald is growing plants at home with his wife Christelle and his daughter Lyandra. “She’s only seven months old, but already loves being in the garden. While I’m planting, she makes spit bubbles if she likes a plant and throws toys at me if she doesn’t.”

DR. SARA GREMILLION

Dr. Sara Gremillion began her two-year Faculty fellowship this fall in the department of Biology. She received a B.A. in Biology from Hendrix College (2001) and a Ph.D. in Plant Pathology from the University of Georgia in 2007. Her dissertation research focused on fungal pathogens of the peanut plant and methods of disease control that could reduce reliance on fungicides, chemicals that are often toxic to areas surrounding agricultural fields. Speaking about her work in both the U.S. and Bolivia, Dr. Gremillion remarked, “I came to appreciate the immense input required to produce food in both developed and underdeveloped countries, as well as the positive impact that science can have on this necessity of human life.”



At Rhodes, Dr. Gremillion is doing fungal cell research with Drs. Hill and Loprete, and is mentoring research with **Frances Benoist '08**. This semester, Dr. Gremillion is teaching Methods in Biochemistry and Cell Biology (Bio310), but in the spring, first year students will get to know Dr. Gremillion when she teaches Core Biology II lecture and lab (Bio140 and 141).

In her free time, Dr. Gremillion can be found coaching youth soccer and cheering on the Lynx Women’s soccer team as one of their faculty reps.

DR. ZEYNEP GROMLEY

Dr. Zeynep Gromley joins the Biology Department as an Assistant Professor to fill Dr. Miller’s lab booties while she is on sabbatical leave this year. Dr. Gromley, a native of Izmir-Turkey, received her B.S. and her M.S. from the University of Dokuz Eylul. After completing her Ph.D. studies at the medical College of



Wisconsin in Milwaukee, Dr. Gromley worked as a post-doctoral research fellow at St Jude Children’s Research Hospital. Her research focuses on the regulation of cellular events by ubiquitin and ubiquitin-like proteins.

When asked what she likes to do outside of academics, Dr. Gromley replied, “My interests outside of work vary. Since my husband and I live in a beautiful home in Bartlett with a large backyard, I spend my spare time in our backyard garden. No, not like Mendel! I don’t do any experiments. Rather, I grow all sorts of vegetables, herbs, flowers, and grape vines. I have pretty grown much every plant in my garden from seeds. It is really such a joy for me to see them coming out from the soil and growing into a plant.

DR. ANNA BESS SORIN

Dr. Anna Bess Sorin joins the Biology Department this year as adjunct faculty. This fall she is teaching a senior seminar in Molecular Ecology and a 131 Lab, and for spring semester she is designing a non-majors biology class and lab. Dr. Sorin’s research focuses on animal behavior and evolutionary biology. Initially a field biologist, Dr. Sorin has increasingly been using molecular techniques to address questions of mating behavior, population structure and gene flow.



Originally from upstate New York, Dr. Sorin received her B.S. from Union College. She attended the University of Michigan for her M.S. and Ph.D., where she studied reproduction and social structure in white tailed deer. In 2002, a post doctoral position in Molecular Ecology at the University of Memphis brought Dr. Sorin south, and she has remained in Memphis ever since. When out of the lab and classroom, Dr. Sorin enjoys being outdoors and traveling as much as possible. Her husband, Nate, is also a biologist, and their home life is occupied by two rescue Rottweilers, and one currently very unhappy cat.

MS. KAREN THOMAS

Karen Thomas joins us this fall as our new Departmental Assistant. A native Memphian, Karen received her B.A. in English with a Biology minor from Baylor University. Karen was a systems analyst in the Information Technology department at Baptist Memorial Hospital and





she worked in her husband's healthcare consulting firm developing an electronic medical record system and an organ transplant data management application.

Karen "retired" to work at home when her daughter, Shelby, was born in 1995. As an older mom, she was grateful to have had that time at home. However, now that Shelby is a pre-teen, they are both glad to have her out of the house and back in the workforce full time! Karen is enjoying working in the Biology Department and very happy to be a part of the Rhodes community.

When she is not working, her life is very full with her family (husband, daughter, two mini-schnauzers and two fish) and friends. Karen notes, "We love to travel and have visited many interesting countries, especially Cuba at the end of the Soviet involvement in the early 1990's and again in 2001 at the end of Cuba's "special period." Born out of their love of traveling and learning about different cultures, Karen and her family are involved with internationals through the Memphis Council for International Visitors (MCIV) and through hosting visiting students in their home.

Border: *Necturus*. General view of a mudpuppy. Ivy/96.

http://biodidac.bio.uottawa.ca/thumbnails/filedet.htm?File_name=AMPH045B&File_type=GIF

Cover page figures:

at left: Peanut plant (*Arachis hypogea*) from <http://www.enchantedlearning.com/subjects/plants/glossary/indexp.shtml>

at right: Apical-basal pattern formation in *Arabidopsis* embryogenesis. Jurgens G. EMBO J. 2001 Jul 16;20(14):3609-16.

<http://www.nature.com/emboj/journal/v20/n14/images/7593857f1.jpg>

Your Chance to Win a Fabulous Prize



How well do you know your Biology classes?

For each comment, find the correct class listed below and enter it in the blank.

1. Ewww, I got shark guts on my highlighter! _____
2. Don't drink the sewage! _____
3. Not more pink and purple microscope slides! _____
4. We have to get up at **what** time on Sunday to go canoeing on the Wolf River? Can't we get PE credit for this course? _____
5. I just got the cannula in the rat jugular and it's only 6 PM! _____
6. I just dumped the ethanol down the sink but I don't see anything left in the bottom of the tube. Are you sure the DNA is there? _____
7. Can we soak our yeast in sunscreen to see if it blocks the UV light? _____
8. Lions and cheetahs and elephants, oh my! _____

Animal Physiology (Bio 340)
Bio I lab (Bio 131)
Comparative Vertebrate Morphology (Bio 350)
Ecology (Bio 315)

Environmental Issues in Southern Africa (Bio 212)
Histology (Bio 360)
Microbiology (Bio 301)
Molecular Biology (Bio 325)

Name: _____

All entries must be turned in to the Biology Department office FJ 102 before 4:00 pm. on Friday November 8, 2007.
If there are multiple correct entries, the winner will be selected by a random draw.

Winner receives a \$15 Bookstore gift card.

