

EVOLUTIONS

The University Of South Carolina Aiken

THE NEWSLETTER OF THE DEPARTMENT OF BIOLOGY AND GEOLOGY

Spring 2008 Vol 6 Issue 1

New Instructor on Board



New Instructor Dr. Stephanie Muga

The demand for anatomy and physiology classes has been so great at USCA, a new instructor position was authorized, primarily to teach these classes, beginning in the Fall of 2007. The department was delighted to hire Dr. Stephanie Muga to fill this position. Dr. Muga came to us with an impressive record of teaching and research in the field of carcinogenesis. Originally from Durham, North Carolina, Stephanie's parents were both teachers—her father a professor of Civil Engineering at Duke and

her mother a public school-teacher—so she was strongly encouraged to follow an academic path. "At an early age I was always fascinated by disease, particularly cancer, primarily because as a child I knew several people who had died of the disease (breast and brain cancers) and it was one of those diseases that no one seemed to understand, especially in regards to women's health," said Dr. Muga. She earned her B.S. at the University of Chapel Hill in biol-

ogy. Feeling a need to have more research experience and exposure before deciding on a graduate program, she accepted a research technician position in the laboratory of a world-renowned liver carcinogenesis pathologist at Duke University. "It was during this time that I became very interested in precursors for cancer," explains Dr. Muga, "and with the help of this mentor, I developed a graduate research project for trying to understand very early events in cancer development, which relied heavily on biochemical pathways." Her next stop was the highly rated Biochemistry program at the University of Texas-Austin.

continued on page 8

IN THIS ISSUE:

- Chair's Message - 2**
- Scholarly Activity Award -3**
- Graduates - 3**
- Biology SOTY - 4**
- Geology SOTY - 5**
- Faculty News - 5**
- Biofuels Lab - 6**
- Research Day - 6**
- Magellan Scholars - 7**
- Alumni Update - 7**
- SCAS Winners - 8**
- Independent Study - 9**

From The Chair:

by Dr. William Jackson

Things have slowed down considerably following an eventful spring semester. Throughout the last two months both faculty and students were busy preparing talks and presenting their research at various venues. We were well represented at the recent South Carolina Academy of Sciences meeting at Clemson. Our presentations included a number of posters including one on coral reef disease from Dr. Smith's lab (Marie-Ange Smith), four on environmental toxicology from Dr. Harmon's lab (Steven Ballesteros, Heather Mentrup, Michael Drinkwater, and Anesha Maxwell and Rainee Wilson), and one on ribozyme targeting from my lab (Lindsey Padgett). We also had five oral presentations: Shari Bookert from Dr. Dyer's lab, Sarah Mayson from Dr. Zelmer's lab, and Audrey Hedley, Mandy Gerolstein, and Theresa Ramos from my lab. Three students (Heather, Mandy, and Theresa) were awarded for outstanding undergraduate research presentations by the Academy. Soon after returning from SCAS, these students, along with a few others participated in the first annual USCA Undergraduate Research Day. We are particularly proud that Jennifer Irons and Theresa Ramos received awards for their presentations.

Three of our current students were awarded scholarships/internships for the upcoming year. Amanda Robinson was chosen for the Ronald E. McNair Post-Bacalaurate Program for USC undergraduates planning to pursue a graduate degree. Amanda received a \$2,700 summer stipend for her research which will continue this fall in Dr. Vieyra's lab. Amanda is the first USCA student to participate in this prestigious program. Mary Dorr recently

received a Center of Excellence internship through EXPORT, a USC/Claflin University program to develop underrepresented minority researchers to address the diagnosis, reduction, and elimination of HIV/AIDS and HPV/cervical cancer in rural African-American or Latino populations. Mary is working at the South Carolina Cancer Center in Columbia on a cervical cancer project. Audrey Hendley was awarded a \$3,000 Magellan Scholarship to pursue her undergraduate research project studying ribozymes targeted to HIV *vif*. Audrey is the second Magellan Scholar chosen from the Department of Biology and Geology. We are very proud of these three young ladies!

We have a number of graduates who will be starting graduate/medical school in the fall. Anesha Maxwell will be entering medical school at the Medical University of South Carolina in Charleston. Theresa Ramos will be entering graduate school at the University of Alabama Birmingham. She will be pursuing a PhD in molecular biology. Mandy Gerolstein will be entering graduate school at John's Hopkins University in the fall. She will also be pursuing a PhD in molecular biology. Katie Anderson (2005) will be entering the Master's of Clinical Nurse Leadership program at MCG, Brad Temple (2007) will be entering graduate school at the University of Georgia where he will pursue a Master's Degree in Public Health. And last, but certainly not least, Brooke Harrison (2007) will be entering dental school at the Medical College of Georgia in the fall. Congratulations to you all!

Now all we have to do is get ready for next year!



Spring graduates at the Senior Breakfast: L-R front, Aquisha Carter, Samantha Yates, Rebecca Myers, Theresa Ramos, Lashunda Pixley, Heather Mentrup, Sarah Mayson, Anesha Maxwell, back, Kara Brown, Avonte Williams, Garret Webster, Rainee Wilson, Mandy Gerolstein, Steven Ballesteros

Scholarly Activity Award



Dr. Allen Dennis was awarded the USCA Faculty Scholarly Activity Award at the Honors and Awards Convocation April 17. He joins Dr. Hanlin (2002) and Dr. Dyer (2006) as recent departmental recipients of this award. The recognition was for work completed between 2002-2007. Dr. Blanche Premo-Hopkins nominated him for the award, and faculty colleagues at the Universities of Kentucky, Indiana, and Florida State contributed letters of support. The work for which Dr. Dennis was recognized represented the culmination of several years of effort and included terrane analysis of the exotic Neoproterozoic Carolina terrane (2002), petrology and setting of the Newberry eclogite and Silverstreet terrane (2003), petrology and geochemistry of the basement geology of the Savannah River Site (2004), and the Silurian-Mississippian history of the central and southern Appalachians (2007). Two field guides prepared for the

International Basement Tectonics Association (2004) and the Geological Society of America (2007) were also recognized. Anyone who has participated in the Southern Appalachian Geology class or studied in Room 216 knows Dr. Dennis' fondness for Hank Williams' (1978) tectonolithofacies map of the Appalachians. It is less well known that Dr. Dennis was one of only a few primary geological contributors to the new Hibbard et al (2006) tectonic map of the Appalachians, published by the USGS and the Canadian Geological Survey. Since 2002, Dr. Dennis has presented sixteen papers on his research at international, national, and regional meetings. Congratulations to Dr. Dennis for this recognition! For links to pdf reprints of Dr. Dennis' recent papers and field guides, visit his departmental website at <http://www.usca.edu/biogeofaculty/Dennis/dennis.asp>.



Congratulations Graduates

December 2007, Bachelor of Science

Michael Drinkwater, *magna cum laude*
Deep Ghadawala
Tina Hahn
Kenya Harley
Lawrence Hicks IV, *cum laude*
Peter Parker
Lauren Ray
Stephanie Suarez
Kashetu Usman

May 2008, Bachelor of Arts

Garrett Webster, *cum laude*
Avonté Williams
Samantha Yates

May 2008, Bachelor of Science

Steven Ballesteros, *cum laude*
Shari Bookert
Kara Brown
Genie Faulkner, *magna cum laude*
Amanda Gerolstein, *summa cum laude*
Anesha Maxwell, *magna cum laude*, Honors Program
Sarah Mayson
Sarah Mendoza
Heather Mentrup, *magna cum laude*
Rebecca Myers, *magna cum laude*
Lashunda Rixley
Theresa Ramos, *cum laude*
Rainee Wilson

August 2008, Bachelor of Science

Aqueisha Carter
Marie-Ange Smith

Biology Student Of the Year



Mandy Gerolstein and Dr. Bill Jackson

Amanda Gerolstein, the outstanding biology student of the year, graduating *summa cum laude* with a near-perfect 3.97 gpa, has also been awarded the Peachbelt Conference's prestigious Female Scholar-Athlete of the Year award. If you read the local papers, you are probably familiar with the name and the determined face of USC Aiken's leading volleyball player. Earlier in the year she was named to the Academic All America First Team for volleyball, and she led the Lady Pacers to the 2006 and 2007 Peach Belt Conference regular season and tournament championships. Her name is sure to go down in history as one of USC Aiken's star athletes. Much more could be said about Mandy's athletic accomplishments, but in the biology and geology department, it was her academic prowess that distinguished her. From the very start of her career with us, she knew she was interested in pursuing a graduate degree in biomedical sciences, and she attacked her science courses with the same tenacious determination to succeed that made her so formidable on the volleyball court.

She worked for the last two years in the research lab of Dr. Bill Jackson where she began with a project to design and clone HIV-specific ribozymes, and progressed to her senior research project helping develop tissue culture models to test these ribozymes. As you will read elsewhere, her presentation on this work earned her an award at the South Carolina Academy of Science annual meeting. A native of Millersville,

Maryland, Mandy is returning north to begin graduate studies at Johns Hopkins University in Baltimore in the Fall. We in the department are proud of all of Mandy's accomplishments, and we look forward to hearing of her future successes!



Alumni Focus continued from page 10

on both his master's and Ph.D. committees. "I could always count on Dr. Hanlin for advice (and to drive to Clemson for a last minute meeting!)," said Eran.

Eran's graduate work investigated the effects of prescribed burning and thinning on herpetofauna, small mammals, and birds. His research in the Clemson Experimental Forest was part of the National Fire and Fire Surrogate Study, a national interdisciplinary study replicated at 13 sites across the U.S. (<http://www.fs.fed.us/ffs/>). It was in graduate school he learned he liked to teach, and he began telling his family that he wanted to be a professor at USC Salkehatchie. "It's great being in the Lowcountry and having such a wonderful outdoor 'lab' in which to conduct research," he says. He currently serves as one of two state coordinators for the North American Amphibian Monitoring Program (NAAMP), a USGS based study being replicated in 26 other states with the goal of detecting long-term trends in frog populations. He has a student doing an independent study project in the Great Swamp Sanctuary, inventorying vascular plants and mapping plant communities. And he is also conducting biological inventories at Red Bluff Lodge in Allendale County, 7,000 acres that contains a diversity of upland and wetland habitats. He teaches introductory biology, environmental science, and microbiology classes at both the Walterboro and Allendale campuses, finding it very rewarding to have the opportunity to get students interested in learning and applying biological concepts.

Eran met his wife Amy, who is from southeast Arkansas, at Clemson, where she was earning an M.S. in Entomology. They reside in Walterboro with their children--Grant, three, and Lily, one.

Geology Student Of The Year

Genie Faulkner was chosen by the faculty as this year's Geology Student of the Year. Genie graduated *magna cum laude* in May with a Bachelor of Science degree in biology. Originally from the Aiken area, Genie attended Ridge Spring-Monetta High School. She was recognized for her excellence in geology after taking both Paleontology and Southern Appalachian Geology this past year. Dr. Dennis said of Genie, "She mastered new vocabulary and concepts quickly and established herself as a leader in both classes with her acute observations and well-written analysis."



Dr. Bill Jackson and Genie Faulkner

Genie chose to take geology courses to broaden her knowledge and learn something about the world from a different perspective. "I really enjoyed taking the Southern Appalachian course with Dr. Dennis because he incorporated a lot of hands-on activities that helped me to understand the importance of the history of the mountains and how they were formed. It helped me to gain more appreciation for not only the mountains but other parts of the world from a geological point of view," she said.

Genie credits her years at USCA with helping her to learn more about herself and what she wants for her future. Small classes, one-on-one time with professors, many activities to get involved with, a comfortable environment for learning and socializing all played a part. And she has decided to continue her education with a degree in nursing—"It's always been my dream to work in the medical field and I think nursing is perfect for me and will allow me to give back to the community and help people greatly." We congratulate Genie on her success so far and wish her much luck as she pursues a career in nursing.



Recent Faculty Activities

Dr. Derek Zelmer presented a paper, "Structure and similarity of helminth communities of six species of Australian turtles," at the annual meeting of the Southeastern Society of Parasitologists, in Greenville, SC, on April 18th, 2008.

Dr. Garriet Smith chaired the Coral Disease Session and was co-author on two presentations at the 33rd Eastern Fish Health Workshop in Atlantic Beach, NC in April 2008. He also presented a seminar to the Sierra Club of York County on "Coral Reef Health and Climate Change" in Feb 2008.

Dr. Harry E. Shealy, Jr. was a featured guest on the March 20th episode of EXPEDITIONS on SCETV which focused on Aiken's Hitchcock Woods. The series is hosted by Dr. Patrick McMillan of Clemson University. Visit <http://www.clemson.edu/expeditions> for more information on the series.

Drs. Michele Harmon and Doug Wyatt published two articles from work done in post-Katrina New Orleans (see Spring 06), "Evaluation of post-Katrina flooded soils for contaminants and toxicity to the soil invertebrates *Eisenia fetida* and *Caenorhabditis elegans*" in *Chemosphere* 70(10):1857-1864 and "Recurrent sampling in soils inundated by Hurricane Katrina, St. Bernard Parish, Louisiana: analytical results" in *DEG Environmental Geosciences Journal* 14(4):159-180.

Dr. Andy Dyer spent a week in June grading high school AP Biology examinations in Kansas City, Missouri.

Microbial Biofuels Laboratory



a Master of Science degree in marine biology from the University of Gdansk in Gdansk, Poland. Before taking on this project, she was employed by Dr. Smith as a research technician assisting him with his work on coral reef diseases supported by the World Bank.

Magdalena Piskorska is currently working for USC Aiken under the direction of Dr. Garriet Smith to identify and develop hydrogen producing bacteria. The work is being done at the Aiken County Center for Hydrogen Research (CHR), a facility owned by Aiken County that supports the efforts of qualified researchers and organizations to participate in the emerging hydrogen economy. The CHR provides laboratory space designed for hydrogen research for use by government, academic, and private sector partners. Ms. Piskorska holds

The current work, supported by both USC Aiken and Aiken County, involves developing a visual hydrogen detection method using nitrogen fixing microorganisms. The main objective is to develop a technique to screen nitrogen fixing bacteria isolated from unique environments suspected of H₂ production. Several experiments have been conducted to investigate hydrogen-producing capabilities of nitrogen fixing microorganisms. A hydrogen color indicator was prepared and used in test solutions

containing microorganisms that produce H₂. The purpose of this technique is to visually detect biologically produced hydrogen via a catalyzed reaction between a color indicator and H₂. In response to biohydrogen production (15-30% H₂), a visual decolorization of the color indicator was detected. This enables a quick detection of hydrogen production so that extensive, rapid screening of naturally occurring H₂-producing microorganisms can be performed routinely. Ms. Piskorska recently presented the results of the project at the National Hydrogen Association Meeting in Sacramento, CA.

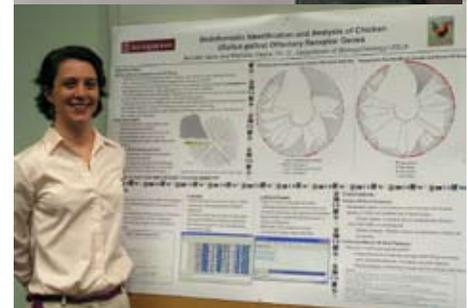
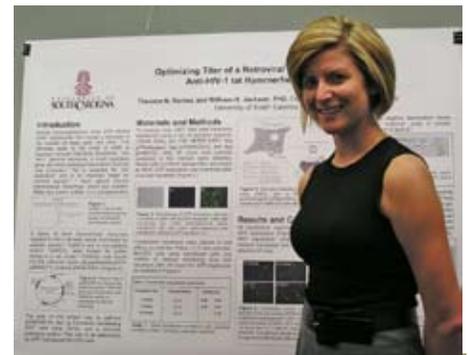


First Research Day A Success

USC Aiken held its first research day on Friday, April 18th, to showcase the independent research of students across campus. Approximately 50 students participated in oral and poster presentations. Faculty judges selected two winners for gold, silver, and bronze medals with monetary prizes attached to each level. Our department was represented by one oral presentation and nine posters. Theresa Ramos' poster, *Optimizing titer of a retroviral*

vector expressing an anti-HIV-1 tat hammerhead ribozyme earned her a gold medal, and Jennifer Irons' poster, *Bioinformatic Identification of Chicken (Gallus gallus) Olfactory Receptor Genes*, was selected for a bronze medal. Dr. Bill Jackson mentored Theresa, and Dr. Michelle Vieyra was mentor for Jennifer. We were proud of all of our presenters and congratulate Theresa and Jennifer!

Pictured, top Theresa Ramos, bottom Jennifer Irons



Magellan Scholars

The Magellan Scholar program, begun at USC in 2006, was designed to provide undergraduates an opportunity to explore an area of research interest in-depth with the help of a faculty mentor. Michael Drinkwater, a December 2007 graduate, was the depart-



Dr. Harmon and Michael Drinkwater

ment's first Magellan Scholar in the Spring of 2007. His project, *Contributions of Total Petroleum Hydrocarbons to Non-point Source Runoff from the USCA Campus*, was mentored by Dr. Michele Harmon. Although his work was severely hampered by the drought in South Carolina, he was able to collect enough samples to present his findings at the South Carolina Academy of Science meeting last Spring, as well as exhibit a poster at USC's Discovery Day this past April.

Audrey Hendley, a rising senior, was awarded a Magellan for the Summer/Fall of 2008. Under the mentorship of Dr. Bill Jack-



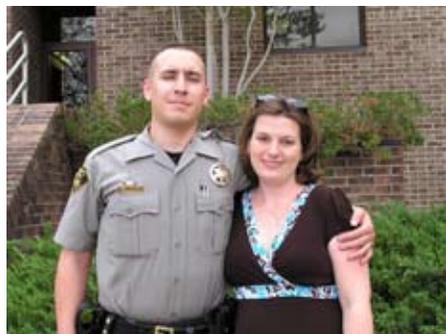
Audrey Hendley

son, Audrey will be testing the catalytic activity of anti-*vif* hammerhead ribozymes in a tissue culture model and determining ribozyme kinetics in *in vitro* cleavage assays." As an aspiring genetics and molecular biology graduate student, this project is a great opportunity for me to gain valuable knowledge and experience in my field," said Audrey.

Alumni Update Online

Did you know?

You can update your address and let us know what you've been doing since graduation online! Just go to www.usca.edu/biogeo/alumni.html. We'd love to share your news!



Chris and Kim (Bushee) Perez, both August 2005 graduates. Chris is now a deputy with the Aiken County Sheriff's Department and Kim is the office manager for The Ridge at Chukker Creek. Married in October 2005, the couple had been dating since high school. They are expecting their first child in June and reside in North Augusta. (At press time we learned that a baby

boy has been born!)

Johnny Liles (Dec. 2002, BIS) is a Project Geologist with MACTEC Engineering and Consulting out of Columbia. He recently spent 14 months at the Las Vegas, Nevada test site working on the Yucca Mountain Project. Specializing in geotechnical exploration for new nuclear reactors, he has also worked on projects in Texas and Florida.

Helena Jantti (May 1999) is enrolled in a Ph.D. program in the Department of Biological and Environmental Science/Aquatic Sciences at the University of Helsinki in Helsinki, Finland.



Connie Arthur (May 2006) and Nancy Jones (Dec. 2006) dropped by with Nancy's daughter Avery, born Dec. 10, 2007. Connie has just finished her second year of graduate study at Emory University and Nancy stays busy at home with Avery at present.

Julie (Zachry) Coggins (Aug 2004) earned a M.S. in Environmental Science and Policy at Johns Hopkins University and is working as a chemist at a special effects pigments manufacturing company in Savannah, GA.

New Instructor continued from page 1

Dr. Muga's PhD dissertation was focused on understanding the role of one-carbon units (the building blocks for DNA synthesis) during liver regeneration (a model for liver carcinogenesis) and the development of the liver and the kidney from gestation to adulthood. During this time she became interested in the influence nutrition seemed to have in the disease of cancer, so following her PhD she accepted a post-doc position in the Nutrition Department at UT-Austin. She also began teaching molecular biology to the nutrition students. Her work got her noticed by Dr. Susan Fischer at MD Anderson Cancer Center in Smithville, Texas, and she was recruited as a post-doctoral fellow and stayed on as a research associate working in the field of skin cancer. This position allowed her to combine nutrition and molecular biology towards understanding the progression of cancer.

Now comes the South Carolina connection. She was next recruited by the USC School of Medicine, where she accepted a position as a Research Assistant Professor. Here she investigated the role of omega-6 fatty acids on colon carcinogenesis. A collaboration with Dr. Mike Wargovich at MUSC further led to an investigation of traditional medicines from plants and herbs as novel chemotherapeutic agents for a variety of cancers. But Dr. Muga missed teaching. She had had many opportunities to teach undergraduates at UT-Austin and MD Anderson, and she was disillusioned with the funding opportunities for "out-of-the-box" projects. She taught for one semester at Midlands Technical College in Columbia before coming to USC Aiken last fall. She does miss research, but is still able to have a hand in it as a consultant through collaborations. Dr. Muga mused that the good experiences far outweighed the bad in her first

year of teaching at USCA. "I would have to say that my favorite things about teaching at USCA are the laboratory classes because this forum allows the teacher to integrate real life situations with standard book knowledge. I try to expose the students to many human ailments so that as these students progress through their studies they will appreciate the complexity of the human body and how dysfunctional systems can impact not only the development of disease but also treatment outcomes."

Dr. Muga met her husband, Robert, in a ballroom dance class at UT-Austin, and they are amateur ballroom dancers. Robert was a schoolteacher for 22 years and now works for Blue Cross Blue Shield. They have a one-year-old son, affectionately known as Little Robert. Stephanie is also a flutist and recently joined a chamber quartet in Columbia. We welcome her as a member of our department!



SCAS Winners

The department was well represented by ten students at the annual South Carolina Academy of Sciences meeting at Clemson University on March 20th. Awards were received by Theresa Ramos and Amanda Gerolstein for outstanding undergraduate research in topical session Chemistry and Biochemistry C. Dr. Bill Jackson was the research mentor for both students. Heather Mentrup won the award for Outstanding Undergraduate Research for her presentation in the poster session. Dr. Michele Harmon served as her faculty research mentor. The students received their awards at the Clemson Sigma Xi Chapter Annual Awards Banquet in April.



Left to right: Theresa Ramos, Dr. Jackson, Heather Mentrup, Dr. Harmon, Mandy Gerolstein

Fall 2007-Spring 2008 Independent Research

Research continues to be an integral part of our department's program. Students pursue independent study projects under the tutelage of faculty members. Those pursuing a B.S. degree are required to complete a senior research project. Listed below are projects for Fall 2007 and Spring 2008.

Fall 2007 Independent Studies

Steven Ballesteros: *Using Eisenia fetida to Evaluate Pesticide Toxicity*. Advisor: Dr. Michele Harmon.
Amanda Gerolstein: *Retrovirus-mediated delivery of anti-HIV ribozymes*. Advisor: Dr. William Jackson.
Audrey Hendley: *Preparation of vif ribozyme templates for in vitro transcription*. Advisor: Dr. William Jackson.
Sarah Mayson: *Fish communities of the Edisto River*. Advisor: Dr. Derek Zelmer.
Heather Mentrup: *Bacterial contributions to the Savannah River from urban runoff*. Advisor: Dr. Michele Harmon.
Lindsey Padgett: *Design and cloning of an anti-HIV LTR ribozyme*. Advisor: Dr. William Jackson.
Theresa Ramos: *Cloning an anti-HIV-1 hammerhead ribozyme*. Advisor: Dr. William Jackson.
Francis Ricchiuto: *Independent Study in Molecular Genetics*. Advisor: Dr. James Yates.
Kimberly Dawn Sarka: *Impervious Surface Determination in the Waterworks Basin in North Augusta watershed*. Advisor: Dr. Michele Harmon.

Senior Research Projects

Shari Bookert: *The effect of age on Aegilops triuncialis seed longevity*. Advisor: Dr. Andy Dyer.
Kara Brown: *Invertebrate communities of the Edisto River*. Advisor: Dr. Derek Zelmer.
Michael Drinkwater: *The study of total petroleum hydrocarbons in runoff from USCA parking lots*. Advisor: Dr. Michele Harmon.
Stephen Earhart: *Using Drosophila to demonstrate natural selection*. Advisor: Dr. Andy Dyer.
Genie Faulkner: *Local and regional effects on Lotic invertebrate communities*. Advisor: Dr. Derek Zelmer.
Tina Hahn: *Parasite Infracommunity Structure in Fishes*. Advisor: Dr. Derek Zelmer.
Kenya Harley: *Ethology at the Zoo*. Advisor: Dr. Michelle Vieyra.
Anesha Maxwell: *Using Daphnia magna to Evaluate Pesticide Toxicity*. Advisor: Dr. Michele Harmon.
Sarah Mendoza: *Bacteriophage in Coral Mucus*. Advisor: Dr. Garriet Smith.
Kevin Pope: *Germination inhibition in populations of Aegilops triuncialis*. Advisor: Dr. Andy Dyer.
Lauren Ray: *Loss of viability in Aegilops triuncialis seeds*. Advisor: Dr. Andy Dyer.

Kashetu Usman: *Do soil conditions cause maternal effects in Cyperus esculentus*. Advisor: Dr. Andy Dyer.

Spring 2008 Independent Studies

Shari Bookert: *The genetic basis of germination in Aegilops triuncialis*. Advisor: Dr. Andy Dyer.
Catherine Freiler: *Identification and characterization of OR Genes in Snakes*. Advisor: Dr. Michelle Vieyra.
Audrey Hendley: *Cloning anti-vif hammerhead ribozymes into a retroviral vector*. Advisor: Dr. William Jackson.
Jennifer Irons: *Phylogenetic Study of Olfactory Receptor Genes*. Advisor: Dr. Michelle Vieyra.
Lisa James: *Parasite community structure of Siren lacertian from Peat Bay, Savannah River Site*. Advisors: Dr. Hugh Hanlin and Dr. Derek Zelmer.
Pierre Negri: *Independent Study in Molecular Genetics*. Advisor: Dr. James Yates.
Lindsey Padgett: *Design and cloning a hammerhead ribozyme to HIV LTR*. Advisor: Dr. William Jackson.
Courtney Rabon: *Parasite community structure of Siren lacertian from Steel Creek Bay, Savannah River Site*. Advisors: Dr. Hugh Hanlin and Dr. Derek Zelmer.

Amanda Robinson: *Isolation and Characterization of Olfactory Receptor Genes*. Advisor: Dr. Michelle Vieyra.

Senior Research Projects

Steven Ballesteros: *Using Eisenia fetida to Evaluate Pesticide Toxicity*. Advisor: Dr. Michele Harmon.
Aqueisha Carter: *Root foraging and plasticity in Cyperus esculentus*. Advisor: Dr. Andy Dyer.
Amanda Gerolstein: *Expression of anti-HIV ribozymes in a tissue culture model*. Advisor: Dr. William Jackson.
Sarah Mayson: *Parasite Communities of L. auritus in the Edisto River*. Advisor: Dr. Derek Zelmer.
Heather Mentrup: *Toxicity of Dalapon in Wetland Sediments*. Advisor: Dr. Michele Harmon.
Rebecca Myers: *Design and cloning a hammerhead ribozyme to HIV nef*. Advisor: Dr. William Jackson.
Lashunda Pixley: *The effect of soil quality on tuber placement in Cyperus esculentus*. Advisor: Dr. Andy Dyer.
Theresa Ramos: *Optimizing the titer of an anti-HIV retroviral vector*. Advisor: Dr. William Jackson.
Marie-Ange Smith: *Life history comparisons between subpopulations in Aiken Co*. Advisor: Dr. Andy Dyer.
Rainee Wilson: *Using Daphnia magna to Evaluate Pesticide Toxicity*. Advisor: Dr. Michele Harmon.

Alumni Focus

"It's like a dream come true!" How many of us can say that about our jobs? But that is just the response given by Dr. Eran Kilpatrick when asked how he likes teaching at USC Salkehatchie. Eran graduated *cum laude* from USCA in May 1999, and was chosen by the faculty as Biology Student of the Year for 1998-99. He began graduate studies in the Department of Forest and Natural Resources at Clemson University in the Spring of 2000 and received his M.S. in August 2002 and his Ph.D. in August 2006. He was hired to begin teaching at USC Salk that same Fall.

Eran attributes his interest in biology to his parents' love for the outdoors. Raised



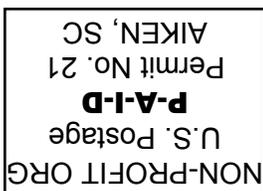
Dr. Eran Kilpatrick sampling in the Great Swamp Sanctuary

in Beech Island, the family spent much time outdoors and his parents encouraged his interest in nature. "They never discouraged me from collecting and bringing anything home (except for venomous snakes!)," says Eran. They also encouraged him to find a career he really liked, so from an

early age he knew he wanted to be a herpetologist or a wildlife ecologist.

At USCA Eran's favorite classes were, not surprisingly, Vertebrate Natural History, Herpetology, Ichthyology, Wetlands Ecology, and Forest Ecology; his favorite professors Dr. Hanlin, Dr. Shealy, and Dr. Ornes. Of favorite experiences, he claims "Dr. Hanlin's field trips!" Eran worked as a technician with Dr. Hanlin on the Penn Branch project at SRS, funded by the U.S. Forest Service. "He was like a sponge," remembers Dr. Hanlin. "His curiosity was so great, he couldn't be satiated. He was interested in everything—I just knew he was going to be a great naturalist." Dr. Hanlin continued to have a hand in Eran's education at Clemson as well, serving

continued on page 4



The University Of South Carolina Aiken
Department of Biology and Geology
471 University Parkway • Aiken, SC 29801
Address Service Requested

