

ROCKY Gator



The Official Newsletter of the Department of Geological Sciences

Summer 2011



SAVE THE DATE: **Matt** (left) and **Teresa Fischer** (right) visit with **Dr. Paul Mueller** during the inaugural Homecoming Alumni Breakfast. **Join us the for second annual breakfast on November 5, 2011!**

From the Department Chair . . .

Greetings, Alumni, Colleagues, and Friends of the Department of Geological Sciences:

Another year has come and gone since our last issue of *Rocky Gator* (RG). I am happy to say the Department continues to weather the fiscal drought and is doing quite well despite the downturn.

Because members of the Department have been so active and successful this year, this RG is our biggest and best yet. The many pictures and stories included here are only a small sampling of the activities, events, research projects, and individual successes that have transpired this year. The number of undergraduate majors in the department has continued to increase, our new degree track in Environmental Geosciences (jointly with Geography) is getting off the ground, and we hope to begin a Marine Science interdisciplinary major (jointly with Biology) next year. We had a banner year for graduating undergraduate majors and graduate students and continue to have success in obtaining funding for our national and international research endeavors.



The retirements of Professors **Neil Opdyke** and **Guerry McClellan** have left big holes in our program, but we were very happy to welcome Assistant Professor **Andrea Dutton** as the newest member of the faculty in January. She and her geologist husband **Lex Lambeck**, who is a Courtesy Assistant In Geology, have made an immediate and positive impact on the department. You can read about Andrea's background and research focus in this issue of the RG. This year we were also overjoyed to begin a search for a senior faculty member to fill the Jon and Beverly Thompson Endowed Chair of Geological Sciences. The search committee is chaired by Dr. **Jon Martin** and five candidates with broad and varied backgrounds were interviewed during the spring and early summer of 2011. We have also added two new Postdoctoral Associates: **Rachel Walters**, who is working with me, and **Antonios Marsellos**, who is working with **David Foster** and **Kyle Min**.

On the local front, our first UF Geosciences Day, organized by our graduate students and the Geoscience Ambassadors, highlighted departmental research and garnered much interest from students and faculty across campus. We had another successful "Can You Dig It?" public education event with more than 1500 people visiting us at the Museum of Natural History to see many interactive displays demonstrating recent and continuing geologic events. The Geogators continue to reach out to the community by presenting geologic exhibitions at local schools, this year educating more than 800 children. Our recently created Geological Sciences Advisory Board, headed by alumni **Erik Warm** and **Elliott Mallard**, added some new members this year (see list inside) and continues to make strides to help the Department better serve the needs of our students and alumni, the private sector, and our profession in general.

Members of our faculty have had another very successful year in garnering honors and new research grants. **Andy Zimmerman** was one of only a few UF researchers to be awarded a grant to study the environmental effects of the Deepwater Horizon Gulf oil spill and **John Jaeger** has been selected to serve as a Chief Scientist on an upcoming leg of the International Ocean Drilling Project. **Liz Sreaton** was promoted to Full Professor, Andy Zimmerman was promoted to Associate Professor with tenure, **George Kamenov** was promoted to Associate In Geology, and **Matt Smith** was promoted to the rank of Senior Lecturer in Geology. **Jon Martin** was selected as a CLAS Term Professor and I was happy to learn of my selection as a UF Foundation Research Professor.

This fall we will host the second annual Geological Sciences Homecoming Alumni Breakfast. Put Saturday, November 5th, on your calendar and plan to join us, fellow

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Dr. Dutton measures sea level changes in the Seychelles.

Carbonate geochemist Dr. Andrea Dutton joins the Geological Sciences faculty

Dr. **Andrea Dutton** is studying sea level during the Last Interglacial, a very warm period before the last Ice Age, when seas levels were higher and temperatures were warmer than they are today. "We're using this a little bit as an analog to Earth's future climate to understand the dynamics of ice sheet stability in a warm world," she explained. "We want to know whether during warm climates, as the temperatures warm, will ice sheets melt suddenly or in a gradual process? That's what I'm trying to understand in the geologic record so we know what to expect in the future."

Dutton joined the faculty of the University of Florida's Department of Geological Sciences in January 2011. The new assistant professor earned her BA at Amherst College and her MSc and PhD at the Department of Geological Sciences at the University of Michigan. Prior to her appointment, Dutton was a research fellow at the Research School of Earth Sciences at The Australian National University in Canberra since 2006.

She is also involved in projects with the Integrated Ocean Drilling Program (IODP). "I currently have a grant to study some fossil corals drilled from the Great Barrier Reef in Australia that were recovered in an IODP expedition last year," Dutton said. "We are studying the behavior of sea level rise and climate change during the last deglaciation, from the last glacial maximum (the last Ice Age) about 20,000 years ago to present.

"Sea level rose about 20 meters--sometimes with rapid steps or jumps--as the climate got warmer. We're trying to understand the timing and magnitude of those changes and how the Great Barrier Reef responded to climate and sea level change in terms of its ecology."

She also has an ongoing interest in studying ancient greenhouse climates and in understanding climate dynamics and feedback within the ocean, the atmosphere, and marine communities.

Dutton chose UF's Geological Sciences department for several reasons. "It's a very vibrant and dynamic department," she said. "Beyond that, there are carbonates everywhere in Florida. It's the doorstep to the Caribbean so I'm already planning research projects there." Other geological sciences faculty members have related research interests which will foster collaboration.

"I'm also looking forward to collaborating with other scientists within the state and developing projects locally and regionally to help us understand what changes Florida will experience with changing climates and higher sea levels along the coastlines," Dutton said.

Department Chair **Michael Perfit** is very excited about Dutton's arrival and the research



Dr. Dutton and her field research team explore granite boulders that provide shelter for fossil corals in the Seychelles.



Dr. Andrea Dutton

The **ROCKYGator** is the official newsletter of the University of Florida Department of Geological Sciences; issues are provided free of charge to interested friends of the department, faculty, students, and alumni. Due to budget constraints, the ROCKYGator is printed in black-and-white, but a color copy is available in pdf format on our website at www.geology.ufl.edu. If you wish to be included in our mailing list, please contact the department Program Assistant, Pam Haines, at pghaines@ufl.edu, or write or phone the department at 241 Williamson Hall, PO Box 112120, Gainesville, FL 32611-2120; phone (352) 392-2231.

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and teaching capabilities she brings to Geological Sciences. "Andrea brings a great deal of expertise and a significant research agenda that will integrate very well with our existing programs and the broad interests our faculty and students have in climate change, carbonate geochemistry, and marine geology," Perfit said. "I expect Andrea's contributions will significantly enhance the reputation of our graduate and research programs."

Annual "Can You Dig It?" outreach event was a hit

Digging for gemstones. Watching a "volcano" erupt. Creating an earthquake or demonstrating the Earth's motion using Oreos. Seeing rocks glow under special lighting . . .

More than 1500 people of all ages enjoyed these activities and many more at the annual "Can You Dig It?" exhibition on Saturday, April 16th, at the Florida Museum of Natural History. This event, presented by the UF Department of Geological Sciences and the Gainesville Gem and Mineral Society, with additional support from Creative Environmental Solutions, Inc. and Water & Air Research Inc., is the department's primary public outreach function. For those who attended, it was a day of discovery and hands-on learning about geology.

One popular activity was the enhanced geological time tunnel. Attendees were invited to crawl through the decorated space while fog and dinosaur sounds were piped in. Several young guests liked the tunnel so much, they took several trips through time. New this year was "The Secrets of Sand," which gave visitors a chance to see how sand collected at varied locations looks different under the microscope. The oceans and groundwater's place in geology were highlighted in stations on Deep Ocean Drilling, Exploring the Deep Ocean, and Work of Water: Groundwater and Water Resources. Rocks, meteorites, and fossils were also featured.

Among the enthusiastic participants were two Cub Scout packs. Visiting each station enabled these youngsters to earn their geology badges. They and everyone else with passports showing stamps from 10 different activities were able to select a rock or fossil to take home as a souvenir.

"Can You Dig It?" would not have been possible without the efforts of dozens of volunteers from the department. Faculty, graduate students, and undergraduate students offered their Saturday to bring the world of geology to life by sharing their knowledge and enjoyment of the field with the public.



Pictured at top: Dr. **Michael Perfit** shows a recently erupted volcanic rock to *Can You Dig It?* participants; below at left: Dr. **Matt Smith** (kneeling) watches an eruptive column while demonstrating volcanic processes; below right: Dr. **Kyo-ungwon "Kyle" Min** explains as a child looks at a meteorite under microscope; and pictured at bottom: Dr. **Raymond Russo** explains a seismic signal created by *Can You Dig It?* participants.

PHOTOS COURTESY OF FLORIDA MUSEUM OF NATURAL HISTORY



Chair's letter *continued from page one . . .*

alums, faculty, and current students for another great event. After breakfast I will unveil our Outcrop of Honor, a wall of unique granite plaques supported by donations to the Department from alumni and friends (see enclosed flyer for details). Our goal is to raise \$25,000 in the next year to help finance educational enrichment. Over time these funds will let us award scholarships to our very best students and continue to support activities like field trips and provide travel funds to national and international conferences for our students. This year the money raised will be devoted to replacing one of the aging vans used to transport students to our annual summer field camp. The unveiling will be followed by alumni-student networking sessions where you will share your wisdom and experience with the next generation of top notch geologists.

I hope you enjoy this issue of *Rocky Gator* and will send us comments and news about what you are doing. As always we appreciate the financial support you provide to keep our program healthy and vibrant. This year I hope to see your name on our Outcrop of Honor when you support our fundraising goals and I look forward to seeing you this fall at Homecoming.



Keeping up with alumni ...



UF alumnus **Jorge R. Caspary**, P.G. (BS Geology '85) contacted the department recently to say, "Very glad that the Department was not eviscerated and shoehorned into a multi-disciplinary approach. Our success is a testament to UF geology alumni."

Caspary holds a Professional Geologist license and is currently at ARCADIS in Tallahassee as a Senior Geologist. He was appointed by former Governor **Charlie Crist** to the Board of Professional Geologists for the 2010-2014 term.

In light of the evolving nature of geology programs across the nation (witness UF's new BA in Environmental Geosciences), one of Caspary's responsibilities as a Board member is to initiate contacts with arts and sciences college deans and geology department chairs in the State of Florida and inform them of the requirements necessary to apply and take the ASBOG test for a Professional Geologist license.

"We plan to emphasize the minimum course work required to qualify for the test and become a licensed PG," Caspary said. "Also, we are beginning to take a serious look at the ASBOG Geologist-In-Training prior to graduation. We will have an update on this issue to every department by year's end."

You can e-mail Caspary at jorge.caspary@arcadis-us.com.

Faculty search is underway to fill chair endowed by Jon and Beverly Thompson

A faculty search began in October 2010 to fill the Jon and Beverly Thompson Chair of Geological Sciences, an endowed associate or full professor position with tenure. The search committee is chaired by Dr. **Jonathan Martin** and five candidates with broad and varied backgrounds were interviewed during the spring and early summer of 2011.

The successful candidate will teach both undergraduate and graduate courses, mentor graduate students, and conduct a dynamic, externally funded research program in an area of globally significant earth science relevant to geological problems in Florida and the surrounding region. This search is paired with a search at the Florida Museum of Natural History for a similar endowed chair specializing in invertebrate paleontology. The two chairs are intended to be complementary positions looking at different aspects of related geological issues.

Funds for both chairs were donated by **Jon and Beverly Thompson**. They have been generous supporters of the department and the museum for years, particularly in funding graduate student fellowships through the Jon and Beverly Thompson Fund and the Ray Skirvin Fund (jointly funded with alumnus **Jim Floyd**).

For more than 41 years, Jon Thompson played an integral role in the development of petroleum exploration practices for ExxonMobil Exploration Company. His leadership and vision are renowned in the petroleum exploration community. A Jacksonville, FL native, Thompson graduated with honors from UF's Department of Geological Sciences with a BS in 1961 and a Master of Science in 1962. Since embarking on his career, he has contributed extensively to the profession of geology as a whole and to petroleum exploration in particular. After joining Exxon Company USA as a geologist in 1962, Thompson was continuously promoted until he became president of ExxonMobil Exploration Company and vice president of ExxonMobil Corporation after the two companies merged in 1999 to form the world's largest private energy company. He retired in 2004 and currently lives with his wife Beverly in Sanibel, Florida.

Thompson has served with distinction in numerous service organizations and foundations, including the American Petroleum Institute, the Geological Society of America, the American Association of Petroleum Geologists, and the Society of Economic Paleontologists and Mineralogists.

A valued UF alumnus, Thompson has devoted time, energy, and resources to the Department of Geological Sciences and the University of Florida. His service was recognized when he was named an Outstanding Alumnus by the UF College of Liberal Arts and Sciences in 2003 and University of Florida Distinguished Alumnus in 2005.

Jon and Beverly Thompson have provided substantial financial support to the department and also to the Florida Museum of Natural History to help complete the Hall of Florida Fossils. He has built on the education he earned at UF to become not only a global leader in his company and the petroleum industry, but also a leader, public servant, and philanthropist in his professional and personal endeavors.

Congratulations

to Dr. Michael and Mrs. Renee Perfit, who were married on St. John, U.S. Virgin Islands, on June 21, 2011.



Geological Sciences department becomes more visible

In the wake of the Department of Geological Sciences' threatened downsizing by the UF administration, increasing awareness of the department within the university, among alumni, friends, potential majors, and with the general public has become a priority. One of the first acts to enhance our image was formation of a faculty Visibility Committee. Drs. **John Jaeger**, **Ellen Martin**, **Joseph Meert**, **Mark Panning**, **Michael Perfit**, and **Andrew Zimmerman** develop and implement ideas to elevate the department's profile. Assisting them is PR consultant **Jean Feingold**. Visibility related activities and inclusion in UF publications from the past year include:

- Dr. **Joseph Meert** and several Geological Sciences undergraduate and graduate students, participated in two recruitment days for transfer students at Santa Fe College. They passed out brochures, offered a quiz to determine if geology was a good fit, and answered students' questions. Since many Santa Fe students transfer to UF, and since alumnus **Greg Mead** is a SFC faculty member, this has proven to be a promising arena for finding new geological sciences majors.

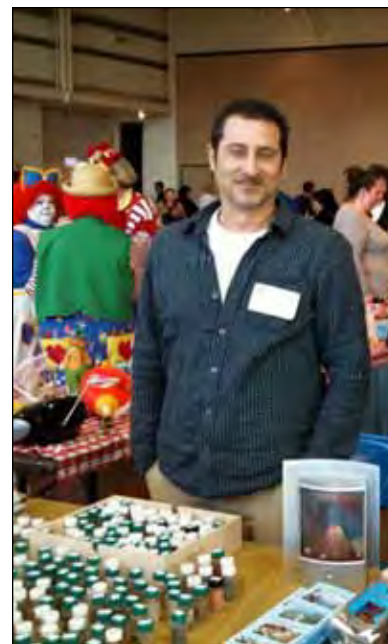
- The UF Admissions Office holds a family weekend for new students and their families each fall. This past fall, the GeoAmbassadors, a volunteer group of Geological Sciences undergraduates, manned a booth promoting the department during the weekend's Family Fair event. Visitors were invited to take a "Name That Rock" quiz and learn more about geological sciences as a major and career. The GeoAmbassadors generated an enthusiastic response, as the students did a great job of communicating their excitement about studying geology.

- Two articles designed for lay audiences were published in UF magazines:

"Reading Rocks," an overview of Dr. **Ellen Martin's** research on what may have happened when Antarctica changed from a forest to an ice covered land, was featured in the Summer 2010 issue of *UF Explore*, the university's research magazine. Read the article online at: http://www.research.ufl.edu/publications/explore/past/summer2010/story_2/index.html.

"Education on the Rocks," an article about the department's annual field camp, appeared in the Winter 2010 issue of *UF Today*. This magazine is sent to members of the UF Alumni Association. The article should be available online soon at: <http://www.ufalumni.ufl.edu/uftoday/>.

- Every year the Florida Museum of Natural History at UF invites collectors of all kinds of things to display their treasures and share them with the public for one day. For the first time, presentations from collectors who are faculty in the Department of Geological Sciences appeared at this year's event on January 22nd. Dr. **Michael Perfit** displayed his volcano related collectibles. Dr. **Andrew Zimmerman** made available his sand collection and provided microscopes and explanation so that visitors could microscopically examine his samples. A banner identifying the department hung from the edge of the table, but it was rarely visible because so many people were eagerly inspecting the collections. An estimated 2,000 people attended this event.



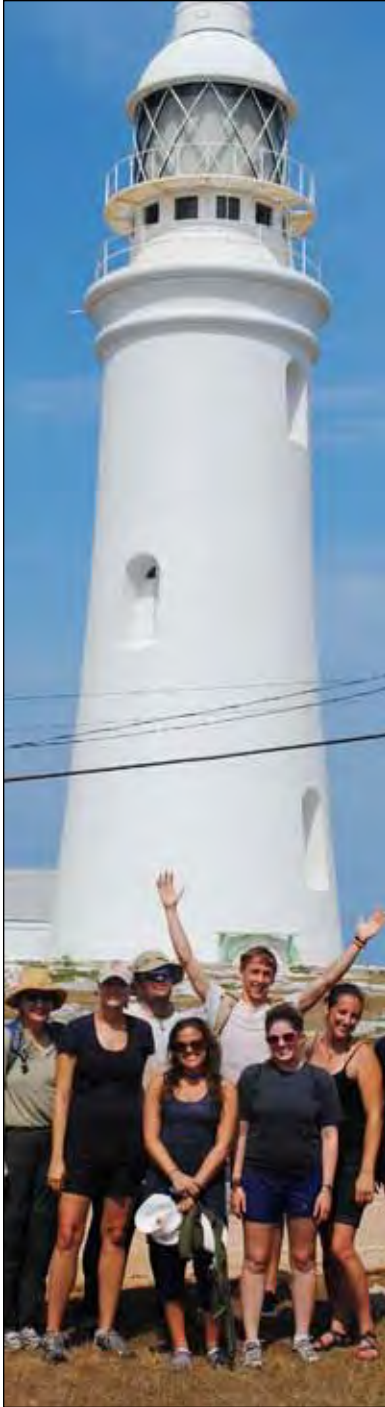
Dr. **Andrew Zimmerman** displayed and explained his collection of sand during the Florida Museum of Natural History's Collectors Day.



Department meets sophisticated music lovers

In collaboration with the Gainesville Chamber Orchestra, the Department of Geological Sciences provided a lobby display at the Phillips Center for the Performing Arts during the orchestra's May 6 performances featuring Grofé's "Grand Canyon Suite." Rocks collected from each strata of the Grand Canyon were exhibited along with posters explaining the canyon's geological history. Handouts were also available giving a brief explanation of the canyon's geology as well as a department bookmark with a North Florida stratigraphic profile.

Dr. **Andrew Zimmerman** organized the display. He was ably assisted by graduate student volunteers **Marie Kurz**, **Jennifer Gifford**, and **John Ezell**, and undergraduate geology major **Markham Phillips**. Audience members crowded around the table before and after the show and during intermission, and applause broke out when Maestro **Evans Haile** thanked the department for presenting the display.



Bahamas 2011 was again a great learning experience

On March 26, seven graduate students, six undergraduates, one researcher, one son in high school, and Drs. **Ellen and Jon Martin** headed off for six days of field work on San Salvador Island, Bahamas. This fourth biennial "Field Topics of the Bahamas" class is a continuation of one **Tony Randazzo** taught for years, so the tradition goes back much farther than 2005.

During the week, students crawled through both wet and dry caves, learned Pleistocene Bahamian stratigraphy, studied modern corals and the beautifully preserved Pleistocene analogues, swam in and collected water samples from blueholes, and discussed early diagenesis of carbonate rocks and sediments.

This year's highlights included:

- Thorough and well-presented student lectures every evening
- Great discussions on the outcrop
- Looping and relooping through the water loop in Lighthouse cave
- A night dive at the Dump
- No flat tires and only a short delay sampling because of a recalcitrant pump
- Getting everyone in and out of Owl's Hole and Triple Shaft caves successfully
- Being ooids at Sandy Point
- Tormenting an octopus in a tide pool until it inked us
- Slithering through the stromatolites in Storrs Pond
- Jumping off of Tom's Thumb (into shark infested waters, if you can count one shark as an infestation)
- Collecting sand dollars at Sand Dollar Bay
- Coring a lake bed in the raging sun
- Launching the RV Inkwell to collect geochemical data in blueholes
- Enjoying the best conditions for diving at Grotto Beach that we've ever seen
- Eating carrot cake from the Cockburntown store
- Seeing baby barracuda and giant sting rays in Pigeon Creek
- Driving around on the back of the Gerace truck
- Having our luggage delivered back to Gainesville (just one day late)

The trip's finale culminated in outstanding presentations of final projects where we learned about controls on beach slope and sediment size, water chemistry of blue holes, CO₂ production in cave soils as it relates to carbonate mineral dissolution, and recent lake sediment stratigraphy.

All participants want to thank **John and Carolyn Dykes** and **Mr. and Mrs. Henry Danker**, as well as other donors to the Department, for financial support that made the trip possible.





- **James H. Anderson**
Hydrocarbon Systems Resource Manager
Exxon Mobil, Houston
- **Allan Biddlecomb, P.G.**
Senior Project Manager/Senior Hydrogeologist
BCI Engineers & Scientists, Inc., Lakeland
- **Gary Blitch**
BCI Engineers & Scientists, Inc., Lakeland
- **Jacqueline Dixon**
Dean, College of Marine Science
University of South Florida, St. Petersburg
- **Charles Drake, P.G.**
Vice President, Tetra Tech, Orlando
President, Florida Association of
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- **David Foster**
Associate Chair and Professor
UF Department of Geological Sciences
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- **Elliot Mallard, P.G.**
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- **Paul Mueller**
Professor and Past Chair
UF Department of Geological Sciences
- **Neil Opdyke**
Distinguished Professor Emeritus
and Former Chair
UF Department of Geological Sciences
- **Michael Perfit**
Chair and Professor
UF Department of Geological Sciences
- **David Podmeyer**
Minerals Business Manager/Plant Manager
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UF Distinguished Alumnus, Sanibel
President (ret.), ExxonMobil Exploration
Co., and Vice President (ret.), ExxonMobil
Corporation
UF CLAS Advisory Board
UF Presidents Council
- **John Erik Warm**
Manager of Mining &
Aggregate Resources—Florida Region
CEMEX USA, West Palm Beach

Alumni and friends share their knowledge

The Department of Geological Sciences Advisory Board is a recently formed group of alumni and friends in industry and academia who support the department. Most UF departments have advisory boards, and one existed for Geological Sciences in the 1980s and '90s. Since re-forming about 18 months ago, the board has met three times. Biannual meetings are planned for the future.

The Advisory Board's supportive members were influential in convincing UF administrators to preserve the department during the most recent budget crisis. Co-chaired by **John Erik Warm** and **Elliot Mallard**, the board's current focus is to identify ways to make the department stronger, help students find employment opportunities, and assist in fundraising. The department requested the help of these leaders in their fields because they provide a valuable link to the world outside academia that is important to the program and to geoscience students.

Current members of the Advisory Board are listed in the box at left.

Geological Sciences grads came home for Alumni Breakfast in October

It was a real Homecoming for some graduates of the University of Florida's Department of Geological Sciences on October 16, 2010, when the department hosted its inaugural Alumni Homecoming Breakfast. Held in Williamson Hall, which houses the department's classrooms, offices, and labs, 53 alumni, faculty, and friends gathered to see the facilities (many for the first time), talk about geology, and learn what's happening in the program now. Alumni from Georgia and all over Florida attended.

Tours of the building, which has been the department's home since 2000, were given by Professor and Chair **Michael Perfit**. Participants received frisbees with the department's Rocky Gator logo as souvenirs of the event. An exhibit of rock sculpture by local artist **Greg Johnson** was on display. Many of the alumni renewed old acquaintances and reminded each other of the great times they had while studying in the department and at field camp.

The breakfast was held as part of the Department of Geological Sciences' efforts to become better connected with alumni, who are strong supporters and were instrumental in preventing the program from succumbing to budget cuts in 2009. "We were pleased with the turnout for a first-time event," Perfit said. "But what is most exciting was the enthusiasm our alumni have for their alma mater. People were happy to be there and to talk about their academic experiences and their geology careers."

Make plans to attend this year's Alumni Homecoming Breakfast on Saturday, November 5, 2011. Information will be sent in September.



2010-2011 Department of Geological Sciences' graduate fellowship awardees (from left to right) **Elliott Arnold**, **Sadie Belica**, and **Katrina Garman** at this year's Endowment Luncheon with their fellowship sponsors **Jon and Beverly Thompson**. Sadie and Katie are Jon L. and Beverly A. Thompson Fellows and Elliott was awarded the **Raymond T. Skirvin Graduate Fellowship** this year.

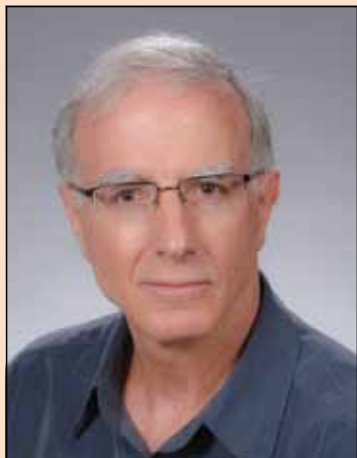
Hundreds stop by to learn during UF Geosciences Day

Several hundred students, faculty, and even the Dean of the College of Liberal Arts and Sciences stopped by to check out the excitement and learn something about geology during the first UF Geosciences Day on March 23. Organized by Department of Geological Sciences PhD candidate **Marie Kurz**, with the help of numerous faculty and student volunteers, most activities were conducted along the sidewalk outside the west end of Williamson Hall. The goal of the event was to provide information about geology to the campus community similar to that presented to the general public during the annual Can You Dig It? event. It also served to help recruit potential geological sciences majors and students for geology elective classes.

Several of the most popular Can You Dig It? activities were presented, including simulated volcanic eruptions, a time tunnel, an aquifer demonstration, and a core collected during a deep sea research expedition. Visitors were also informed of the many opportunities for lucrative geoscience careers available to department graduates. About 100 students currently enrolled in elective geological sciences courses took advantage of the opportunity to earn extra credit by participating in this event.



Chair recognized By UF Research Foundation



Professor and Chair **Michael Perfit** has been named a University of Florida Research Foundation Professor for 2011-2014. Only 33 faculty members across the entire university were chosen for this honor. He was recommended for the professorship by College of Liberal Arts and Sciences Dean **Paul D'Anieri**.

The award recognizes faculty members with a distinguished current record of research and a strong research agenda likely to lead to continuing distinction in their fields. Recent research accomplishments were evidenced by publications in scholarly journals, external funding, honors and awards, development of intellectual property, and other measures appropriate to their field of expertise. Congratulations, Mike!

Congratulations to outstanding undergraduates

Graduating senior **Allison Ned** has been elected to Phi Beta Kappa, the oldest college honors society in the U.S. Open only to students majoring in liberal arts and sciences, election requires a minimum GPA of 3.80 (3.90 for new seniors) and completion of at least 36 hours of course credit in CLAS subjects outside the area of each student's major discipline. For geological sciences majors, this means taking courses outside the physical sciences. A maximum of 10 percent of all graduating seniors in CLAS may be elected to Phi Beta Kappa annually.

Allison is also in the UF Honors Program and received a Wentworth Travel Scholarship to attend the Geological Society of America meeting last October to present her research. She will continue her education by pursuing a master's in geology studying basin analysis under the direction of Dr. **Ron Steel** at the University of Texas in Austin. Congratulations, Allison!

Graduating senior **Cody John Davis** has been awarded a \$10,000 graduate student fellowship by the Society of Economic Geologists Foundation, Inc. This fellowship was sponsored by Newmont Mining Corporation through Dr. **Antonio Arribas**, Manager, Generative Exploration. The Colorado-based society's purpose is to advance the science of geology through scientific investigation of mineral deposits and mineral resources and to apply what is learned to exploration, mineral resource appraisal, mining, and mineral extraction.

The fellowship is intended for students who have been accepted or are currently enrolled as full-time first-year graduate students studying economic geology as it relates to mineral and ore deposits, geochemistry, or geophysics with applications to minerals exploration. Cody will be pursuing his graduate degree at the University of Arizona beginning in June.

He was also awarded a full scholarship by the SEG to attend its annual week-long student field school in May. This year the field school will visit several mines in Chile to look at Iron-Oxide Copper Gold (IOCG) deposits throughout the northern district. Congratulations, Cody!

Graduating senior **Jennifer Staffenberg** is one of only 18 students nationwide selected to receive a prestigious NAGT Field Study Scholarship from the National Association of Geoscience Teachers. The \$500 award will help support her participation in this summer's six week department field camp course.

NAGT fosters improvement in the teaching of earth sciences at all levels while emphasizing the cultural significance and dissemination of knowledge about earth sciences to the general public. These scholarships are intended to support students' participation in intensive geoscience field courses focusing on field observation skills, data collection, analysis, and synthesis. Selection is based on how important the field experience is in meeting educational and career goals, the quality of the course's field aspects, and the importance of the financial award to the student's field camp participation. Congratulations, Jen!

Alumnus **Ricardo Arevalo, Jr.**, who graduated *summa cum laude* while earning his BS from the Department of Geological Sciences in 2005 has just won a University of Maryland Distinguished Dissertation Award for his doctoral thesis entitled "Quantitative modeling of mantle heterogeneity and structure." This is the first year this award was given and Rick was one of only four award recipients from the 620 theses submitted. His award was in the Mathematics, Physical Sciences, and Engineering disciplinary area. The Distinguished Dissertation Award recognizes original work that makes an unusually significant contribution to the discipline. Judging was based on both methodological and substantive quality. Congratulations, Rick!

Put your name -- or memorial -- on the wall

Commemorate your link to UF Geological Sciences, or memorialize someone or some time that was special to you! Here's a tangible way for alumni and friends of the department to treasure those memories—the Outcrop of Honor recognition wall.

By putting your personal message on a brass nameplate affixed to a beautiful 12"x12" natural polished rock slab, your connection to the department will be recognized permanently inside Williamson Hall. Order your piece of the Outcrop of Honor recognition wall today: see the Outcrop of Honor brochure or go to www.geology.ufl.edu.



Gulf of mystery . . . marsh mess

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The Gulf of Mexico's waters are among the richest fishing grounds on Earth. Its wetlands protect the coasts from storms and serve as a nursery for hundreds of species of animals. Its beaches draw millions of tourists annually.

Yet, for all we take from the Gulf of Mexico, we know surprisingly little about its ecosystem. So, when environmental disasters like last year's Deepwater Horizon oil spill occur, it's almost impossible for scientists to accurately assess their impact.

"Many natural and human disturbances, in addition to oil spills, potentially impact the Gulf, including rising sea levels, more frequent and more powerful hurricanes, oxygen depletion, invasive species and overfishing," says Tom Frazer, associate director of UF's School of Forest Resources and Conservation. "But without a long-term commitment to coordinated ecological research, it is extremely difficult to attribute cause to any particular disturbance. This is a key lesson from the Deepwater Horizon."

Scientists like Frazer and dozens of other University of Florida researchers, many members of UF's multidisciplinary Water Institute, are hoping that businesses and policy makers embrace that lesson and use funding from BP and other sources to better document the Gulf's ecosystem.

Andrew Zimmerman has been studying organic matter adsorption and charred carbon for much of his career, so as images of oil-slick marshes in Louisiana blanketed the media last year, he immediately thought of ways his research could contribute.

"We had all kinds of people talking about all sorts of unnatural sorbents," says Zimmerman, an assistant professor of geological sciences. "We immediately began to think of a way to use natural sorbents."

With a \$200,000 grant through the Florida Institute of Oceanography from the BP spill fund, Zimmerman and biology Assistant Professor Brian Silliman have spent the last year documenting oil contamination and associated ecological damage to the marshlands around Louisiana's Barataria Bay.

They are also studying whether biochar, a form of charcoal, and calcium peroxide, an oxidant, could be used in future spills to lessen the damage from oil and other pollutants.

Zimmerman, Silliman and their team have made four trips to Barataria Bay since October. In addition to complete death of marsh grasses in areas of the coast that had seen heavy oil coverage, additional damage was done by washing of the marshes with detergent dispensed through high-pressure hoses.

"There was a lot of damage done by washing," he says. "The erosion was dramatic."

All sign of invertebrate life was absent from areas that had received heavy oil impact, but these areas were not as extensive as first feared, extending only about 40 feet in from the shoreline on portions of island facing the incoming tide waters.

But Zimmerman says he was encouraged by the small signs of recovery evident during a trip in April. "On our last trip, the plants were starting to come back along the edges of the untouched areas, into the heavily oiled areas."

Zimmerman's earlier research focused on how biochar could be used as a type of fertilizer, improving the soil and sequestering carbon simultaneously. So when the oil spill occurred, it was a short leap to using it as a remediation material.

The researchers are also studying the feasibility of using calcium peroxide to increase oxygen levels in the soil.

"Everyone is talking about using microbes and nutrients to break up the oil," Zimmerman says, "but all of these chemical reactions require oxygen, so we're looking at ways to increase the oxygen content in the soil."

The team has set up monitoring plots at four sites in Louisiana, two impacted by oil, the other two not impacted. Each includes a control site with no treatment, a biochar site, a calcium peroxide site and a site with both.

Because there are so many variables in this particular natural environment, Zimmerman says, the researchers will also be studying the impact of biochar on oil-saturated soil in the laboratory.

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— Andrew Zimmerman



Gabriel Kasozi prepares enclosed treatment plots in oiled marshes of Barataria Bay, La.



Students Jessica Diller and Kamala Earl prepare enclosed treatment plots in oiled marshes of Barataria Bay, La.



Dr. Joseph Meert

Geological Sciences professor advises filmmakers

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Joe Meert may not be a movie star but what this geologist knows about the history of the Earth was essential in making a new film on that topic. The University of Florida Department of Geological Sciences associate professor was a scientific consultant on *Earth: Making of a Planet*. After premiering recently on TV in the United Kingdom, the CGI animated film aired for the first time in the U.S. on Sunday, March 6, on both the National Geographic Channel and Discovery Channel Canada.

Produced by two award-winning companies, Pioneer Productions of London and Handel Productions of Montreal, the two-hour special shows how life developed on Earth from microscopic organisms to the complexities of the humans, plants and animals living today. Although the film uses some scientific language, it is intended for non-technical audiences.

Meert became involved when Pioneer's head researcher **Lindsey Truman** contacted him to get scientific details on the triggering of the "snowball Earth" phenomenon after reading a paper on this topic by his research group published in the journal *Nature* in 2004.

"That led to a long conversation and they began to contact me about other parts of the show, particularly the first 45 minutes of programming on the early Earth and then later about the breakup of Pangea and the formation of Middle Eastern oil fields," he explained.

He assisted Truman and Assistant Producer **Zoe Elliot** last summer and fall via phone and e-mail. Once the sections of the film using his information were completed, he previewed clips for technical accuracy.

"I have often thought it would be great to actually go back and see the events unfold in Earth history and the CGI animations in the film come close to fulfilling that dream," Meert said.

The film is available on YouTube under the title *The Story of Earth – National Geographic*. The film should also be available on DVD soon.

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