

EEES NEWS

Student News

Spring, 2012



Adam Mangel (PhD, EE&S) was awarded a travel grant from Geometrics Inc. to attend the 2012 Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP) in Tucson, Arizona. At the conference, Adam will be presenting part of his research which involves imaging land mines in the shallow subsurface during multiple hydrologic conditions in order to increase unexploded land mine identification capabilities.

2012 EEES Student Awards



L-R: **Steven Chow**, Clark Lindsay McCaslan Award, Biosystems Engineering;
Lauren Harroff, Howard H. McKinney Award, Biosystems Engineering;
Alex Baldwin, Jean G. Stillwell Award, Geology
Tanju Karanfil, Department Chair;
Jaclyn Ellerie, L. G. Rich Water Environment Federation Award;
Kelly Grogan, Environmental Scholars Award;
Xiaoling Liu, Environmental Scholars Award;
Meric Selbes, A. Ray Abernathy Water Environment Federation Award
Muriel Steele, Environmental Scholars Award.

Special thanks to **Yogendra Kanitkar, (PhD, EE&S)** for taking the photos for us during the awards ceremony! He did a really great job!

Congratulations students!

Salmatta Ibrahim (MS, EE&S) attended the Fulbright Global Food Security Seminar at Pennsylvania State University February 29-March 4th. The Fulbright Global Food Security Seminar is a part of the ECA's flagship Fulbright Program which is centered on the United States effort to reach out to people around the world who are suffering by providing them with immediate assistance by extending support for food security and eradicating poverty. It includes Fulbright students studying in the US in the fields of agricultural and environmental sciences, biology and biomedical sciences, economics, engineering, and public health.



Muriel Steele, (PhD, EE&S) was selected as one of the recipients of the National Science Foundation 3-year graduate research fellowships (NSF GRF) to students in science, engineering, mathematics, technology, and some social sciences. These are very prestigious awards with a generous support package (\$45k/year).

Hilary Emerson (PhD, EE&S) was awarded the Roscoe Hall Memorial Scholarship by the Savannah River Chapter of the Health Physics Society. Hilary was recognized for her academic and research accomplishments. In the picture she is being presented with her award by Dennis Hadlock, a representative of the chapter.



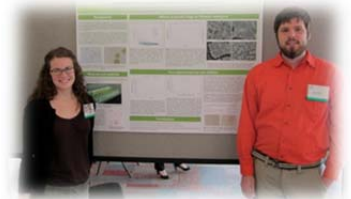
Dr. Qiliang Wang (Post-Doctoral Fellow) and **Onur Apul (PhD, EE&S)** attended the Symposium/Workshop: "Carbon for Energy Applications" in Atlanta GA, in March 29-30, 2012. **Onur's** poster presentation was titled: A Predictive Model Development for Adsorption of Organic Contaminants by Carbon Nanotubes and **Qiliang** presented: Statistical analysis in 3D QSPR model development for organic compounds adsorption onto CNTs. Both **Onur** and **Qiliang** received Post-Doc/Student travel awards (\$250 each) from Elsevier.

EEES Well Represented at the 2012 South Carolina Environmental Conference in Myrtle Beach



Myrtle Beach was flooded with Clemson researchers for the South Carolina Environmental Conference held March 11-13, 2012. The entourage included graduate students **Dan Carey, Daniel Lewis, David Christopher, Erin Partlan, Habibullah Uzun, Jaclyn Ellerie, Jianing Dai, Meric Selbes, Miao Yu, Muriel Steele, Onur Apul, Peng Xie, Pooja Mahajan, Xiaojie "Jane" Gan, and Ying Sun**; postdocs **Daekyun Kim, Nuray Ates and Ozge Yilmaz**; and faculty members **Dr. David Ladner** and **Dr. Tanju Karanfil**.

Clemson AWWA Student Chapter executive committee members and Clemson undergraduate students, **Jackie Lauer, Jessica Bush, Kathryn Fauerby, and Kevin McIntyre**, also attended. Their trip was funded by the South Carolina Section of AWWA.



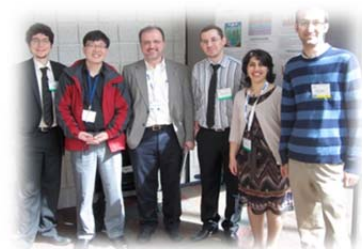
Jaclyn Ellerie gave a platform presentation entitled "Adsorptive activated carbon coatings for ultrafiltration membranes" and **Daniel Lewis** gave his platform presentation entitled "OI' Black Water – Source water characterization and manganese microfiltration treatment."



Many other students participated in a poster session where **Habibullah Uzun** placed first and earned a trip to represent the AWWA SC Section at the Fresh Ideas Poster Competition during the AWWA National Meeting in Dallas, Texas, this summer. **Jane Gan** received the second place poster award (\$100), and **Muriel Steele** and **Dan Carey** placed third (\$50). Congratulations to these students.



Meric Selbes and **Jaclyn Ellerie** were presented with the A. Ray Abernathy and L. G. Rich Awards Water Environment Federation Awards, respectively, during the Federation luncheon.



Overall the conference involved a great deal of networking, learning, and fun, and no professors were harmed during photo shoots. We look forward to building on the tradition again next year for those interested in water and wastewater processes in environmental engineering.





On February 22, 2012, the **Clemson Student Chapter of the American Water Works Association (AWWA)** held a first-of-its-kind "Career Panel" event. The panel was designed to connect students directly to representatives from the water industry to gain insider tips about internship and full-time career opportunities and open doors for future networking. The Career Panel event was organized by the executive committee of the student chapter, **Jackie Lauer** (president), **Kathryn Fauerby** (president-elect), **Jessica Bush** (secretary), and **Kevin McIntyre**

(treasurer). The chapter's Industry Liaison, Morgan Young (Black & Veatch), arranged for industry attendees and was instrumental in shaping the event. The chapter faculty advisor, **Dr. David Ladner**, helped with overall coordination.

The evening began with a panel that answered questions and gave insight into finding and holding a position in the water and wastewater industry. Panelists represented a range of career types; they were Murray Dodd (Greenville Water System), Greg Wright (Renewable Water Resources), Gary Visser (Hach Company), Angie Mettlen (WK Dickson), and Greg Gress (Sullivan's Island Water and Sewer).

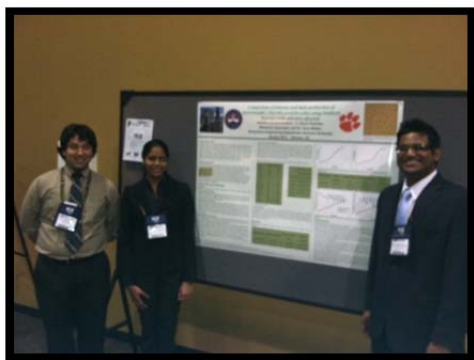
After the panel session the group moved to another room where one-on-one interactions took place while participants enjoyed refreshments. Other industry representatives in attendance included Jennifer Barrington (Anderson Regional Joint Water System), Chris Erickson (CH2M HILL), Bob Freeman (Alliance Consulting Engineers), Jared Hartwig (Hazen and Sawyer), Kevin Laird (Goodwyn Mills & Cawood), Gene McCall (McCall Environmental), Robert Osborne (Black & Veatch), and Brian Tripp (WK Dickson).

Feedback from participants was overwhelmingly positive. Many students and industry reps stayed well past the originally planned end time, as they enjoyed discussing and learning from one another. It is anticipated that this will become a signature yearly event for the AWWA Student Chapter.

Corey Buchanan, senior undergraduate geology major, won third prize in the Creative Inquiry Photo Contest at the recent "Focus on Creative Inquiry" Poster Symposium held at the Hendrix Center on campus. **Corey** submitted a photomicrograph of a single-celled fossil called a foraminifer (similar to an amoeba with a shell). The award was announced at the afternoon Plenary Session at the Poster Symposium. Corey won a cash prize and his Creative Inquiry Group, The Carolina Paleontology Project, received a digital camera. The project involves research and educational outreach about South Carolina paleontology through the Bob Campbell Geology Museum. Project mentors are **Dr. John Wagner** and **Dr. Tom Temples** (adjunct faculty) of the Department of Environmental Engineering and Earth Sciences.

Shanna Estes has received the Health Physics Society Fellowship for graduate studies in health physics. The award includes \$5,000 to support **Shanna's** graduate work as well as a travel grant to attend the 2013 HPS Annual Meeting in Madison, Wisconsin.

David Thornton, (Research Associate in Biosystems Engineering) along with several students, has been very busy with different projects:



David Thornton, Karthik Gopalakrishnan, and Shwetha Sivakaminathan presented research on production of algae from biofuels waste glycerol to produce more energy for biodiesel and synthesis gas production. They recently received a grant to install and test a gasifier in McAdams Hall to utilize algae from waste products for syn gas production.



Science of Beer was a wildly popular Creative Inquiry Class. It will be continuing for one more semester, then will continue as a student led official club. Students use engineering and bioprocessing principles to design, build, operate, and analyze beer using whole fresh ingredients and advanced analytical equipment. In addition, students have planted hops at the Organic Farm and Botanical Gardens, and are planning for Organic production of barley this winter.

Dan Carey (MS, EE&S) and **Jovan Popovic (MS, EE&S)** used waste products from ethanol production for cultivation of algae for biofuels production.



David Thornton, BE Research Associate, BE undergrad **Anna Kowalsky**, and Gary Gaulin from Housing, organized this year's CU Environmental Teach-In February 23rd. With attendance by more than 200 students, this was the biggest Teach-In yet. The event featured speakers on Low Impact Building, Clemson's Energy Future, and Sustainability in the Classroom, as well as displays from student groups, local farms and sustainably minded businesses.



The BE Creative Inquiry on Utilization of Co-Products for production of Biofuels and Value Added Co-Products has officially commissioned a BSF Digester to convert cafeteria food waste in biodiesel, high value animal feed, and organic compost at the Student Organic Farm.

Ben Grogan (son of **Kelly Grogan**) was born March 27, 2012. He weighed 7 lbs., 15 oz. and is 19 inches long. Ben was welcomed home by his sister, Riley Ashley. Looks like everyone is well and happy!



FOCUS ON: CLUBS, SOCIETIES, AND ORGANIZATIONS**CUHPS**

The Clemson University chapter of the Health Physics Society consists of graduate students from our EE&ES department who are interested in nuclear fields (i.e. radiochemistry, health physics, and nuclear forensics). The group hosts a weekly forum where students can present their research and ideas for feedback and discussion. Members of CUHPS regularly attend seminars and meetings for local and professional chapters, as well as tour nuclear facilities like those in Oak Ridge, Tennessee, and the Savannah River Site. In addition, the group has adopted a road located near the Clemson University main campus on SR-S-39-149, regularly participates in the Duke Energy Boy Scout Merit Badge "College" with the Nuclear Science Merit Badge, and has presented at local area high schools on nuclear sciences. This summer, several CUHPS members will help lead a workshop for K-12 educators on nuclear energy and the environment.



Pictured front row L-R: Sarah Herr, Jennifer Wong, Matt Millard, Amy Hixon, Hilary Emerson. Second row: Yu Xie (Helen), Dr. Lindsay Shuller-Nickles, Nate Conroy, April Gillens, Joseph Jablonski. Third row: Dr. Brian Powell, Long Hoang, Ryan Trogstad, Shanna Estes and Dr. Tim DeVol

Clemson AWWA Student Chapter

The Clemson Student Chapter of the American Water Works Association (AWWA) was founded in April 2011 and has now completed its inaugural academic year. AWWA (www.awwa.org) is a professional organization focused on the drinking water industry, with close ties to the wastewater industry and other environmental engineering fields. The student chapter holds networking meetings, on-campus activities, and field trips to stay engaged with one another and the community. During the 2011-2012 academic year, activities included monthly meetings with industry representatives giving seminars about their work and two signature events. The first was a "Career Panel" where five panelists answered questions about various types of careers in the industry. Nine additional industry representatives joined in a networking and socializing period after the panel discussion. The second event was a trip to the South Carolina Environmental Conference (SCEC) in Myrtle Beach where students gained a more in-depth understanding of the field of water and wastewater and met many of the key industry leaders in South Carolina.

The South Carolina section of AWWA has been a significant supporter of the Student Chapter, providing the lodging expenses for the executive committee members at the SCEC conference and an additional \$2000 budget which has enabled our first-year activities. The activities have already borne fruit as several students have received internship offers and career leads through meeting and networking with industry representatives. Future projects are planned to extend the Chapter's work into community service and developing nation activities.

Officers for the 2011-12 academic year are **Jackie Lauer** (president), **Kathryn Fauerby** (president-elect), **Jessica Bush** (secretary), **Zachary Priester** (treasurer 1st semester) and **Kevin McIntyre** (treasurer 2nd semester). The Chapter's Industry Liaison is Morgan Young (Black & Veatch), who has been instrumental in establishing the Chapter and helping to carry out its first-year events. **Dr. David Ladner** is the faculty advisor and the person to contact for further information (ladner@clemson.edu).



(Left) Executive committee members **Jackie Lauer**, **Kathryn Fauerby**, **Zachary Priester**, and **Jessica Bush** hold their tie-dyed Clemson AWWA Student Chapter T-shirts with faculty advisor **Dr. David Ladner**. (Right) Over 30 students attended the Career Panel event with 14 industrial representatives.



The Geology Club

This year, the Clemson University Geology Club has incorporated a mix of exciting guest speakers, informational lectures, and field trips into its schedule. In order to gain interest from Clemson's different colleges, representatives from the club presented ideas to potential members at Clemson's Club Fair at the beginning of the fall semester. Dr. James Castle explained his intriguing hypothesis of mass extinctions, including that of the dinosaurs, possibly being related to microscopic blue-green algae. Past and present faculty members spoke on potential field trip intensive courses, as well as methods to prepare for life after college. One of the highlights from the fall semester was a field trip to Due West, South Carolina. Club members, as shown in the picture, had the opportunity to mine for gems, such as aquamarine and emerald, without having to travel out of the Upstate. Dr. Melissa Ranhofer of Furman University recently detailed the potential for phytoplankton to be farmed as the next biofuel of the future. Plans are in the

making for a rafting excursion down the Chattooga River to examine the metamorphic rocks exposed along the river's channel.

Biosystems Engineering Club



Thomas Creek brewery tour

Friends, food, fermentations, and fun – these are just a few of the words that come to mind when talking about the Biosystems Engineering Club. The BE Club aims to increase student involvement within the exciting field of Biosystems Engineering, provide professional and educational development activities outside the classroom, and most importantly bring like-minded students together. An official student branch of ASABE (American Society of Agricultural and

Biological Engineers), the BE Club utilizes local, regional, and national resources to bring networking opportunities to its members.

The club has numerous activities throughout the year. Some of these include fellowship dinners, outdoor hikes, local brewery tours, adopted highway cleanups, and the annual end-of-year cookout. Last month, several members visited Virginia Tech for the annual ASABE Southeast regional rally. In addition to making professional connections and learning great new ways to lead, participants met many new BE friends from across the southeast.

This year, the club was led by seniors **Steven Chow** (President), **Lauren Harroff** (Vice-President), **Kaitlyn Murray** (Treasurer), and **Amy Smith** (Secretary). **Dr. Caye Drapcho** is the club's advisor. Club meetings generally occur monthly. Each meeting comes supplied with dinner and a speaker from either academia or industry.



BE students at the 2012 ASABE rally formal

David C. Snipes Hydrogeology Symposium

The 20th Annual Clemson/David S. Snipes Hydrogeology Symposium was held on April 12th at the Madren Center along with field trips on April 11 and April 13. This year's event attracted over 350 attendees – an all-time record! The keynote speech was given by Dr. S. Majid Hassanizade of Utrecht University in the Netherlands who talked about the "Transport of Viruses in Partially Saturated Soil and Groundwater". Dr. Hassanizade is the 2012 Darcy Lecturer.

Most attendees hailed from South Carolina; others were others from North Carolina, Georgia, Tennessee, Virginia, and Florida. There were fifty oral and poster presentations given over three consecutive oral presentation sessions. The theme sessions covered these topics: Hydromechanics, Constructed Wetland Treatment Systems, Emerging Contaminants, Groundwater Characterization, Chemical Remediation, Geophysics, Biodegradation, Remediation techniques, and the Clemson Creative Inquiry (CI)



undergraduate senior projects. **Ron Falta** gave a talk on "REMFuel: Remediation Evaluation Model for Hydrocarbon Fuel Sites" and **Larry Murdoch** discussed "Environmental Implications of Fracking in North Carolina". **Stephen Moysey** moderated the geophysics session. Graduate students giving oral presentations were **Glenn Skawski, Clay Freeman, Johnathon Ebenhack, Dave Hisz, Catherine Ruprecht, David Hahn, Michael Pardue, Alex Beebe, Peter van Heest, Rich Hall, Adam Mangel, Erasmus Oware,** and **Sudershan Gangrade**. Recent graduate **Dan Matz** returned to give a talk about his research in India called "Impact of the Indian Monsoon on Near Surface Electrical Conductivity". Geology undergraduates who presented the results of their senior CI research project included **William Webber, Josh Smith, Ben Douglass, Mathew Creel, Alex Grayson, Colin Phillips, Alexis Jarvis,** and **Corey Buchanan**. A complete list of presenters and the titles of their talks can be found at:

<http://www.ces.clemson.edu/hydro/symposium/speaksched.htm>

In addition to the posters, 30 exhibitors from around the US displayed their products and services. After the symposium, a mixer was held at the Geology Museum.

The field trips were led by **Scott Brame**, Jack Garihan of Furman University, and **Tom Goforth** (BS, 1968). The field trips examined the relationships between soil, plants and geology in the Jocassee gorges area of South Carolina. Over 100 individuals took advantage of this unique field trip experience.

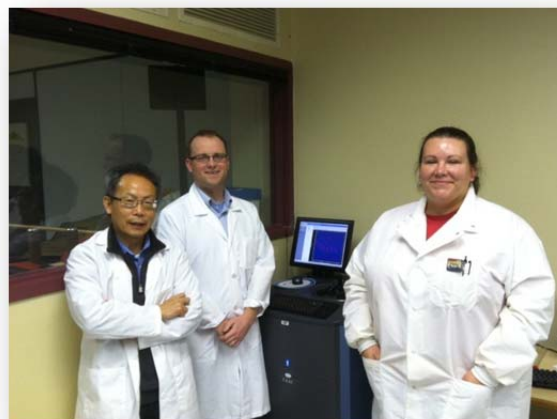


Tom Goforth and Jack Garihan explaining the connection between geology and plant communities



Tom examining a Cinnamon Fern

A new TA Instruments Isothermal Titration Calorimeter was recently installed in **Dr. Brian Powell's** laboratory. The instrument will be used to measure the heats of ion adsorption to mineral surfaces. This is a direct measure of sorption enthalpy and can be used in the evaluation of sorption mechanisms leading to the removal of contaminants from waters. Pictured here are Dr. Linfeng Rao of Lawrence Berkeley National Laboratory, Dr. Leigh Martin of Idaho National Laboratory, and PhD student **Shanna Estes**. Dr. Rao and Dr. Martin came to visit and see the new instrument soon after installation. This is the first instrument of this type at Clemson University. The instrument



was purchased with funds from the Department of Energy, Nuclear Energy University Program.

New Staff Senator representing the College of Engineering and Science chosen from EEES



The Clemson University Staff Senate office recently requested nominations from the College of Engineering and Science for senators. Our own Anne Cummings was elected and is now serving in one of three seats representing the College of Engineering and Science.

The Staff Senate deals head on with issues affecting Clemson's classified staff, and strives to keep staff up to date on changes and accomplishments being made.

Congratulations, Anne!

SPRING PICNIC

On Saturday, April 28th, EEES had its annual graduate student spring picnic at Nettles Park in Clemson. Needless to say, a great time was had by all!

There was soccer...



There was music...

And of course, there was food...





Tim DeVol Named Toshiba Chair

Dr. Timothy A. DeVol has been named the Toshiba Endowed Professor of Nuclear Engineering, a cornerstone position in a department that is charged with preparing the next generation of nuclear environmental engineers and scientists. The new Toshiba Endowed Professorship was funded as part of a \$1.5 million endowment to Clemson University in honor of Toshiba Corp. President and CEO Norio Sasaki. The professorship will be used to maintain and properly equip the departmental world class laboratories with nuclear instrumentation and to enhance the educational experience of all the Nuclear Environmental Engineering and Science (NEES) students in the department.

In 1980, **Dr. Robert A. Fjeld** was hired into the position and initiated the NEES focus area in the department. Hiring of **Dr. Fjeld** was preceded by Clemson University being encouraged by State officials to consider expanding its offerings in environmental engineering and science to include a nuclear component. This request was motivated by the relatively large number of nuclear facilities either in operation or proposed for South Carolina.

Today South Carolina is central to a burgeoning nuclear industry. In March of this year, South Carolina Gas and Electric received a construction and operating license (COL) for two new nuclear power reactors near Columbia, SC. In February 2012, Southern Nuclear also received a COL for two new nuclear reactors just across the border in Georgia. These four reactors are part of the resurgence in nuclear power in the nation. Currently 50% of the electrical power utilization in the state is from seven nuclear power plants within the state and an additional six near SC borders. This nuclear power generation electrical energy is well above the national average of 20%, and this will increase when these new reactors come on-line. In addition to these nuclear power plants, South Carolina is home for the Savannah River Site (a major Department of Energy facility), a commercial low-level radioactive waste disposal facility, and a commercial nuclear fuel fabrication facility.

The NEES focus area has two academic programs, Environmental Health Physics and Environmental Radiochemistry where **Dr. DeVol** along with **Drs. Powell and Shuller-Nickles** form the critical mass of faculty with nuclear expertise. The Environmental Health Physics program is accredited by the Applied Science Accreditation Commission of Accreditation Board for Engineering and Technology, Inc (ABET) The average number of M.S. and Ph.D. students pursuing the NEES concentration has been ~14 per year over the past 5 years. There are currently 21 M.S. and Ph.D. students within the NEES concentration. The NEES research and educational activities are centered around the South Carolina Commission on Higher Education approved Center for Nuclear Environmental Engineering Sciences and Radioactive Waste Management.

Over the past three years the NEES program has been awarded more than \$3.5 million in educational and research grants which help to prepare the next generation of nuclear scientists and engineers. The educational grants are for infrastructure improvements, course development, and student fellowships. The research grants are focused on solving contemporary issues like safeguarding human and environmental health from the nuclear fuel cycle, detection of clandestine nuclear-related activities and cleaning up legacy wastes from the cold war.

Dr. Brian A. Powell was awarded the Clemson University Sigma Xi Young Investigator of 2011. **Dr. Powell** was recognized at the spring 2012 banquet. This award is given annually by the Clemson University Chapter of Sigma Xi to the junior faculty member with the most distinguished research record.



Congratulations to **Dr. Stephen Moysey** for winning a prestigious NSF CAREER grant to support his research project "Advancing the mechanistic understanding of field-scale preferential flow and transport processes in soils using geophysics". The project will use geophysical imaging techniques (electrical resistivity and ground-penetrating radar) to understand how different subsurface flow mechanisms interact to establish preferential flow and transport networks in the vadose zone. This award increases the number of current faculty in EEES who have won NSF CAREER grants to five. The CAREER grant is the highest honor given to young faculty by the National Science Foundation.



David Thornton, Research Associate in Biosystems Engineering, assisted Snow Creek Farms in Statesville, North Carolina, to begin degumming rapeseed and sunflower seed oils for domestic biodiesel production.

US patent number 8,133,740 "Colorimetric Detection of Uranium in Water" was issued March 13, 2012 to co-inventors **Dr. Timothy A. DeVol**, **Amy E. Hixon (PhD, EE&S)**, David P. DiPrete (SRNL and Adjunct Professor).

Dr. Ron Falta presented a talk and a poster on “REMFuel: Remediation Evaluation Model for Hydrocarbon Fuels” at the EPA National Tanks Conference in St. Louis, March 20. The REMFuel computer program was officially released by the EPA the day before the talk, and can be downloaded from <http://www.epa.gov/ada/csamos/models/remfuel.html>

Dr. Falta also received an award at the poster session, in recognition of his past work identifying the risk posed by ethylene dibromide (EDB) and 1,2-dichloroethane (1,2-DCA) groundwater contamination from releases of leaded gasoline in the past.

EEES Welcomes New Faculty

Dr. Annick Anctil will join the EEES Faculty in August, 2012. Annick’s expertise is Life-cycle assessment and design for the environment with an emphasis on semi-conductor, nanomaterials and fine chemicals production for power generation as well as sustainable energy with an emphasis on photovoltaics. Annick also has expertise in Multi-criteria optimization, nanomaterials synthesis for energy applications and industrial ecology and sustainability. She received her PhD in Sustainability from Rochester Institute of Technology in May, 2011.



Dr. Alan Elzerman to Retire



On Friday, April 27th, the department hosted the Alan W. Elzerman Seminar Series. This year's talk was given by **Dr. Frank Dunnivant (PhD, ESE)**, Chair of the Chemistry Department of Whitman College in Walla Walla, Washington; and former student of **Dr. Elzerman's**. Dr. Dunnivant's talk entitled *"Desorption Kinetics, What I've Learned since Graduate School"*.

Dr. Alan Elzerman joined the department in August of 1978 with the assignment of teaching environmental chemistry. He developed several additional courses and initiated the environmental chemistry focus area which has graduated many MS and PhD students. His research areas included acid rain in South Carolina and PCBs in Lake Hartwell, an area still active today with **Dr. Cindy Lee**. Other areas pursued were aerosol solubility, analytical techniques, groundwater contamination, radionuclides, fate of PAHs, lead in Clemson's drinking water, and the Lake Keowee contamination project.

Dr. Elzerman was the department chair from 1996 to 2008. During that time, the department name was changed to Environmental Engineering and Science and then Environmental Engineering and Earth Sciences. **Dr. Elzerman** has held many positions in the American Chemical Society and is still very active in sustainability studies and teaching.

After the seminar, a retirement reception was held for **Alan**, who plans to retire in June of 2012. There was a great turn-out for the reception including **Dr. John Coates** (PhD, ESE) and **Dr. Raed El Farhan (PhD, ESE)**; both former students of **Dr. Elzerman's**; and **Dr. Cindy Lee**, his former post-doc.



L-R: **Dr. Raed El Farhan**, **Dr. Frank Dunnivant**, **Dr. Cindy Lee**, **Dr. Alan Elzerman**, **Dr. John Coates**

Andrea Hicks (MS, EE&S 2010) was accepted to give a platform at the Gordon Conference on Industrial Ecology pre-conference student/post-doc part, and then a poster at the actual conference which will be in Switzerland, where she will spend a week this summer. **Andrea** is currently pursuing her PhD at the University of Illinois Chicago.

Dr. Ozer Cinar (PhD, EE&S 2002) became the rector of the International University of Sarajevo in Bosnia and Herzegovina which is located in Ilidza near Sarajevo, and is one of the largest educational projects in the Balkan region. International University of Sarajevo (IUS), as the first international university in Bosnia and Herzegovina, contributes to regional and global competitiveness of this war-shattered country. IUS provides education that effectively develops intellectual capabilities turning young talents into successful professionals, experts and responsible citizens of their countries.



Frank Farmer (Geology, 1988) passed away on Saturday February 4th. Frank worked in the Greenville office of AECOM. Our condolences go out to his family.



Vijai Elango (PhD, 2010) and wife Bagya have a new baby girl, Vanathi. She was born in January. The meaning of Vanathi's name is river in the sky or the Milky Way galaxy.

Vijai is currently in a post-doctoral position with the South and Southwest Hazardous Substances Research Center in Baton Rouge, LA. He is also an instructor at Louisiana State University in the Department of Civil and Environmental Engineering. **Vijai** worked with **Dr. David Freedman** investigating the bioremediation of lindane.

NEW JOBS FOR RECENT GRADUATES

Michael Pardue (MS, Hydro 2012) HRP Associates in Greenville, South Carolina

Katelyn Bryll (MS, EE&S 2011) August Mack Environmental as a Staff Engineer in Dublin, Ohio

Viet Duc Dang (PhD, EE&S 2012) Post-Doctoral Associate, Department of Physiological Sciences Center for Environmental and Human Toxicology University of Florida, Gainesville.

Jose Alfaro (MS, EE&S 2012) Working on his PhD at University of Michigan with Dr. Shelie Miller.

Jane Gan (MS, EE&S 2012) URS-BP Barber in Columbia, South Carolina.

Kelly Grogan (PhD, EE&S 2012) Post Doctoral position at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD.

Joseph Jablonski (MS, EE&S 2012) US Navy Officer Candidate School, Rhode Island

The next issue will be published in [September, 2012](#). Please send your submissions for your activities during Spring and Summer to Jan Young (ej@clemsun.edu) [September 1, 2012](#). (Please do not forget to take pictures).

THANK YOU!