

CHEMISTRY WELCOMES TWO NEW LECTURERS TO THE DEPARTMENT

This fall the department welcomed two new lecturers to the faculty, Prof. Stephanie McCartney (L) and Prof. Tania Houjeiry (R).

Prof. McCartney was most recently at Southern Polytechnic State University in Georgia where she served as coordinator for the General Chemistry labs and taught General Chemistry. On the side she served as faculty advisor to the SPSU's undergraduate ACS chapter and as co-chair of the Georgia Science Olympiad. She joined SPSU in 2009 after completing her PhD at George Washington University in Physical Chemistry. Stephanie earned her undergraduate degree from the University of Georgia. She is married with two young sons and when she has free time enjoys competing in road races; she recently completed a half-marathon in Savannah.

Prof. Houjeiry, a native of Lebanon, joined Clemson from Florida State University where, after completing her PhD in Organic Chemistry in 2012, she served as an instructor for General and Organic Chemistries. While working on her PhD at FSU, Tania served as a visiting adjunct professor at the University of West Florida. Prior to starting her graduate work at FSU, Tania earned her B.S. in Chemistry from the Lebanese University and her M.S. from American University in Beirut and spent two years teaching high school chemistry in Beirut.

Message from the Chair

As the new chair of Chemistry I send greetings to the alumni and friends of the Chemistry Department. I've just assumed the position of department chair on August 15 amidst leadership changes throughout the university. Dr. Gramopadhye became the new Dean of the College of Engineering and Science on July 1, and Dr. James Clements was recently introduced as the new President of Clemson University.

Professor Steve Creager has happily returned to full time teaching and research and has been appointed as a Provost Fellow advising Provost Nadim Aziz on university-wide issues and is also serving on the Dean's Strategic Planning Committee. Steve and I have shared the freshman chemistry orientation class looking for creative ways to inspire the freshmen chemistry majors and orient them toward information and data mining so crucial in the modern world. Professor Marcus was appointed to the Dean's Advisory Council.

A number of our faculty and students won awards and made significant achievements. Professor Arkaday Kolenenko published his book on "*Applications of Contact Geometry and Topology in Physics*" which posits that all branches of theoretical physics can be described in this mathematical language and is the subject of a featured story. Professor Julia Brumaghim is the recipient of a 2014 Rising Star Award by the Women Chemists Committee of the ACS, while Dr. Colin McMillen, X-ray facility director, won the 2013 Young Scholar Award from the American Association for Crystal Growth. Professor Stephen Schvaneveldt received the Philip Prince Award for Innovation in Teaching, which is named for Clemson President Emeritus Philip Prince. The award recognizes outstanding teachers who demonstrate creative and novel teaching methods in the classroom" and was presented by the undergraduate student government president at the spring Convocation. Undergraduate Chemistry major Matthew Wasilewski received a 2013 ACCIAC Fellowship in Creativity and Innovation sponsored by the Clemson University Office of Under-



graduate Studies and the Atlantic Coast Conference Inter-institutional Academic Collaborative. Junior chemistry major Haydan Smith attended a meeting of the Pennsylvania Radiological Society to present an invited paper on her summer internship research at the Pennsylvania State University Hershey campus.

Newly minted Ph.D. degree holders Brynna Laughlin (Smith), Marcel Fallet (Stuart), and Hongyu Chen (Anker) graduated in May, while Christopher Underwood (Kolis), Jaewoong Hur (Stuart), and Carla Heyward (Kolis) graduated in August. Seventeen new graduate students and one fellowship student entered the graduate program in August and are in the process of selecting faculty advisors. Fifteen chemistry majors graduated in May and one in August and there are 39-declared chemistry majors entering the program in August. There is a comforting sense of continuity seeing students graduate and new students entering our programs.

I am looking forward to the challenges of my new position anticipating that the learning curve will become less steep in the coming months. For the first time in my life I must now keep a calendar over which I have little control. If you have information that you wish to share, please pass it along to me. May the holidays bring good tidings to each of you.

R. KARL DIETER, DEPARTMENT CHAIR

R. Karl Dieter

**CONGRATULATIONS
TO OUR AUGUST 2013
GRADUATES**

PhD

Carla Heyward
Jaewoong Hur
Christopher Underwood

BA/BS

Dillon Lee Briggman

WELCOME BACK PICNIC



The Chemistry Department gathered for its annual welcome back picnic on August 29, 2013 at the beautiful Outdoor Lab. Faculty, staff, students and their families turned out in force for some great food, laughs and a chance to catch up. Even the babies had fun, while at the same time providing entertainment for the adults.



**STEPHEN
SCHVANEVELDT
WINS PRINCE
AWARD FOR
TEACHING**

Congratulations to **Dr. Stephen Schvaneveldt** from Clemson chemistry for being named the 2013 recipient of the Philip Prince Award for Innovation in Teaching. The award is named for Clemson President Emeritus Philip Prince and is presented by the undergraduate student



government president to a faculty member show is an “outstanding teacher who demonstrates creative and novel teaching methods in the classroom.” The award was presented at the fall 2013 Convocation. Congratulations Stephen

**STUDENT WORK
FEATURED AT RADIOLOGY
CONFERENCE**

Haydan Smith, a junior chemistry major at Clemson, was invited to attend the Pennsylvania Radiological Society annual conference where her research from her summer 2013 internship at the Penn State Hershey College of Medicine was featured. Haydan worked in the Breast Center at the hospital and was studying the positive predictive value of breast MRIs with special attention to the lesions that actually turned out to be cancer. A paper on the work was recently submitted to the American Journal of Radiology. Congratulations Haydan.



**UNDERGRADUATE
RESEARCHER WINS
ACCIAC FELLOWSHIP**

Congratulations to Clemson Chemistry major **Matthew Wasilewski** who was awarded a Fellowship in Creativity and Innovation sponsored by the Clemson University Office of Undergraduate Studies and the Atlantic Coast Conference Inter-institutional Academic Collaborative (ACCIAC). Mr. Wasilewski, a rising senior, is currently developing “Novel, Greener, Safer Synthetic Routes to Nitrogen Macrocycles: TACN, Cyclen and Beyond” in Prof. Modi Wetzler’s research group.



WHERE ARE THEY NOW? -- Gregory A. Becht

Dr. Gregory Becht received his Ph. D in solid state Inorganic Chemistry from Clemson under Dr. Hwu in August 2008. From there he went on to work at Argonne National labs on Ionic liquids for biological applications under Dr. Millicent Firestone from Jan 2009 – Dec 2010. In February, 2011, he started at DuPont in Wilmington, DE. At DuPont, Greg is mainly working on Photovoltaic projects. One project focuses on improvement of metallization paste, in which he became the team leader in May 2013. At this time he was also promoted to Senior Research Chemist. He was recently asked to join another research group working on new architectures for solar cells, such as n-type cells.



NEW FACULTY RESEARCH GRANTS

New Grant Awards in Chemistry, July 2012 – June 2013

Jeffrey Anker, “Investigating Mechanism of Intracellular Rotational Transport with Optical Tracking Magnetic Twisting Cytometry” \$68,994, from NIH/DHHS

Jeffrey Anker, “CAREER: High Resolution Spectrochemical Imaging Through Tissue” \$325,759, NSF

Jeffrey Anker, “Telluride Science Reserch Meeting on “Frontiers in Biomagnaetic Particles III”, In Telluride, CO June 2-5, 2013” \$8,000, from NIH/DHHS

Jeffrey Anker, “Developing Optical Strain Gauges for Passive Remote Strain Sensing” \$18,000, SC Space Frant Consortium

Dev Arya, “Targeting RNA Conformation for Drug Development” \$138,244, NUBAD, LLC

Dev Arya, “Inhibiting Drosha-Catalized MicroRNA Biogenesis” \$15,500, MUSC

Julia Brumaghim, “Comparing Selenium Antioxidant Mechanisms: Metal Binding vs. Reactive Oxygen Species Scavenging” \$390,000, NSF

Ken Christensen, “Novel Angiogenesis Inhibitors Targeting the Anthrax Toxin Receptors” \$23,250, Children’s Hospital of Boston

George Chumanov, “Photovoltaic Fabrics” \$131,819, University of Massachusetts, Dartmouth

Stephen Creager, “Fluoropolymers, Electrolytes, Composites and Electrodes” \$175,000 DoE

Stephen Creager, “VEF Fellowship Program” \$1,000, Vietnam Education Foundation

Stephen Creager, “Electroalcoholgenesis: Bioelectrochemical Reduction of CO₂ to Butanol” \$209,332, MUSC

Brian Dominy, “CAREER: Computational Modeling of Protein Evolvability” \$119,054, NSF

Joe Kolis, “Hydrothermal Actinide Growth Project” \$22,200, US Air Force

Joe Kolis, “Hydrothermal Growth of New Crystals for Planar Waveguide Lasers” \$40,000, Raytheon TI Systems

Dvora Perahia, “From Interfaces to Bulk: Experimental-Computational Studies Across Time and Length Scales of Multifunctional Ionic Polymers” \$182,142, DoE

Rhett Smith, “Graduate Reserach Fellowship - Brynna Laughlin” \$42,000, NSF

Ya-ping Sun, “Graduate Research Assistantship: Toward a Career on Advanced materials Research for Space Applications” \$10,000, College of Charleston

Joe Thrasher, “International Collaboration in Chemistry: Preparation and Utilization of SF₅-Containing Building Blocks” \$117,000, NSF

Joe Thrasher, “TFE-BASED Copolymers” \$325,000, Arkema, Inc.

Joe Thrasher, “Fluorinated Monomers” \$30,000, 3M Corporation

Daniel Whitehead, “Continuation of: Biodegradable Lactide Nanoparticle for the Destruction of Malodorous Organics” \$32,070, Various Private Sponsors (247)

Congratulations to all of these faculty for their hard work and success in winning grant support for their research!

Staff News

WELCOME

ASHLEY CRISP

We welcome Ashley as the department’s new Undergraduate Services Coordinator. Ashley is a proud Clemson graduate who previously worked in the area of academic advising in Vickery Hall. In her undergraduate days at Clemson, Ashley served as editor in chief of The Tiger, the weekly student newspaper. She received her BA in Communications from Clemson and her MS in Higher Education/Student Affairs from South Carolina. Ashley currently enjoys hitting the road for trips in her spare time.



CHRISTINE DINGER

Christine began work as the Chemistry Department’s Receptionist and Administrative Assistant in June, 2013. Christine lives in Clemson and is married to Dennis Dinger, Professor Emeritus of Ceramic and Materials Engineering. Christine and Dennis have 5 children (4 sons, 1 daughter) and many hobbies such as reading, gardening, cross-stitching, knitting and quilting – none of which she has much time for anymore. Christine is originally from rural New York state but has lived in Clemson for 25 years.





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FACULTY HONORS

Professor Julia Brumaghim Named a Rising Star

Prof Julia Brumaghim will be the recipient of a 2014 Rising Star Award by the Women Chemists Committee of the American Chemical Society. Dr. Brumaghim was selected as an “exceptional early to mid-career woman chemist on a national level” across all areas of chemistry and from any employment area, including academic, government, and industrial chemists. Currently an Associate Professor at Clemson after joining the Clemson faculty in 2003, she will receive this award as part of an awards symposium at the March 2014 meeting of the American Chemical Society meeting in Dallas, Texas.



Congratulations to Dr. Colin McMillen

Please join me in congratulating **Dr. Colin McMillen** from Clemson chemistry who was just awarded the 2013 young scholar award from the American Association for Crystal Growth for “accomplishments in the bulk and epitaxial growth of oxide materials ... spanning the growth of new lasing materials, the hydrothermal growth of the deep-UV non-linear optical crystals, and a variety of multifunctional crystals.” Colin earned his PhD here under the direction of Joe Kolis and currently directs the Molecular Structure Center in the chemistry department, and he is a quite active member of the COMSET group. Congratulations Colin!



Prof. Creager working as Provost's Fellow

Professor Steve Creager, recent department chair, is appointed for the 2013-2014 academic year as a Provost's Fellow. In this capacity he will work with Interim Provost Dr. Nadim Aziz on issues relating to academic space. He is helping to address issues relating to classroom assignment using iROAR, the new student information system, and to allocation of research space on campus. Perhaps this assignment will help fill up some of Steve's free time now that he is no longer serving as department chair!



Comments? We would love to hear from you. Please email your comments or questions to Mary Standeffer at standem@clemson.edu and be sure to visit us on the Web at chemistry.clemson.edu.

Your generous donations support our seminar program which brings world-class scientists and educators to campus for public lectures, and also allows for the flexibility to respond to opportunities and pursue initiatives to make Clemson's chemistry department the best it can be. If you do not already do so, please consider designating a gift specifically to the Chemistry Department. You may do so by writing “Chemistry Department” under “Other” on any donation form you receive from the University, or by indicating the same on the online “Giving to Clemson” form accessible from the Clemson home page. If you do choose to donate, we thank you in advance for your support, whether you choose to designate it to chemistry or not!