



The Bulletin
of the
Virginia Section
AMERICAN CHEMICAL SOCIETY



SEPTEMBER MEETING NOTICE

● **TEACHER AWARDS** ●

Virginia Commonwealth University
Richmond, Virginia

Friday, September 15, 2017

RECEPTION: **6:00 p.m.**
Rodney's
Shafer Court Dining Center
810 Cathedral Place

PROGRAM: **7:30 p.m.**
Room 1107 (Auditorium), Academic Learning Commons (MCALC)
1000 Floyd Avenue

MENU: Heavy Hors-d'oeuvres (many kinds, hot and cold), Cookies,
Brownies, Lemon Bars, Cream Puffs, Iced Tea, Beer and Wine

PRICE: Members/Guests - \$18.00; Students, High School Teachers and
Spouses - \$9.00; Retired ACS Members and Spouses, Retired Teachers
and Spouses - \$13.00

RESERVATIONS: Please make reservations by **4:00 p.m. on Friday, September 8**
by calling Rhea Miller at (804) 827-0352 or by e-mail to
rmiller3@vcu.edu

HOST: Dr. Scott Gronert, (804) 828-1298, chemistry@vcu.edu

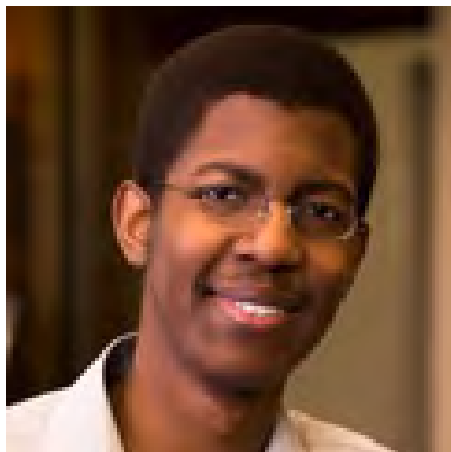
SPEAKER: **Dr. Kelling J. Donald, University of Richmond**

TOPIC: **"Hard Act: Structure Predictions for Extended
Solids from Their Basic Chemical Units"**

SEPTEMBER 2017

| S | M | T | W | T | F | S |
|----|----|----|----|----|--------------------------------------|----|
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 <small>reservations due</small> | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 <small>meeting</small> | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

Dr. Kelling J. Donald



Kelling Donald is originally from Jamaica. He completed both his undergraduate degree, with a Chemistry and Physics double major, and a Ph.D. in Theoretical Chemistry at the University of the West Indies (Mona). He held postdoctoral positions in Germany, at the Technical University in Darmstadt, with Hans Lindner, and at Cornell University in New York with Roald Hoffmann.

He served as a temporary lecturer in Chemistry in the premedical program of Cornell's medical school in Doha, Qatar, in the spring of 2007 before starting as an assistant professor at the University of Richmond (UR). He is currently an associate professor in Chemistry at UR, with a research program in theoretical chemistry. He teaches courses in general and physical chemistry and an elective on chemical bonding across the periodic table.

Kelling has been recognized by the University of Richmond with their Distinguished Educator Award, and by the School of Arts and Sciences as an outstanding mentor in undergraduate research. He has received an NSF CAREER and a Henry Dreyfus Teacher-Scholar Award, and has been recognized by the Research Corporation as a Cottrell Scholar. *Richmond Magazine* selected him as a "person to watch in 2017" (December 26, 2016 issue).

"Hard Act: Structure Predictions for Extended Solids from Their Basic Chemical Units"

Oligomerization in inorganic molecules is usually progressive in the nature of the bonding between monomer units. Weak dispersion and hydrogen bonding interactions are preserved in the formation of larger and larger CO₂ and H₂O clusters, for instance, all the way through to the respective extended solids. For most inorganic salts such as NaCl, the bonding remains or becomes even more ionic as condensation progresses from small clusters to the extended solid. That pattern linking small clusters and their extended solids is resisted, however, in certain cases for the group 12 dihalides. Chief among these systems are some of the mercury dihalides. We find that there is a bonding transition that occurs during the oligomerization process; a phenomenon that arises because of a competition evidently between relativistic and electrostatic effects. We examine this phenomenon, and identify the region where it occurs in a stepwise oligomerization process. We consider as well the implications of this behavior for crystal structure prediction.

VIRGINIA SECTION EXECUTIVE COMMITTEE MEETING

The Executive Committee will meet at **4:30 p.m. on Friday, September 15** in Room 3309 of the Temple Building at Virginia Commonwealth University. Contact **Dr. Colleen Taylor**, Chair of the Section, for more information: ChairVAsectionACS@gmail.com; (804) 524-5481.

THE DISTINGUISHED ELEMENTARY SCHOOL SCIENCE TEACHER AWARD

Amy Glascock



I was raised in Virginia and earned my B.S. degree in Liberal Studies from Longwood University. I also earned an M.S. degree in Integrating Technology in the Classroom from Walden University. I have taught elementary school for the past fourteen years, most recently teaching third grade at A. G. Richardson Elementary School in Culpeper, Virginia.

I enjoy providing students with the opportunity to experience hands-on activities so they become more engaged in what they are learning. My students have created “solar pizzas” to learn about the power behind solar energy, and made “water cycle cups” to understand how condensation builds up in a cloud before falling as precipitation. To learn more about simple machines, they created different levers, pulleys, and axles with several snack foods. What motivates a student more than food? I also love allowing students to explore more about science by conducting numerous science experiments and participating in various field trips. Some of the field trips organized were to the Science Museum of Virginia, James Madison University Planetarium, University of Virginia’s Blandy Farm, Washington National Zoo, and Carter Mountain Orchard. I have also organized in-school activities like NASA teleconferences to learn more about moon phases, Dominion Power to acquire a better understanding about renewable and nonrenewable energy sources, and a visit from the Virginia Museum of Natural History to acquire additional information about animal adaptations and food chains.

I want students to not only learn about science topics but love what they are learning. For me, it is more than just what goes on in the classroom. I really want all students to see just how fun and exciting science can be!

In my spare time I enjoy reading, playing the piano, and spending time with my family. I am also always on the lookout for fun and engaging science activities to share with my students and colleagues.

THE DISTINGUISHED MIDDLE SCHOOL SCIENCE TEACHER AWARD

Lynn Shope



Lynn Shope has been teaching science for 17 years at Stonewall Jackson Middle School in Hanover County, the same school she attended as a student. For the last ten years, she has been a National Board Certified teacher in Early Adolescence Science and served as Science Department Chair. She taught seventh grade Life Science, Grade 6 Science, and an Agriculture Exploratory elective before retiring at the end of the 2016/2017 school year.

Lynn’s favorite science activities involved students learning about the world around them and taking the learning outside. At Stonewall, the Agriculture Exploratory elective class maintained the school’s interior courtyard. Students used simple machines like shovels and clippers to maintain the memory garden and the flowers and bushes in the

butterfly garden. Students also learned to use an electric tiller to prepare the vegetable garden for potatoes, tobacco, cotton, soybeans, sweet potatoes and of course, Hanover tomatoes. All of this was made possible by generous donations from Hanover County 4-H and grants from the Hanover Master Gardeners, Lowe's and Home Depot.

As part of the watershed unit, Lynn's science students visited the vernal pool on school property each season to test the water quality. Students compared their results to the terra-aqua column they build in the classroom. This model of the bay has students growing grass seed on the top; which they fertilize and drains to the bottom where they are raising tadpoles in the water. Lynn's favorite day of the school year is when she hosts "Clean A Fish Day". Students invite relatives or friends to bring fish caught in a Chesapeake Bay tributary to class so students can investigate the anatomy of the fish. This watershed unit culminates with all Hanover County sixth graders attending a "MWEE" day. (Meaningful Watershed Educational Experience) sponsored by the Hanover/Caroline Soil and Water Conservation District. Lynn served on the committee that developed the MWEE day and helped write the lessons.

To extend the learning, Lynn has taken 3 different groups of students on residential field trips to Fox Island and Port Isobel with the Chesapeake Bay Foundation. While on these islands in the bay, students tested water quality, played in the salt marsh mud to learn how a wetland works, went canoeing, crabbing, dredging for oysters and visited Tangier Island. She has taken 8 groups of students on canoe trips to Four Mile Creek, a tributary of the James River, with the Chesapeake Bay Foundation. Students tested water quality, used a seine net, explored a fresh water marsh, and learned about the sources of nutrients and sediment that harm the bay. These trips were funded in part by a grant from VA Naturally and a Chesapeake Bay Mini Grant.

While teaching, science was a great deal of fun, Lynn hopes retirement will allow her to have more time with her husband and family, to continue being curious about the world around her and to visit many places she has never been.

THE FRANKLIN D. KIZER DISTINGUISHED HIGH SCHOOL CHEMISTRY TEACHER AWARD

Mark C. Metcalfe



Mark is a native of New York City and graduated from New York State University at Oswego (now SUNY–Oswego). He has taught in several school districts in Virginia and recently retired from Fort Defiance High School in Augusta County, where he taught chemistry. He is a VHSL volleyball referee and has coached middle school cross country. He has been married to his wife Nancy for 38 years; they have three sons and six grandchildren.

Mark sums up his personal philosophy of teaching in these words: "Hopefully, I have taught so that the students have gained an understanding of what chemistry is all about, have enjoyed the course so they have a positive outlook towards chemistry, and have been able to critically think so as to be successful in life. If this has occurred, I have had a successful career."

DIRECTIONS

The Reception will be held in Rodney's, located in the Shafer Court Dining Center at 810 Cathedral Place on the Virginia Commonwealth University-Monroe Park Campus. This is just northeast of the Chemistry Department which is housed in Oliver Hall, 1001 W. Main Street. There is parking on the streets around Shafer Court, in the West Broad Street Deck, 1111 W. Broad Street, and in the West Cary Street Parking Deck at 1101 W. Cary Street. The lecture and Teacher Awards Program will be held in the new Academic Learning Commons (MCALC), located at 1000 Floyd Avenue (next to the Cabell Library). Detailed campus maps are on the VCU website: <http://www.vcu.edu>.

MAP



Shafer Court Dining Center



Academic Learning Commons (MCALC)

***** VIRGINIA SECTION NEWS *****

THE CHAIR'S CORNER



The Virginia section has long honored the role of K-12 teachers in chemistry education through the annual awarding of the Franklin D. Kizer Distinguished High School Teacher Award and more recently the Distinguished Middle School and Elementary School Science Teacher Awards. I hope you will help us honor this year's awardees--Mark C. Metcalfe from Fort Defiance High School, Lynn Shope from Stonewall Jackson Middle School, and Amy Glascock from A.G. Richardson Elementary School at the September meeting on the 15th at Virginia Commonwealth University. We thank Larry White for his work in selecting this year's winners and we look forward to even more applications next year: <http://virginia.sites.acs.org/awards.htm>.

In addition to the teacher awards, the section funds local schools on a regular basis through our educational grants that provide up to \$500 for a chemistry-related project (<http://virginia.sites.acs.org/chemicaleducation.htm>). We have recently increased the number of awards and are very pleased with the progress and look forward to further expansion in this area. We encourage past award winners to send brief reports of the impact of their awards to Ryan Warren at rwarren@st.catherines.org along with photos of students to post on the section website so that we may promote K-12 teachers by publishing the outcomes of these projects. Please submit applications for funding by the December 1 deadline.

Another way that the section engages K-12 teachers and students is through the Chemistry Olympiad, led by Ann Sullivan and with great assistance from our current Vice-Chair, Joe Pompano. We really need the support of local High School teachers to help promote their students' professional activities by participating in the Chemistry Olympiad. Please contact Ann M. Sullivan at asullivan@reynolds.edu for more information.

I look forward to seeing everyone at the September meeting and to increasing our connection to K-12 in the future.

....Colleen Taylor, 2017 Chair, Virginia Section ChairVAsectionACS@gmail.com

FUTURE MEETINGS OF THE SECTION

DATE: **October 20, 2017**
 LOCATION: Mary Baldwin University
 Staunton, Virginia
 CONTACT: Ashley Strickland
 PHONE: (540) 887-7116
 E-MAIL: astrickland@marybaldwin.edu
 SPEAKER: **Dr. Laura Serbulea**, University of Virginia
 TOPIC: "Using Chemistry Class Advantage and Online Learning Systems in Organic Chemistry Courses"



DATE: **November 15, 2017**
LOCATION: University of Mary Washington
Fredericksburg, Virginia
HOST: Dr. Janet Asper
PHONE: (540) 654-1143
E-MAIL: jasper@umw.edu
SPEAKER: **Dr. Rebecca Pompano**, University of Virginia
TOPIC: "Building a Living Map of the Immune System
with Chemistry and Microfluidics"



NOMINEES FOR 2017 SECTION OFFICERS

Dr. Denise Walters, Chair of the Virginia Section Nominations Committee, has announced these candidates for 2017 officers of the Section:

For CHAIR: **Ms. Kathleen Spangler**

For CHAIR ELECT: **Dr. Joseph Pompano**

For VICE CHAIR: **Dr. M. Samy El-Shall**

For TREASURER: **Dr. Rob Davidson**

For Secretary: **Dr. Sarah E. G. Porter**

For Councilor: **Dr. Linette Watkins** (2018-2020)

For Alternate Councilor: **Dr. Joseph Crockett** (2018-2020)

For Trustee: **Dr. James Demas** (2018-2020)

Biographies of the candidates will be published in the October *Bulletin*. Electronic balloting will be conducted in October. Write-in candidates will be accepted for all offices.

WCC LUNCHEON

The next meeting of the **Women Chemists Committee** (WCC) will be a lunch on Friday, **September 22** at 12:10-1:00 at the Chili's on the VCU campus (355 West Cary Street). We will be discussing the upcoming Career Panel and other relevant topics. Please join us for this networking event. WCC will be meeting every other month during the fall. See below for information on the Chemistry Career Discussion Panel on **October 12** and put **November 9** on your calendar for another luncheon.



CHEMISTRY CAREER DISCUSSION PANEL

The Women Chemists Committee of the Virginia Section is sponsoring the 9th annual Chemistry Career Discussion Panel for undergraduate students interested in careers in the chemical sciences. Speakers representing chemistry careers in a variety of fields will share their career stories and answer questions. This year's invited speakers are **Niti Shah**, a research scientist at Altria, **Lachelle Waller**, professor at VCU, and **Gina Harm**, senior vice president at Afton Chemical.

The career panel will be held at **6:00 pm on Thursday, October 12** at Virginia Union University, on the first floor of the Wilder Library Lecture Hall. All interested students, ACS members and guests are invited; light refreshments will be served beginning at 5:00 pm.

For more information, directions or information regarding parking, contact Dorothy Eseonu, DNEseonu@VUU.EDU.

WCC SPONSORS TRIP TO DCLS

The Women Chemists Committee (WCC) tour of the DCLS (Division of Consolidated Laboratory Services) on August 4, 2017 was a big success. The tour guides (Crystal, Chris and Shane) were very enthusiastic, explaining about the advanced technology that they utilize. Their group handles only emergency issues – particularly identifying “white powders.” The thing DCLS tests the most are Virginia's New Born Screening where every baby born in Virginia is tested for 29 genetic and metabolic disorders. It was interesting to see the laboratories with rows and rows of top of the line chemical analysis equipment. PPE was impressively adhered to. If you missed this fantastic tour, you can learn more about the facilities at their website: <https://dgs.virginia.gov/division-of-consolidated-laboratory-services/>.



DCLS TOUR PARTICIPANTS

left-to-right:

Chris Onyeso
Michael Bradner
Stephanie Mabry
Denise Walters
Kathryn Deibler
Liza Morrison
Tommy Hurst

...report and photo courtesy of **Kathryn Deibler**

VIRGINIA SECTION WEBSITE REVIEW

The Section is planning changes to its website. Members are invited to send comments to **Dr. Ann Sullivan**, Webmaster, at thesullivans77@gmail.com. Please tell us how you use the website, what you like about it, what is missing, or changes that you would like to see. A web survey is being developed and will be sent to Section members.

NATIONAL CHEMISTRY WEEK — 2017

National Chemistry Week (NCW) will be celebrated October 22 - 28 this year. The NCW 2017 theme of “**Chemistry Rocks!**” will focus on geochemistry. This year marks the 30th anniversary for National Chemistry Week. The 2017 activities will include the popular Illustrated Poem Contest and an NCW Community Event.



There will be a special edition of the kid-friendly hands-on activity publication *Celebrating Chemistry*, and a variety of other educational resources for teachers, students, and the general public. Visit the NCW website at www.acs.org/ncw for more information on national activities.

The Virginia Section is planning to celebrate National Chemistry Week with some special activities. Anyone who would like to participate or who has suggestions for ways to celebrate NCW can contact **Dr. Kristine Smetana**, Chair of the Section's Community Activities Committee, at kristine-chris@msn.com, or contact **Dr. Colleen Taylor**, Section Chair, at ChairVAsectionACS@gmail.com.

CHEMISTRY ROCK STAR

For a different take of “Chemistry Rocks!” (see article above), check out the article on R.B. Woodward that appeared in a recent issue of the International Edition of *Angewandte Chemie*. The article, titled “R.B. Woodward: A Larger-than-Life Chemistry Rock Star,” was written by **Dr. Jeffrey Seeman** from the Department of Chemistry at the University of Richmond. *Angew. Chem. Int. Ed.* **2017**, 56, 10028-10245, available through the Wiley Online Library



DENISE WALTERS APPOINTED TO SCIENCE MUSEUM BOARD



Governor Terry McAuliffe has appointed **Dr. Denise Lowe Walters**, a Senior Manager at Pfizer Consumer Healthcare, to the Board of Trustees of the Science Museum of Virginia. She is the immediate past-chair of the Virginia Section of the ACS and is currently the chair of the Nominations Committee. Also, she is spearheading the implementation of the new strategic plan for the Section.

THE VIRGINIA SECTION TEACHER AWARDS

The Virginia Section of the ACS began presenting awards in the year 1948. The Distinguished Service Award was established that year to recognize an outstanding member of the Virginia Section. **Dr. Wortley F. Rudd**, Dean Emeritus of the School of Pharmacy at the Medical College of Virginia, was the first recipient. That same year, the Section began giving a Distinguished High School Chemistry Teacher Award. **Mr. Lawrence W. Jarman**, Head of the Science Department at Thomas Jefferson High School in Richmond, was the first recipient of the chemistry teaching award. This year, **Mr. Mark Metcalfe** will be the 70th recipient. In 2011, the chemistry teacher award was designated as the Franklin D. Kizer Distinguished High School Chemistry Teacher Award. **Frank Kizer** was an active member of the Virginia Section for over 55 years and an outstanding advocate for science education. He was the first State Supervisor of Science for Virginia, serving 23 years in that post. He received the Section's chemistry teaching award in 1955 and its Distinguished Service Award in 1978. **Ms. Maria Klein** from Chesterfield County received the Kizer Award last year.

In 1990, the Section established an award for middle school science teaching. **Ms. Jeannie Bishop** from Liberty Middle School in Hanover County received the first middle school award. **Ms. Lisa Winn** of Spotsylvania County was the 2016 recipient of the Distinguished Middle School Science Teacher Award. This year, **Ms. Lynn Shope** will be the 28th recipient of this award.

The Section's award for elementary school science teaching was not set up until 2010 when it was given to **Ms. Judy Fitzpatrick** from Short Pump Elementary School in Henrico County. Last year's winner was **Ms. Lynette Bates** from the Wakefield School in The Plains. **Ms. Amy Glascock** will be the eighth elementary school teacher to be recognized by the Virginia Section.

JOHN GUPTON NAMED ACS FELLOW



Dr. John T. Gupton, Floyd D. And Elisabeth S. Gottwald Professor of Chemistry at the University of Richmond, is shown receiving his certificate as an ACS Fellow. He received the honor at the ACS national meeting in Washington. He was recognized for "the education and mentoring of undergraduates in the classroom and research lab at a primarily undergraduate institution, while publishing new synthetic methods for the construction of medicinally important heterocycles" and for his contributions to the ACS community and public awareness of chemistry.

CHEMISTRY SEMINARS AT VIRGINIA COMMONWEALTH UNIVERSITY

August 31 - **Dr. Rebecca Pompano**, University of Virginia, "Chemical and Microfluidic Tools for Spatiotemporal Analyses in Live Tissue"

September 7 - **Dr. Heather Lucas**, Virginia Commonwealth University Department of Chemistry

September 14 - **Dr. Oded Rabin**, University of Maryland

September 19 - **Dr. K. Pannell**, University of Texas, El Paso

September 21 - **Dr. Dexian Ye**, Virginia Commonwealth University Department of Physics

September 28 - **Dr. Hui Wang**, University of South Carolina

October 5 - **Dr. Gufeng Wang**, North Carolina State University

October 12 - **Dr. Ayman Karim**, Virginia Tech

November 2 - **Dr. Gunda Georg**, University of Minnesota (J. D. Smith/Larry Winters Lecture)

All seminars are held in Oliver Hall-Physical Science Wing, Room 1024 at 3:30 p.m.

CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA

September 1 - **Professor Jennifer Prescher**, University of California, Irvine, "Expanding the Imaging Toolbox"

September 8 - **Professor Scott Miller**, Yale University, "Searching for Selective Reactions in Complex Molecular Environments"

September 15 - **Professor Lucy Ziurys**, University of Arizona

September 22 - **Professor Christy Hayes**, University of Minnesota, "Designing Nanoparticles for Sustainability"

September 29 - Professor Angelo Cacciuto, Columbia University, “Activity Assisted Self-assembly of Colloidal Particles”

October 6 - Professor Thomas Mallouk, Pennsylvania State University, “Assembly and Disassembly of Layered Materials

October 20 - Professor Jim Mayer, Yale University

October 27 - Professor Dan Nomura, University of California, Berkeley

November 3 - Professor Cynthia Lundgren, Army Research Laboratory

November 10 - Professor Jeff Aube, University of North Carolina, Chapel Hill

November 17 - Professor Kristi Kneas, Elizabethtown College

All seminars are held at 3:30 p.m. in Room 205 of the Mechanical Engineering Building

PROJECT SEED IN THE VIRGINIA SECTION



Project SEED was established by the ACS in 1968 to offer bright, economically disadvantaged high school students the opportunity to perform college-level scientific research under the supervision of a volunteer scientist-mentor while receiving a stipend

that is provided by the ACS and other donors. SEED students have the unique opportunity to work with scientists who help them develop laboratory, written, and oral skills. This summer, six Richmond area students participated in Project SEED programs at two institutions of higher learning. Summaries of the 2017 work are given below. Dr. Dorothy Eseonu is the chair of the Virginia Section's Project SEED Committee. Contact her for more information on the program: dneseonu@vuu.edu; (804) 257-5615.

PROJECT SEED AT VIRGINIA COMMONWEALTH UNIVERSITY

Five Richmond Public high school students participated in summer research work at Virginia Commonwealth University under the sponsorship of ACS Project SEED and the Blue Sky Fund. The summer research experience was directed by the VCU Chemistry Project SEED Committee – **Mike Hunnicutt**, Ph.D., Assistant Professor and SEED Program Coordinator; **Mychal Smith**, Ph.D., Assistant Professor; and **Julian Bobb**, Doctoral Candidate and Graduate Research Assistant.



The students represented George Wythe and Open High Schools. Four students were co-sponsored by the national ACS Project Seed office and the VCU Chemistry Department, and one student was sponsored by a private donation to the Blue Sky Fund. The program content was identical for all five students and each received a cash fellowship.

The program began with a two-day “boot camp” to familiarize and train the students on a range of skills including laboratory safety, good notebook practices, basic skills related to wet chemical analyses, and the purification of organic compounds. A series of ‘enrichment activities’ were also incorporated into the program. Presenters included **Debbie Polo**, **Chad Clay**, **LaChelle Waller**, **Seth Leibowitz**, **Mark Taylor**, **Trishi Saunders**, and **Harrison Hayes**.





The core of the summer research experience for the students involved five VCU chemistry research faculty mentors and a team of graduate student ambassadors to provide hands-on guidance and coaching. Each student had his or her own research project, met with a research mentor on a weekly basis, and participated in group meetings. All students prepared research reports summarizing their project results and created posters. The final event of the program was a poster session where they presented their research achievements and where those who had volunteered their time and resources were recognized.

Here are the research projects and the student-mentor-ambassador teams:

Zahna' Jones (George Wythe) – Project SEED: “Comparing the Catalytic Activity of Various Metal Nanoparticles on the Reduction of p-nitrophenol”. Mentor: Dr. Katharine Tibbetts; Ambassadors: Mallory John, Victoria Meader

Simmons Williams (George Wythe) – Project SEED: “Detection of Calcium Carbonate Particles by Particle Collision Electroanalysis”. Mentor: Dr. Julio Alvarez; Ambassadors: Dilip Kumar, Kejie Meng

Natalia Mangaroo (Open) – Blue Sky Fund: “Aptamer-based Single Molecule Sensing on DNA Platforms”. Mentor: Dr. Soma Dhakal; Ambassadors: Anisa Kaur, Anoja Megalathan.

Jazmyne Scott (George Wythe) – Project SEED: “Microwave Synthesis of Reduced Graphene Oxide and Gold Nanoparticles for Photothermal Energy Conversion”. Mentor: Dr. Mohammad El-Shall; Ambassadors: Hiran Danushka Kiriarachchi, Julian Bobb.

Dorcas Williams (George Wythe) – Project SEED: “Synthesis and Characterization of Silver and Germanium Nanostructures”. Mentor: Dr. Indika Arachchige; Ambassadors: Ebtesam Eladgham, Shihara Dewasinghe.

The VCU SEED research program culminated with poster research presentations given by the students. The presentations were open to the public, and about 50 people attended. The students' talks were impressive. Each carefully and clearly explained their projects without any notes and using the appropriate vocabulary – remarkable given that these students had only taken one year of high school chemistry. During the question and answer session after each presentation, the students also shared their reflections on their experience. They agreed that although they were at first intimidated or overwhelmed, they now were confident and knowledgeable. They said they would enthusiastically encourage their fellow students to apply for Project SEED next summer. They commented on the excitement of meeting other students from all over the world and from many different backgrounds. The graduate student ambassadors who worked with our SEED students were also very proud of them, and spoke specifically about their abilities to learn, to master complex lab skills, and to work hard. VCU is already planning for the 2018 Project SEED. Dr. Hunnicutt says that they can't wait to work with a new group of students.



PROJECT SEED AT RANDOLPH-MACON COLLEGE

Dr. John Thoburn, Professor of Chemistry at Randolph-Macon College, organized the summer Project SEED program at R-MC. Although they got a late start, they were able to get the program up and running and recruited **Lastacia Sampson** from Richmond Community High School as a participant. She was sponsored by the national ACS Project SEED program and the Virginia Section Project SEED Committee, with additional funding from Randolph-Macon College. The goal of the summer program was to pilot a project that integrated ACS-SEED with R-MC's summer research program (SURF). The SURF program, founded and directed by **Dr. Serge Schreiner**, Chair of the Chemistry Department, enables students to get paid for full-time research while getting valuable experience in the lab, and having fun with a group of like-minded scientists.



Richmond Community High School (RCHS) was sought as a partner for several reasons. First, its mission is "to identify and educate potentially gifted students of above average ability and creativity with particular emphasis on serving economically and socially disadvantaged students whose abilities might otherwise be unrealized." Secondly, the Richmond Community High School curriculum is designed for college-bound students. This fits perfectly with the goals of both Project SEED and R-MC's SURF program. Randolph-Macon College alumna **Hannah Dise**, who teaches chemistry at RCHS, was instrumental in helping to identify candidates for this SURF/SEED program.

Lastacia was mentored by Prof. Thoburn and by Melissa Mitchler (R-MC, '18) who was working in Dr. Thoburn's lab on the synthesis of a cubic supramolecular cage that can undergo light-activated encapsulation of guest molecules. Lastacia learned many synthetic and analytical techniques, including the use of IR and NMR spectrometers. Lastacia and Melissa co-presented their results at a poster session as part of the SURF Symposium, the culminating experience of the SURF program. Furthermore, she was able to participate in other activities in R-MC's SURF program, including luncheons featuring faculty presentations on careers in STEM fields.



The Chemistry Department at Randolph-Macon College is looking to expand the Project SEED/SURF program next year.

VIRGINIA SECTION GETS CHEMLUMINARY AWARD



The American Chemical Society has given the Virginia Section another ChemLuminary Award. ChemLuminary awards are special ACS awards that are given annually to local sections and divisions. This marks the 19th year of these awards. The Virginia Section has won a total of 16 ChemLuminaries. This year the Section was nominated in five categories and won for **Outstanding Community Involvement in National Chemistry Week (NCW)**. The citation for the award states "The Virginia Local Section hosted two National Chemistry Week events during Halloween weekend that resulted in attendees carving the elements of the periodic table into pumpkins

and setting up a forensic laboratory that taught students how chemistry is an interdisciplinary science." Some reports on NCW activities in the Section can be found in the December, 2016 issue of *The Bulletin*. NCW events were held at several sites, including some in the Richmond area, the Shenandoah Valley, and King William County. Many ACS members, students, and teachers participated. Special recognition should be given to event organizers **Colleen Taylor**, **Kristine Smetana**, and **Joe Crockett**.

CHEMISTRY AT VIRGINIA COMMONWEALTH UNIVERSITY

The Virginia Commonwealth University Department of Chemistry has 41 faculty members, approximately 80 graduate students and 500 undergraduate chemistry majors. The department brings in about \$2.5 million annually in research and educational grants. The department offers full-time undergraduate programs leading to the Bachelor of Science. The degree concentrations allow students to focus on different aspects of chemistry, depending on their specific interests. The concentrations include chemical science, professional chemist, professional chemist with honors, chemical modeling, and biochemistry.



The department also offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees in analytical, inorganic, organic, and physical chemistry and to the doctoral degree in chemical physics. A wide range of graduate courses is offered; the classes are small in size and personal in nature.

The recent addition of new faculty and laboratories and the acquisition of new instrumentation provide a firm basis for continued excellence in both teaching and research.

A program of studies is tailored to the individual student and is designed to provide a sound background in all areas of chemistry, with emphasis on the student's area of research. The low student-to-faculty ratio ensures that each student receives personal attention.



An important and distinctive feature of the department is close interaction between faculty and students. This interaction, in an active and friendly environment, is designed to promote scholarship, develop experimental ability, and stimulate creative thought. Students work side by side with faculty members in small research groups. They are encouraged to present the results of their research at regional and national meetings of the American Chemical Society and other professional organizations.

The department is committed to excellence in both research and teaching. The faculty actively conduct research in the areas of analytical, inorganic, organic, physical, and polymer chemistry and, in cooperation with the Department of Physics, chemical physics. Faculty members have received training and experience at leading universities, industrial laboratories, and national research laboratories. Their excellent and diverse backgrounds ensure a graduate program of quality and balance, one that can meet the varied needs of future professionals. John B. Fenn, Nobel Laureate 2002, was a member of the Department of Chemistry faculty.

State-of-the-art instrumentation used by faculty, graduate students, and undergraduate students in courses and research includes magnetic resonance spectroscopy, infrared, uv-vis, and fluorescence spectroscopy, mass spectrometry, and liquid and gas chromatography.

A weekly seminar program brings distinguished speakers to the department from academia and industry. Arrangements are made for the speakers to meet with students to discuss research and other topics. The program results in graduates who are well-prepared for careers in industry, academics, and national research laboratories. In addition to the regular seminar program, the annual Mary E. Kapp Lecture in Chemistry brings a chemist of international reputation to the department. This lecture honors Kapp, the first chairman of the department, who guided the department through its formative years. Kapp established an endowment for the department from her estate. The department also hosts the John B. Fenn Memorial Seminar that honors VCU's only Nobel Prize winner.



**VIRGINIA ACADEMY OF SCIENCE
FALL UNDERGRADUATE RESEARCH MEETING**

Saturday, October 28, 2017
9:00 am - 5:00 pm

Hampden-Sydney College
Richmond, Virginia

more information: www.vacadsci.org



2017 Southeastern Regional Meeting of the ACS

*Sheraton Charlotte Hotel
Charlotte, North Carolina
November 7 - 11, 2017*

*Theme: "Humans to Hybrids"
4 Plenary Speakers, 39 Keynote Speakers,
40 Invited Symposia and Workshops,
Chemical Exposition*

FULL INFORMATION AT WWW.SERMACS2017.ORG

The Bulletin is published nine times a year
by the Virginia Section of the American Chemical Society

Editor: **James Beck**, 1977 Vesonder Road, Petersburg, VA 23805;
(804) 733-5286; beckjd1977@comcast.net

Publisher: **Will Lewis**, (804) 586-5492; wlewis8669@aol.com

Chair of the Virginia Section: **Colleen Taylor**, (804) 524-5481;
ChairVAsectionACS@gmail.com