



The Bulletin
of the
Virginia Section
AMERICAN CHEMICAL SOCIETY

NOVEMBER MEETING NOTICE

University of Mary Washington
Fredericksburg, Virginia

Wednesday, November 15, 2017

Social Hour: 5:00 pm
Home Team Grill
1109 Jefferson Davis Hwy.

Dinner: 5:30 pm
Home Team Grill

PROGRAM: 7:00 pm
Digital Auditorium
Hurley Convergence Center, 1301 College Avenue (off Campus Walk)

MENU: Chicken Picatta and Shrimp Scampi Buffet, including Salad, Pasta, and Potatoes; Brownies, Cookies, Soft Drinks. Alternative items can be ordered from the Grill menu at posted prices.)

PRICE: ACS Members & Guests - \$25.00
High School Students, College Students, High School Teachers - \$13.00
Retired ACS Members & Spouses, Retired Teachers & Spouses - \$20.00

DINNER RESERVATIONS: Please make reservations by **NOON** on **Friday, November 10** by calling Jessica Murphy at (540) 654-1016 or by e-mail to jconnoll@umw.edu.

HOST: Dr. Janet Asper, (540) 654-1143; jasper@umw.edu

SPEAKER: Dr. Rebecca R. Pompano, University of Virginia

TOPIC: "Making the Immune System Accessible with New Chemical and Microfluidic Tools"

NOVEMBER 2017

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DR. REBECCA R. POMPANO

Dr. Rebecca Pompano is an Assistant Professor in the Department of Chemistry at the University of Virginia. She completed a BS in Chemistry at the University of Richmond (2005) and a PhD (2011) at the University of Chicago. Her graduate work focused on developing microfluidic devices to manipulate blood clotting, and was funded by the NSF Graduate Research Fellowship program. In her postdoc, she developed new non-inflammatory vaccines using chemically-defined nanoparticles. At UVA, Dr. Pompano's research interests center on developing microfluidic and chemical assays to unravel the complexity of the immune response and inform new immunotherapies. She is funded by a prestigious Individual Biomedical Research Award from The Hartwell Foundation and received the national Starter Grant Award from the Society of Analytical Chemists of Pittsburgh in 2016. She is active in the Virginia ACS section and in advocating for continued funding for education and biomedical research in Richmond and on Capitol Hill.



“Making the Immune System Accessible with New Chemical and Microfluidic Tools”

The overarching goal of the Pompano laboratory is to develop bioanalytical methods to see where and when cells communicate with each other during an immune response. We use a tool called microfluidics to achieve local and time-resolved stimulation, and novel chemical assays to measure local responses. In this talk, I will describe a microfluidic strategy for local stimulation of live tissue samples through fixed ports beneath the tissue. Using the device, we were able to deliver drugs locally to individual regions of a lymph node, thus enabling future studies of targeted immunotherapies. We used this strategy to watch the diffusion (movement) of bioactive proteins through live lymph node tissue for the first time. Moving forward, we are combining these devices with live fluorescence microscopy to watch cells as they interact during immunity and inflammation, bringing quantitative molecular stimulation and analysis to problems of chronic inflammatory diseases.

LIVE INTERNET STREAMING OF THE NOVEMBER 15 MEETING

Can't make the November 15 meeting at the University of Mary Washington? Catch the meeting live by going to this website: <http://convergence.umw.edu/umwdalive/> (you may need to cut the url and paste it into your Internet server). Not available after the live event.

HAPPY THANKSGIVING



Directions and Map

Fredericksburg is located just off I-95, about 50 miles north of Richmond. The **Home Team Grill** is at 1109 Jefferson Davis Highway, Fredericksburg, in the Eagle Village Shopping Center. It is directly across from the University of Mary Washington at the corner of U.S. Route 1 and College Avenue. Parking is available around the restaurant or in the parking garage directly behind the restaurant. Alternatively, you can park on campus in the Jepson Science Center parking lot and walk over the pedestrian bridge to the restaurant.

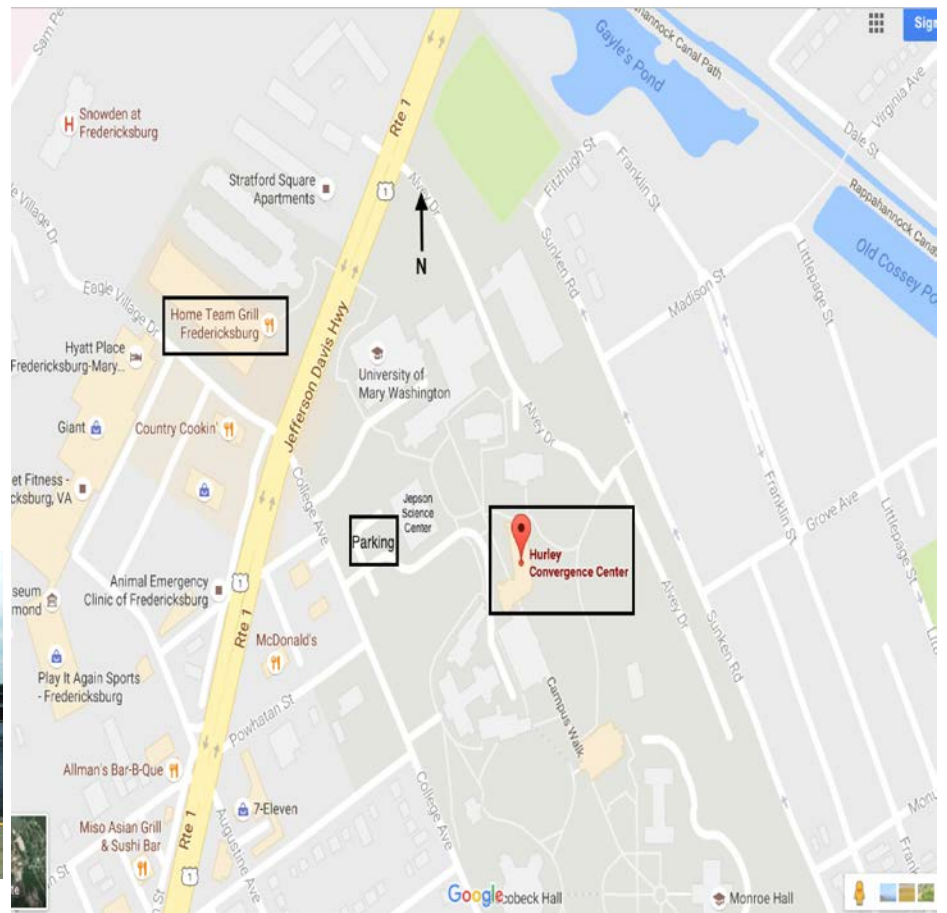
The Hurley Convergence Center is on the north side of the UMW campus. There is on-street parking along College Avenue. Alternatively, you can park in the Jepson Science Center parking lot—the Hurley Convergence Center is across Campus Walk from the Jepson Science Center.

To reach the Home Team Grill, College Avenue, Jepson Science Center, and the Hurley Convergence Center, take Exit 130-A from I-95 and follow Route 3 East Business to the traffic light for William Street. Turn left on to William Street, then left at the next traffic light on to College Avenue.

There is handicapped parking to the south side of the Jepson Science Center. Proceed to the right in the Jepson parking lot. The handicapped spaces are alongside the building, heading toward the Hurley Convergence Center.

More detailed campus maps can be found at <http://umw.umw.edu/visitors/>.

Home Team Grill



Hurley Convergence Center



THE CHAIR'S CORNER



Fall is a wonderful time to be in “the Valley” of Virginia as we often refer to those locations close to, or within, the Shenandoah Valley region of our section. Having the October meeting in this area allows members to enjoy the aesthetic experience of the surroundings along with the usual intellectual and social interactions. With the persistence of the long hot days, we may have to adjust our timing in the future.

I hope you were able to make the Staunton meeting at Mary Baldwin University this time around and enjoyed yourself. If you didn't make it, please attend future meetings in this region at schools such as James Madison University, Eastern Mennonite University, and Bridgewater College. We often forget in our busy lives to stop and “smell the roses”, or, view the foliage in this case. Take care of yourself, take a day off, and wind down a little before the hustle and bustle of the upcoming holiday months. As the season changes I am reflecting on winding down myself, to give the lead to our next Chair, **Kathleen Spangler**. As Kathleen begins her brief journey as Chair, I feel it is important to pull back to allow her to lead. She will do a wonderful job for the section and I will retreat to the background and help where I can while fulfilling the Immediate Past Chair duties.

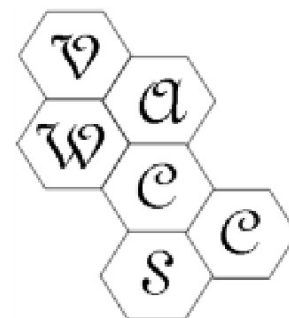
Have a glorious fall season.

...*Colleen Taylor, 2017 Section Chair* - ChairVAsectionACS@gmail.com

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

MEETING OF WOMEN CHEMISTS COMMITTEE

The next meeting of the Women Chemists Committee (WCC) of the Virginia Section will be **Friday, December 1** at 12:10 pm at the VCU Chili's, located at 355 W. Cary Street in Richmond. There is free parking across the street. Please RSVP to Kathryn Deibler at kdd3@cornell.edu by **noon on November 30** if you will be attending.



MORE WCC NEWS

On September 22, the Women Chemists Committee (WCC) of the Virginia Section met for lunch at the VCU Chili's. There was excellent attendance by students, industry, and academic members. Some planning was done for future meetings (the WCC meets every other month). Before the January/February meeting a Doodle poll will be sent to those on the WCC email list to help identify the best timing for that meeting.



The 9th annual **Chemistry Career Discussion Panel** hosted by the WCC was held at Virginia Union University on Thursday, October 12. The event was held in the Wilder Library Lecture Hall and was attended by about 45 students from VUU, VSU, JSRCC, and VCU. After a social hour, the three panelists spoke on their educational backgrounds and career paths. **Gina Harm**, Senior Vice President at Afton Chemical, described the many different roles in her career and advised the students to be open to trying new things during their careers. **Niti Shah**, a research scientist at

Altria, outlined her exploration of different areas of research and encouraged the students to not give up as they look for their first jobs. **LaChelle Waller**, a professor and the Director of Undergraduate Advising and Research at VCU, shared the many challenges that she faced while working on her degrees and advised the students to take advantage of all the career resources on campus and ask for help from their support system. The WCC would like to thank all the panelists for participating in this year's event. Thanks also to **Dorothy Esenou** at VUU for hosting this event and to **Kathryn Deibler** for assisting with the planning.



(reports by **Stephanie Mabry** and **Kathryn Deibler**; photos by **Brandi Ford**)

REPORT ON THE OCTOBER SECTION MEETING

On October 20, 2017, the Virginia Section met at Mary Baldwin University (MBU) in Staunton. Thirty-six persons enjoyed a Social Hour, a delicious dinner, and an interesting talk on chemical education. A number of college students, including several from Bridgewater College and from Mary Baldwin University, attended the meeting. **Ms. Kathleen Spangler**, Chair Elect of the Virginia Section, presided. **Dr. Peter Ruiz-Haas**, Associate Professor of Chemistry at Mary Baldwin, welcomed everyone to the University. **Ms. Caroline Fresch**, a junior student at MBU who is minoring in chemistry, introduced the speaker, **Dr. Laura Serbulea**, from the University of Virginia. Dr. Serbulea described her use of computer-based educational programs in her university classes in a talk titled "Using Chemistry Class Advantage and Online Learning Systems in Organic Chemistry Courses." One of the programs that Dr. Serbulea is using with some of her organic chemistry students is *Chemistry Class Advantage*[™], a pilot program developed by Chemical Abstracts Service that offers a unique online learning solution that ties organic chemistry concepts to real-world applications with research found in *SciFinder*[®] (more information on Chemistry Class Advantage can be found at <https://www.cas.org/products/scifinder/chemistry-class-advantage>). Ms. Spangler presented the traditional engraved Jefferson Cup to Dr. Serbulea. Thanks to Dr. Ruiz-Haas and his colleagues and students for organizing this fine meeting. The Section was pleased to return to Mary Baldwin. The Section last met in Staunton in October, 2005 when MBU was still Mary Baldwin College and **Dr. Elizabeth Hairfield** was Chair of the Chemistry Department (Betty attended the October 20 meeting; she and her husband **Hampton** still live in Staunton).



SAFETY PUBLICATIONS

Dr. Joseph Crockett, Chair of the Safety Committee for the Virginia Section, is providing copies of several ACS publications on safety in classrooms and schools. The safety booklets will be available to interested persons at the November 15 meeting in Fredericksburg and at Section meetings in 2018. These three publications will be provided free to ACS members and school teachers:

- *Safety in the Elementary Science Classroom*
- *Safety in Academic Chemical Laboratories: Best Practices for First- and Second-Year University Students (new edition)*
- *Creating Safety Cultures in Academic Institutions: A Report of the Safety Culture Task Force of the ACS Committee on Chemical Safety*

For more information on these and other safety publications, or to obtain copies, contact Dr. Crockett at jcrocket@bridgewater.edu; (540) 828-5431.

CHEMISTRY OLYMPIAD RESULTS

Some results for the 2017 Chemistry Olympiad testing in the Virginia Section were included in the October *Bulletin*. Here are some additional results.

The School Award is given to the school with the highest overall average, separated by test, but not category. The school must have at least seven participants, the highest and lowest scores are discarded, with the average score determined from the remaining scores. Each winning school receives a plaque and a check for \$250.

School Awards:

First Year Exam - **The Governor's School of Southside Virginia at Alberta**

Second Year Exam - **Prince Edward County High School**

The Team Award is given to the school with the highest combined total for five students, separated by category and year. Winning schools receive plaques.

First year Team Award:

Small School & Small Governor's School - **The Governor's School of Southside Virginia at Alberta**

Large School - **Albemarle High School**

Second Year Team Award:

Small School & Small Governor's School - **Collegiate School**

Large School - **Prince Edward County High School**

More information on the Chemistry Olympiad in the Virginia Section can be found on the Section website <http://virginia.sites.acs.org/>. **Dr. Ann Sullivan** is Chair of Virginia Section Olympiad Committee and prepared these reports of the 2017 Olympiad results: asullivan@reynolds.edu.

INTERNATIONAL OLYMPIAD RESULTS

The 49th International Chemistry Olympiad was held in Bakhon Pathom, Thailand, in July. The teams from Taiwan and the United States tied for the best performance, each team earning four gold medals. This was the best U.S. showing ever in the high school chemistry competition. The U.S. has been participating in the International Olympiad since 1984. Teams from 76 countries participated in this year's competition. Following the U.S. and Taiwan, other top-performing countries included China, Iran, Vietnam, Korea, Romania, Russian Federation, and Singapore. The best score was by a Russian student. The U.S. team consisted of **Steven Liu** from Cupertino, California; **Joshua Park** from Lexington, Massachusetts; **Harrison Wang** from Hinsdale, Illinois; and **Brendan Yap** from Carmel, Indiana. The 50th International Chemistry Olympiad will be held in Prague, Czech Republic and Bratislava, Slovakia in July, 2018.



LINKEDIN ACCOUNT FOR SECTION

Are you into *LinkedIn*? **Dr. Stephanie Mabry** maintains a *LinkedIn* account for the Virginia Section. The page is at <https://www.linkedin.com/groups/4030280>. Contact Dr. Mabry for more information: stephanie.mabry@aftonchemical.com.

NEW MEMBER BUDDY SYSTEM

Are you new this year to the Virginia Section of ACS?

Being new to Virginia Section of ACS can perhaps be a little intimidating. We want to help alleviate any uneasiness as you are introduced to this unfamiliar environment with warmth and help you to get the most out of your experience. Our new "**Buddy System**" matches up new members with longer-standing members. The longer-standing member will introduce the new member at a Section meeting and will provide insights on the benefits of active membership. All you need to do is complete the profile form found at <http://virginia.sites.acs.org/newmembers.html> and return it to **Denise Walters** at denise.walters@pfizer.com. You will then be matched with a longer-term member who will contact you. There will also be a reception to meet the members of the Executive Committee and other new members of the Section and their "buddies" prior to the January Section meeting.

Are you willing to help welcome new members?

Here's how. Everyone was new to the Virginia Section of ACS at one time. Do you remember your first meeting? We are looking for members to help welcome new members by partnering with new members to "show them the ropes". To join in the new Buddy System, complete the profile form found at <http://virginia.sites.acs.org/newmembers.htm> and return it to Denise Walters at denise.walters@pfizer.com. Then you will be matched with someone who has joined the Virginia Section of ACS in the past year. You are asked to contact the new member and share your experience with the section. You will also introduce the new member at the first meeting they attend (make arrangements for someone to fill in for you if you are unable to attend). You should also include them in other ACS activities in which you participate. We will have a New Member welcoming reception once a year to bring "Buddies" together and introduce them to each other and to the members of the Executive Committee (this year it will be prior to the January section meeting).

Contact **Kathryn Deibler** for more information on the Buddy System: kdd3@cornell.edu.



CHEMISTRY AT THE UNIVERSITY OF MARY WASHINGTON



The chemistry program at the University of Mary Washington has eight full-time faculty members and programs for both Chemistry and Biochemistry majors. The department's program is approved by the ACS and it offers an ACS-certified degree as an option. All eight members of the chemistry faculty are active in research, which offers many opportunities for undergraduate research during the academic year and in the Summer Science program.

UMW student researchers have presented their research at local, regional, and national meetings. UMW chemistry graduates have earned advanced degrees at schools such as UVA, VCU, Princeton, Florida, Johns Hopkins, and Maryland and medical degrees at UVA, MCV, and EVMS. Other graduates have gone directly to work at government labs including NIH, the DEA, and the Patent Office, or in industries such as Dow Chemical, Philip Morris, PPD, Evonik, and Dominion Power.

During the fall of 2017, work will begin on a 41,000 square foot addition to the Jepson Science Center, followed by a 28,000 square foot renovation of the existing building. The expanded building will provide the Chemistry Department with additional classrooms, teaching laboratories, and research space. We look forward to showing everyone the new facilities in 2019.



CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA

October 27 - Professor Dan Nomura, University of California, Berkeley, "Redefining Druggability Using Chemoproteomic Platforms"

November 3 - Professor Cynthia Lundgren, Army Research Laboratory, "Electrochemical Power for the Future Army"

November 10 - Professor Jeff Aube, University of North Carolina, Chapel Hill, "From Basic Chemistry to New Opioid Biology"

November 17 - Professor Kristi Kneas, Elizabethtown College

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

More information at <http://chem.virginia.edu/events-seminars/>.

CHEMISTRY SEMINAR AT VIRGINIA COMMONWEALTH UNIVERSITY

November 2 - Dr. Gunda Georg, University of Minnesota

(J. D. Smith/Larry Winters Lecture)

The seminar will be held in Oliver Hall-Physical Science Wing,
Room 1024 at 3:30 p.m.



More information at chemistry@vcu.edu; (804) 828-1298

NOMINATIONS FOR VIRGINIA SECTION AWARDS

The Virginia Section presents awards in several categories. Nominations are welcome from Section members for any of these awards.

The Distinguished Service Award. This award is presented annually to a member of the Virginia Section who has made significant contributions to the ACS and the Virginia Section through his or her work within the Section.

The Outstanding Innovator Award. This is the most prestigious of the industrial innovation awards presented to an individual. The award is given to an individual whose innovation and industrial leadership in technology has made a contribution to the state, the community, and the local economy.

The Industrial Innovation Award. This award is given to an individual whose invention has resulted in a commercial product or a new or improved process for making a commercial product.

The Environmentally Significant Product Award. This award recognizes individuals or teams for the development of a novel process or commercial product that has contributed to the improvement of the environment.

The Process Engineering Award. This award is given for creative applications of methods for process control that are of major importance to a commercial process.

The Team Innovation Award. This award is given to a group of several individuals whose creative innovations have contributed to the commercial success of their company and consequently to the good of the community.

The Industrial Leadership Award. This award is given to an individual who has demonstrated outstanding leadership in research and development involving chemistry.

The Distinguished Research Award. This award is given to honor and recognize the excellence of a member of the Virginia Section, whose research in chemistry has made significant contributions in advancing knowledge in his or her field of research.

Awards in the categories listed above are usually presented at the January meeting of the Section. Nominations should be submitted to **Dr. Yezdi Pithawalla**, Chair of the Awards Committee at yezdipithawalla@yahoo.com. More information and nomination forms can be found on the Section website: <http://www.virginia.sites.acs.org/>. Nominations for the 2017 awards must be received by **November 22**.

The Section also presents awards annually to outstanding elementary school science teachers, middle school science teachers, and high school chemistry teachers. These awards are usually presented in September. Teacher nominations should be submitted to **Mr. Larry White**, Chair of the Education Awards Committee, at lwhite@bridgewater.edu.

ACS STUDENT AFFILIATES PRESENT AT ANNUAL PFIZER EARTH DAY CELEBRATION

On April 20, 2017, five students from the Virginia State University Student Affiliates Chapter of the Virginia Section of the ACS presented some of their work at Pfizer Consumer Healthcare's 13th Annual Earth Day Celebration. The event was held at the Pfizer Consumer Healthcare facility at 1211 Sherwood Ave, Richmond. About 120 people attended the event, including vendors and representatives from community organizations, Pfizer colleagues, and Pfizer retirees.

VSU students **Nasreen Rehmani** and **Laila Alsubaie** authored a poster entitled "Antioxidant and Antimicrobial Effectiveness of Starch Nanocomposite Films for Chicken Meat." Nasreem presented the paper. The research involved developing a new, uniquely protective, biodegradable packaging material that combined the waste stream from wine manufacturing (grape pomace) with cellulose nanoparticles from starch. Successful commercialization of this idea could lead to longer shelf life for packaged products and a reduction in waste stream from the rapidly expanding Virginia wine industry.

Chelsea Jones, Chertavia Clark, Shannon Vandevander, and Tyler Mayrant presented a poster on different methods of recycling aluminum. In their poster, they demonstrated the process for converting used aluminum to potassium aluminum sulfate which has multiple uses in industry including water purification, catalysis, and paper manufacturing, dyes, glues and explosive. Materials for this poster were supplied by the Virginia ACS. The students were accompanied by **Dr. Colleen Taylor**, Chair of the Virginia Section and a professor at Virginia State University.

The students were able to connect with Pfizer colleagues, develop and expand their presentation skills, and help convey the ACS Theme "Chemistry Helps Feed the World". **Neil Partridge**, Senior Director of Product Design – Respiratory and Personal Care, shared his impressions of the ACS Students: "It was really interesting to engage with local ACS Student Affiliates, to discuss their research projects and to understand the thinking and rationale behind it – beyond what was presented in their posters! They did a wonderful job of representing their respective academic programs".



(This article was provided by
Dr. Denise Walters)

POSTER PRESENTATIONS ON APRIL 14

Each year at the April meeting, the Virginia Section holds an undergraduate research poster session. This year's meeting was held on April 12 at the University of Virginia in Charlottesville and featured 41 papers presented by students from twelve colleges and universities. Here is the information on some of the papers. Special thanks to **Cindy Knight** at the University of Virginia for preparing this list of the posters. (The names in bold presented the papers at the meeting.)

Alexander Abedi¹, Yongle Du¹, Ana L. Valenciano Murillo², Maria B. Cassera², David G. I. Kingston¹,
¹Department of Chemistry and the Virginia Tech Center for Drug Discovery, Virginia Tech and
²Department of Biochemistry and Molecular Biology, University of Georgia

Isolation of a new antiparasitic butanolide from a *Malleastrum sp.* from Madagascar

Chika Adiele, Ethan Arrington, Mark Bernard, Taku Chiware, Gagan Gupta, Department of Chemistry, University of Virginia

Helicobacter pylori E31Q Aspartate Aminotransferase Mutant Decreases Aspartate Specificity Suggesting that E31 has a Role in Substrate Binding

A. Alam, J. Hughes, A. Joun, **J. Nussbaum, S. Wilson, L. Zhang**, C. Price, and C. Mura, Department of Chemistry, University of Virginia

Effects of mutation on putative aspartate aminotransferase in *Helicobacter pylori*

Priyanka Aytoda, Timothy Chastanet, **Sophie Choi, Abigail Cole**, Samuel Johnson, **Villania Wen**, Carol Price, Cameron Mura, Department of Chemistry, University of Virginia

Elucidating the Role of Arginine-91 from a Aspartate Aminotransferase from *Helicobacter pylori* in Substrate Specificity

Arslan Aziz and Andreas Gahlmann, Department of Chemistry, University of Virginia

Visualizing bacterial biofilms: a computational and experimental approach

Diego Barahona and Matthew Siderhurst, Department of Chemistry, Eastern Mennonite University

Syntheses and behavioral evaluation of analogs of raspberry ketone as attractants for the melon fly, *Zeugodacus cucurbitae*

Bridget Bergquist, Kaelyn Jefferson and Andrew Yeagley, Department of Chemistry and Physics, Longwood University

Estrogen Receptor Binding Properties for 3,5-Substituted Parabens

Hallie Blevins and Ellen Mitchell, Department of Chemistry, Bridgewater College

Synthesis of a Symmetric Porphyrin

Eiline Cai, Zac Chapman, David Dent, Christopher Dowdy, Swati Dwibedy, Lillian Tan, Carol Price, Cameron Mura, and Timothy Ware, Department of Chemistry, University of Virginia

Characterization of tyrosine-129's role in substrate specificity of a putative aminotransferase from *Neisseria meningitidis*

Charles P. Clark, **Sarah L. Karstens**, James P. Landers, Department of Chemistry, University of Virginia

Techniques for Closable Valving on Centrifugal Microfluidic Systems

Daniel A. Corbin and Brycelyn M. Boardman, Department of Chemistry and Biochemistry, James Madison University

Recent Advances in the Optical and Structural Characterization of Organic-Inorganic Copolymers with Photovoltaic Applications

Linda Foreman, Chanaka Amarasekara, and Katherine Belecki, Department of Chemistry, Virginia Commonwealth University

Rationally designed deoxyribose-5-phosphate aldolase variants as biocatalysts

Garrett George and Ken Overway, Department of Chemistry, Bridgewater College

Solid Phase Extraction of Herbicides from Groundwater and Soils

Harley Hodges, **Bryan Stewart**, and Andrew Yeagley, Department of Chemistry and Physics, Longwood University

Preparing and screening brominated phenols: An organic laboratory experience

Bryce Hodsdon, **Kendall Jenkins**, **Sofia Lamrissi-Garcia**, **Debbie Ledezma**, **Austin Schinlever**, **Nick Ursini**, Carol Price, and Cameron Mura, Department of Chemistry, University of Virginia

Improving activity of the aspartate aminotransferase from *Helicobacter pylori* (HpAspAT) via mutation of an active site residue

Victoria C. Holt, Shannon T. Krauss, James P. Landers, Department of Chemistry, University of Virginia

Development of explosive materials detection method using on-chip colorimetric reactions

Elise Huppert, **Caroline Kerr**, **Vinuth Koduru**, **Leah Ostendorf**, **Solomiya Tsymbalyuk**, **Joshua Shields**, Catherine Ehrhart, Carol Price, Cameron Mura, Department of Chemistry, University of Virginia

Increasing the substrate affinity of an aspartate aminotransferase from *N. meningitidis* (PDB ID: 3JTX) by introducing an R292 active site analog

Bartosh Kaminski and Vernon Ruffin, Department of Chemistry, Virginia Union University

The Effects of Alcoholism and the Brain

Hailey N. Kintz, Shelby Furman, Jonathan Bietsch, Tim McCoy, and Andrew Yeagley, Department of Chemistry and Physics, Longwood University

Investigating the Antimicrobial Properties of Brominated Parabens: An Organic Laboratory Experience

Brian W. Kiddy and Kyle Bantz, Department of Chemistry, Virginia Military Institute

Filter-based Surface-Enhanced Raman Substrates (SERS) utilizing Au Nanoparticles

Kat Lehman, **Hannah Walker**, and Matthew Siderhurst, Department of Chemistry, Eastern Mennonite University

Analysis of Volatile profiles for coffee damaged by the coffee berry borer (*Hypothenemus hampei*)

Kelly McDaniel and Davis Oldham, Department of Chemistry, University of Mary Washington

Synthesis of Oxidative Metabolites of DEHP

Lauren McRae, Cooper Taylor, and Carol Parish, Department of Chemistry, University of Richmond

Exploring the Structure and APO-Dynamics of JIP1

Jayden Metzger and Benjamin Topham, Department of Chemistry and Physics, Longwood University

Controlling electronics with chemistry

Samuel Miller and Matthew Siderhurst, Department of Chemistry, Eastern Mennonite University

Volatile Changes in Hawaiian Noni Fruit, *Morinda citrifolia* L., During Ripening

Isaac M. Noffsinger and Ellen Mitchell, Department of Chemistry, Bridgewater College

Synthesis of Meso-Substituted Asymmetric Porphyrins

Alma Rivera, Ting Yan, and Andreas Gahlmann, Department of Chemistry, University of Virginia

Immobilizing Cells for Uncompromised Correlative Imaging Using Graphene Oxide

Mark Roberts and Kyle Bantz, Department of Chemistry, Virginia Military Institute

Creating a Colorimetric Assay to Increase Sensitivity of the Traditional para-Nitrophenylphosphate Assay

Donovan J. Robinson and Tappey H. Jones, Department of Chemistry, Virginia Military Institute

The Preparation of a Novel Compound in the Defensive Chemistry of *Gasterogramma rusticum*

Thais Scott and Carol Parish, Department of Chemistry, University of Richmond

Multi-reference Characterization of Diradical Pyrazines

Limor Steinberg, Milos Tomovic, Page Pest, Javier Mery, Jason Li, Brianna Kelly, John Carlson, Catherine Ehrhart and Cameron Mura, Department of Chemistry, University of Virginia

Functional characterization of wild-type and T271R NmAT

Sloane Stoufer, Sebastian Coupe, Isaac Falk, Bella Blanco, Claire Allen, Madeleine Stone, Dylan Campbell, Carol Price, and Cameron Mura, Department of Chemistry, University of Virginia

An R100Q mutant of a putative aspartate aminotransferase from *N. meningitidis*

Carleigh Studtmann and Ken Overway, Department of Chemistry, Bridgewater College

Extraction of Protoporphyrin IX for use in Dye-Sensitized Solar Cells

Cooper Taylor¹, Bill R. Miller III², Carol A. Parish¹, ¹Department of Chemistry, University of Richmond and ²Department of Chemistry, Truman State University

Design and computational verification of a CCR5/CXCR4 dual tropic inhibitor

Erica Thomas, Paris Watson, Michael Hunnicutt, and Sally Hunnicutt, Department of Chemistry, Virginia Commonwealth University

A Chemistry Experiment for the Blue Sky Fund

Matthew Tovar and Leanna Giancarlo, Department of Chemistry, University of Mary Washington

Synthesis of Magnetic Nanoparticles to Induce Cell-Specific Apoptosis in Metastatic *Glioblastoma Multiforme*

Lizzy Urbina-Hernandez and Vernon Ruffin, Department of Chemistry, Virginia Union University

The Relationship between NHE and NLF in Multiple Sclerosis

Nilan G. Vaghjiani¹, Lamia Nahar², and Indika U. Arachchige², ¹Department of Biomedical Engineering, Virginia Commonwealth University and ²Department of Chemistry, Virginia Commonwealth University

Metal Thin Films as High Efficiency Surface Enhance Raman Scattering Substrates for Detection of Chronic Biomolecules

Jordan Valentine and Carleitta Paige-Anderson, Department of Chemistry, Virginia Union University

SEA-PHAGES: Fall 2016 Phage Discovery

Shannon Vandevander¹, Chertaevia Clark¹, Chelsea Jones¹, Tyler Mayrant¹, Colleen Taylor¹, and Kenneth Chapman², ¹Department of Chemistry, Virginia State University and ²Department of Chemistry, The Carmel School

Encapsulation of “Artistic” Media into a Glass Material Matrix using the Sol-Gel Procedure for a Service Learning Activity

Adrianna N. Wilson¹, Christopher C. Presley¹, David G. I. Kingston¹, and Joseph O. Falkinham², ¹Department of Chemistry and Virginia Tech Center for Drug Discovery, Virginia Tech and ²Department of Biology and Virginia Tech Center for Drug Discovery, Virginia Tech

Isolation and structure elucidation of antimicrobial compounds from native Southwest Virginia plants

CHEMISTRY FACULTY RECOGNIZED AT VIRGINIA COMMONWEALTH UNIVERSITY



Dr. M. Samy El-Shall, Professor in the Department of Chemistry at Virginia Commonwealth University (VCU), has been appointed as the **Mary Eugenia Kapp Chair in Chemistry**. The Kapp Chair in Chemistry was established by a bequest from emerita faculty member **Mary Kapp**. Dr. Kapp was the first chair of the Department of Chemistry when VCU was formed in 1968 and continued in that position until her retirement in 1972 after 29 years of service. She was very active in the Virginia Section, serving in a number of positions including Chair of the Section in 1952. She received the Distinguished Service Award in 1969. Dr. El-Shall received the Distinguished Research Award from the Virginia Section in 2009. He is a candidate for the office of Vice Chair of the Section in 2018.

Dr. Maryann Collison has been appointed as the **John B. Fenn Professor of Chemistry** at VCU. The Fenn Professorship was established in 2004 in honor of **Dr. John Fenn**'s contributions in chemistry. He was awarded the Nobel Prize in Chemistry in 2002 for his work with **Koichi Tanaka** on ionization methods for the mass spectrometric analysis of biological macromolecules. During his tenure at VCU, Dr. Fenn was active in the Virginia Section and received the Section's Distinguished Service Award in 2004. Dr. Collinson holds a Ph.D. in Analytical Chemistry from North Carolina State University. She is actively engaged in a wide variety of research projects.



WORDS OF WISDOM FOR NOVEMBER:

**“Diligence Is The
Mother Of Good Fortune”**

SEVENTY-YEAR MEMBERSHIP IN THE ACS

This year, the Virginia Section recognized these three persons who have been members of the American Chemical Society for 70 years:

- **Dr. Thomas I. Crowell** (Charlottesville)
- **Mr. Robert L. Lynch** (Richmond)
- **Dr. George Allen Simmons** (Woodstock)

Mr. Lynch attended the Virginia Section meeting on September 16 where he was introduced and given a certificate of recognition from the ACS. Certificates were mailed to Dr. Crowell and Dr. Simmons. Dr. Crowell sent the letter below to **Dr. Colleen Taylor**, Chair of the Virginia Section.

Dear Dr. Taylor,

It was very nice to receive your email saying that you have a 70 year award for me. How quickly the years seem to pass.

I have recently become quite old – I joined the ACS when I was 26 while a graduate student at Columbia. I am well, except I must work under a big electronic reader. While I could put my I-pad under it, and type, I have to admit I have not developed that skill, so excuse this letter.

Petersburg is an interesting place.

(1) My Father, though we are from New Jersey, was sent to Fort Lee to train before he was sent to France in WWI. He made lifelong Virginia friends.

(2) I myself have had close friends from Petersburg who have told me about Crater (hole) etc.

If you can mail me the certificate, to the address on this letter, I will be happy to see it. I came to UVA as a young professor, in 1948 to teach physical organic chemistry. I had never heard of a research grant, can you imagine that!

Thank you for your cordial letter.

Sincerely yours,

Tom

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