



**ACS Virginia Section Younger Chemists Committee Chair Report: 09/28/2018  
Chair: Mr. Julian Bobb**

**I. The YCC sponsored several events since June of 2018**

**A. YCC ATTENDED LUNCH BREAK SCIENCE AT THE SCIENCE MUSEUM OF VIRGINIA**

On Wednesday, June 6<sup>th</sup>, 2018 from 12 – 1 pm, the ACS Virginia Section Younger Chemists Committee (YCC) attended the science museum of Virginia in Richmond for lunch break science. Lunch break science was presented by Bon Secours. First, attendees were checked-in at the guess services desk upon arrival. They were then directed to the Ms. Barbara Thalhimer theater for a talk which was presented by David Olli. The title of the presentation given is "*Guitar Building: The Tools, Materials and Science of Acoustic Guitar Construction*". Attendees learned about the different types of guitars and guitar boxes, and about some of the earlier musicians who helped pioneer the constructions of this musical instrument. The speaker also talked about the physics behind the generation of sound waves by moving strings and about the different components that make up a guitar. This **FREE EVENT** was attended by 8 students from Virginia Commonwealth University (VCU). The YCC will continue to sponsor free events to foster engagement of our members within the section.

**B. ACS VIRGINIA MENTORSHIP PROGRAM**

The ACS Virginia Local Section Younger Chemists Committee (YCC) recently rolled out the Fall ACS Virginia Mentorship Program. Eleven students from local universities, including the University of Virginia, Virginia Commonwealth University, Virginia State University and the College of William and Mary, are participating in the program. Two students who were in the mentoring program last year are continuing in this year's program.

The students are juniors and seniors. Interestingly, some of the students spent the summer being involved with undergraduate research and internship opportunities at various universities and companies. I'm proud to say that some of the students are also serving leadership roles at their respective schools' chemistry clubs and ACS student affiliate chemistry chapters. Three of the students are also serving in various roles in our local section younger chemists committee. The process of the ACS Virginia Mentorship Program involved: (1) sending out a flyer inquiring section members to sign up to be mentors, (2) contacting professors at various universities to invite their students to sign up for the program, (3) asking mentors and mentees to create a profile whereby they provided information such as, company or school affiliation, work and research experiences, career aspirations, times of availability and hobbies, (4) hosting the mentorship luncheon.

Prior to the students signing up for the program, Julian Bobb (YCC chair) talked to the students individually about the program inclusive of the benefits of being a mentee. The mentors are scientists representing companies such as Altria, Pfizer Consumer Healthcare, Contraline Inc., US Navy, and Supernus Pharmaceuticals, Inc. One mentee was paired with one mentor. On Saturday, September 8<sup>th</sup>, 2018 from 2:00 – 3:30 PM, The YCC hosted a mentorship luncheon for the mentors and mentees in the Chemistry Department at Virginia Commonwealth University in Richmond. At the luncheon event, the mentees sat with their mentors socializing while enjoying a great meal. Julian Bobb later gave a brief talk about what the YCC is, talked about the goals for the program, along with the core values and program expectations. This was followed by a team building activity (groups of 4, 2 mentors/2 mentees) whereby the participants were assigned to construct a free-standing tower using spaghetti sticks, a yard of string, a yard of tape, and a marshmallow. The luncheon was concluded with the mentees sitting with their respective mentors to create a work plan. The work plan is for the mentees/mentors to discuss their method of communication, activities they'll do together, and decide how long they'll participate in the program together. The work plan was also emailed to the mentees and mentors that were unable to attend the luncheon and they were instructed to provide the YCC chair (Julian Bobb) with a brief update.

Special thanks to Mrs. Kathleen Sink Spangler (Section Chair) and Dr. Kathryn Deibler for reaching out to their colleagues to sign up as mentors. I'm also grateful for Dr. M. Samy El-Shall for allowing the YCC to host the luncheon at VCU and to Mrs. Heather Lourenco, Dr. Colleen Taylor, Dr. Lachelle Waller, Drs. Michael and Sally Hunnicutt, and Dr. Craig Poffenberger for guidance and advice, and to the YCC team for assistance.

### C. YCC SPONSORS TOUR OF THE NAVAL SURFACE WARFARE CENTER

On Thursday, September 20<sup>th</sup>, 2018, the ACS Virginia Section Younger Chemists Committee (YCC) sponsored a tour of the Naval Surface Warfare Center Dahlgren Division (NSWCDD) in Dahlgren, Virginia. This tour was for US citizens only and an official photo ID was required upon arrival at the facility. In total, 9 students attended the tour representing graduate (PhD) and undergraduate students from the departments of chemistry & chemical and life science engineering at Virginia Commonwealth University and chemistry undergraduate students from the University of Mary Washington. The 2.5 hours tour (1:30 – 4:00 PM) was coordinated by Ms. Stacia Courtney (public affairs officer) and Mr. Chris Hodge. Upon arrival at the facility, we were escorted to the biological and chemical warfare laboratories to learn about the techniques being utilized to help with the decontamination of chemical and biological warfare agents from navy personnel that were contaminated in the field. We also learned about some of the methodologies that are being developed and the instrumentation techniques being used for the development of combatant chemical and biological warfare agents. We were then escorted to a conference room where we were given a brief lecture by Mr. J. Steve Anthony (Head, CBR Defense Division) about the recent history and treaties, along with the types and toxicological effects of chemical/biological/radiological agents. Two employees from the facility, a physicist and a computer scientist, talked to us briefly about the projects that they are working on, their future career aspirations within the organization, and what they like/benefits about working for the naval surface warfare center.

Next, we were escorted to another building to the sensor technology branch which consists of the (1) EO technology and countermeasures, (2) sensor engineering and integration, and (3) advanced materials and applications. Subsequently, brief lectures by Mr. Michael Lowry were given on (1) electromagnetic materials, (2) modulating electronic properties of 2-D macromolecular structures, and (3) passive intermodulation in nanoparticles. We were taught about the design, development, characterization, and testing of electromagnetic materials in particular, carbon nanotubes (CNTs). The CNTs were prepared by chemical vapor deposition and the mechanical properties of the material was investigated. We were briefed on the synthesis, characterization & analysis of 2D-covalent organic frameworks (COFs) and about a novel procedure being leveraged for the preparation of metal core-metal oxide shell nanomaterials for nanocoolant applications. They also showed us examples of fabricated dielectric materials and we learned about the importance of coatings while these materials are being used on navy ships as radars and other detector devices. *At the closing of the tour, we learned more about career and internship opportunities, ways to apply, and we were encouraged to contact them and submit our resumes if interested.*

The mission of the Naval Surface Warfare Center Dahlgren Division (NSWCDD) is to provide research, development, test and evaluation, analysis, systems engineering, integration and certification of complex naval warfare systems related to surface warfare, strategic systems, combat and weapons systems associated with surface warfare. Provide system integration and certification for weapons, combat systems and warfare systems. The NSWCDD operates on an annual budget of \$1.5B with a 100% working

capital fund. The NSWCDD, which was established in 1918, is the largest Federal R&D employer in the Commonwealth of Virginia with about 3,609 civilian employees.

## II. Upcoming YCC Events for 2018 – 2019

### D. Intergenerational Career Development Workshop

On Saturday, October 27<sup>th</sup>, 2018, the Younger Chemists Committee (YCC) of the Virginia Section will host an intergenerational career development workshop at Longwood University from 12:00 – 5:30 pm. This event, which will be leveraged by senior scientists, will begin with a networking luncheon in conjunction with registration. This will be followed by talks on effective resume writing, navigating interviews, ways to improve networking skills, along with a session on projecting professionalism (why it's critical for career success). The event will conclude with an interactive career discussion panel "careers in chemistry" with panelists who will talk about their educational and career experiences. *This event is being funded in part by a Local Section Innovative Project Grant (IPG) from the national ACS.* It's also being co-sponsored by the ACS Virginia Local Section and the Department of Chemistry and Physics at Longwood University. For more information, contact Julian Bobb, Chair of the YCC, at [bobbja@vcu.edu](mailto:bobbja@vcu.edu). More instructions will be provided on how to Sign Up.

### E. Chemistry Night at VCU Chemistry

- A potential chemistry trivia night at VCU in **November 2018** before Thanksgiving
- Objectives for the event:
  - Bridge the gap between undergrad and graduate chemistry students

### F. Potential Younger Chemists Committee/American Society of Safety Professionals (YCC/ASSP) Event in **March 2019**

- Met with Kabrina Tippet in August 2018 (Works for VCU Occupational Safety and Health (OSH) & the Local ASSP President)
- Planning a potential YCC/ASSP event for March 2019
- Objectives for the event:
  - Talk about safety in industry, government, and academia
  - Encourage student membership & involvement with the ASSP
  - Talk about ASSP resources available (scholarships, career opportunities, networking, membership benefits)