



The Bulletin

of the
Virginia Section
AMERICAN CHEMICAL SOCIETY

MARCH MEETING NOTICE

MARCH 2015

**Randolph-Macon College
Ashland, Virginia**

Friday, March 13, 2015

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
	<i>reservations</i>				<i>meeting</i>	
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

DINNER AND PROGRAM: 6:30 p.m.
Estes Dining Hall
Second Floor

MENU: Choice of (1) Chicken Piccata
or (2) Herb Roasted Pork Loin,
or (3) Mushroom Strudel
(vegetarian). Vegetable,
starch, bread, dessert, and
beverage included with each entrée. Please specify your choice of entrée when making your reservation.

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

DINNER RESERVATIONS: Please make reservations for the Dinner by **NOON on Monday, March 9**, by calling Ms. Barbara Wirth at **(804) 752-7368** or by e-mail to **bwirth@rmc.edu**. NOTE: When you make your reservation, **please provide the name of each guest, along with the choice of entrée for each one.**

HOST: Dr. April Marchetti, Garnett-Lambert Professor of Chemistry, Randolph-Macon College; amarchet@rmc.edu; (804) 752-7319

SPEAKER: **Dr. Douglas Friedman, National Research Council, National Academy of Sciences**

TOPIC: **“Safe Science: Promoting a Culture of Safety in Academic Chemical Research”**

Dr. Douglas Friedman



Douglas Friedman is a Senior Program Officer with the Board on Chemical Sciences and Technology at the National Research Council (NRC) of the National Academy of Sciences in Washington, DC. His primary scientific interests lie in the fields of organic chemistry, organic & bio-organic materials, chemical & biological sensing, and nano-technology, particularly as they apply to national and homeland security. Dr. Friedman has supported a diverse array of activities since joining the NRC. He served as study director on *Safe Science: Promoting a Culture of Safety in Academic Chemical Research*, *Transforming Glycoscience: A Roadmap for the Future*, *Determining Core Capabilities in Chemical and Biological Defense Science and Technology*, *Effects of Diluted Bitumen on Crude Oil Transmission Pipelines*, and *Responding to Capability Surprise: A Strategy*

for U.S. Naval Forces. Additionally, he has supported activities on *Convergence: Safeguarding Technology in the Bioeconomy*, *The Role of the Chemical Sciences in Finding Alternatives to Critical Resources*, *Opportunities and Obstacles in Large-Scale Biomass Utilization*, and *Technological Challenges in Antibiotics Discovery and Development*. Dr. Friedman is currently directing studies on the industrialization of biology for chemical manufacturing, environmental effects of diluted bitumen oil spills, and safeguarding technology in the bioeconomy. Prior to joining the NRC, he conducted research in physical organic chemistry and chemical biology at Northwestern University, the University of California, Los Angeles, the University of California, Berkeley, and Solulink Biosciences. He received a Ph.D. in Chemistry from Northwestern University and a B.S. in Chemical Biology from the University of California, Berkeley.

“Safe Science: Promoting a Culture of Safety in Academic Chemical Research”

Recent serious and sometimes fatal accidents in chemical research laboratories at United States universities have driven government agencies, professional societies, industries, and universities themselves to examine the culture of safety in research laboratories. These incidents have triggered a broader discussion of how serious incidents can be prevented in the future and how best to train researchers and emergency personnel to respond appropriately when incidents do occur. As the priority placed on safety increases, many institutions have expressed a desire to go beyond simple compliance with regulations to work toward fostering a strong, positive safety culture: affirming a constant commitment to safety throughout their institutions, while integrating safety as an essential element in the daily work of laboratory researchers.

This study examines the culture of safety in research institutions and makes recommendations for university leadership, laboratory researchers, and environmental health and safety professionals to support safety as a core value of their institutions. The report discusses ways to fulfill that commitment through prioritizing funding for safety equipment and training, as well as making safety an ongoing operational priority.

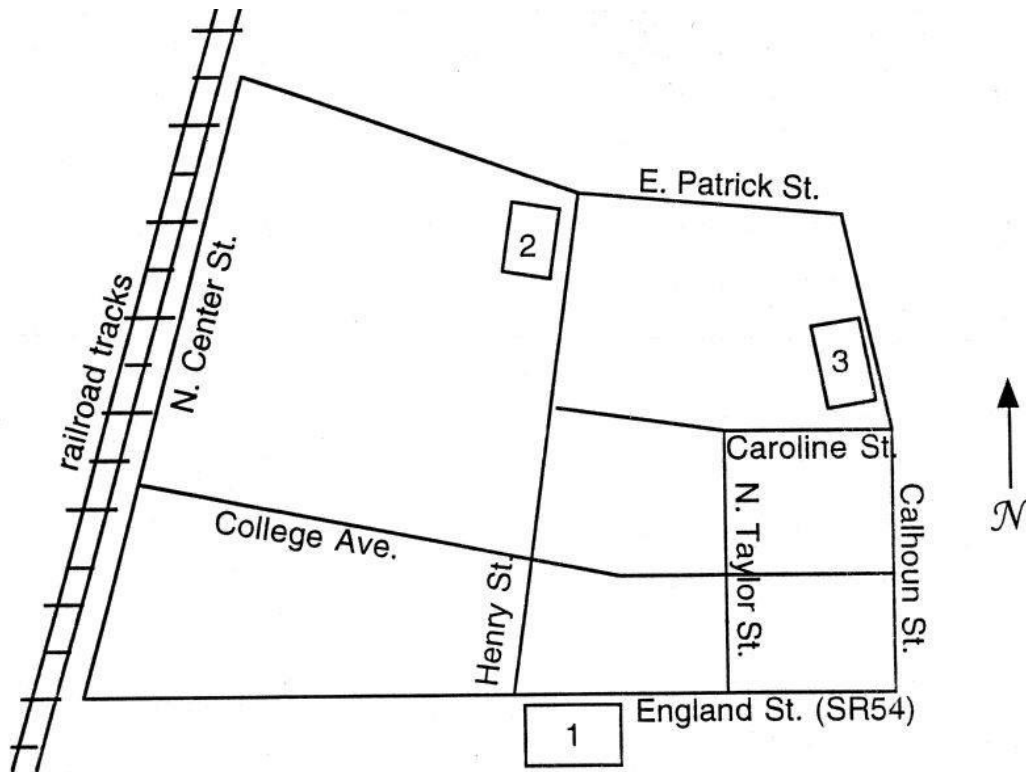
A strong, positive safety culture arises not because of a set of rules but because of a constant commitment to safety throughout an organization. Such a culture supports the free exchange of safety information, emphasizes learning and improvement, and assigns greater importance to solving problems than to placing blame. High importance is assigned to safety at all times, not just when it is convenient or does not threaten personal or institutional productivity goals. The study provides guidance on the changes needed at all levels to protect students, researchers, and staff.

DIRECTIONS

1. Take Interstate 95 to Ashland in Central Virginia, 90 miles south of Washington, D.C.; 100 miles north of the North Carolina border; 12 miles north of the intersection of Interstates 64 and 95.
2. Get off I-95 at Exit 92B - Route 54 West (Ashland).
3. Take Route 54 across Route 1 (your third traffic light).
4. About ½ mile after crossing Route 1, turn right at the R-MC Welcome Center on to Henry Street (across from the Ashland Post Office). Estes Dining Hall is on the left, just past Fountain Plaza and the Frank E. Brown Campus Center.
5. Enter the Dining Hall via the front door and use the stairs on the left to get to the second floor. Handicapped access to the second floor is through the double doors to the elevator on the right.

Parking: Street parking is available near the Estes Dining Hall. In addition, there is a small visitor parking lot just before you get to the Dining Hall.

MAP



Legend:
 1: Ashland Post Office
 2: Estes Dining Hall
 3: Copley Science Center

***** VIRGINIA SECTION NEWS ********FUTURE MEETING***

DATE: **April 17, 2015**
LOCATION: University of Virginia
Charlottesville, Virginia
HOST: Dr. James Demas
PHONE: (434)924-3343
EMAIL: demas@virginia.edu
SPEAKER: **Dr. Nelson Ayala**
TOPIC: "The Health Benefits of Chocolate"



(UNDERGRADUATE RESEARCH POSTER SESSION)

YOUNGER CHEMISTS PROGRAM

The Younger Chemists Committee of the Virginia Section presents...

“Chemistry of Cannabis”

Please join us on **Tuesday March 3, 2015** at 6:00 pm to hear Dr. Aron Lichtman speak about his research at VCU Pharmacology and Toxicology!

Dinner will be provided by the YCC!

We will meet at Sine Restaurant in Richmond, Virginia’s downtown Shockoe Bottom.

Please arrive by 6:00 because the presentation will begin at 6:15.

All chemistry students, teachers, and local chemistry professionals are welcome to join!

FREE Dinner Provided By YCC!

RSVP to Kathleen Sink (kms2uu@virginia.edu) by February 28.

WORDS OF WISDOM FOR MARCH:

**“To Be Prepared
Is Half The Victory”**

THE CHAIR'S CORNER



We were privileged to participate in the annual W. Allan Powell Lectureship at the University of Richmond on February 20. Dr. Joseph DeSimone took us on a journey in which he is using a novel polymer synthesized in his lab to develop an innovative approach that is revolutionizing 3-D printing. It was intriguing to see how his approach is advancing 3-D print technology, allowing him to fabricate prototypes using a wide range of polymers at speeds not achievable with the current SLA or SLS technology. It was inspiring to see how he has been able to leverage fundamental academic scientific accomplishments and translate them into commercial successes. His story is one of entrepreneurship based on the principles of convergence, innovation and collaboration, which are behaviors essential for a successful career in science today.

Looking ahead we have a couple of meetings coming in March. The YCC is hosting an event on March 3 where Aron Lichtman will present the "Chemistry of Cannabis". The March meeting of the Section will be at Randolph-Macon College with Dr. Douglas Friedman presenting "Safe Science: Promoting a Culture of Safety in Academic Chemical Research". Both of these should be exciting informative events and I hope everyone will make an effort to participate in them.

...**Todd Koch**, 2015 Section Chair; todd.koch@pfizer.com

VIRGINIA ACADEMY OF SCIENCE ANNUAL MEETING

**James Madison University
Harrisonburg, Virginia
May 21-23, 2015**



The 93rd Annual meeting of the Academy will be held at James Madison University in Harrisonburg on May 21-23. Chemistry presentations will be scheduled for Friday, May 22. There will be a Poster Session for all Sections that will be set up and stay up all day Thursday, May 21. For more information on the chemistry program, contact Tom DeVore, Chemistry Section Secretary, at devore@jmu.edu. Full information about the annual meeting and about Academy membership can be found on the Academy's website: <http://www.vacadsci.org>.

ACS Student Affiliates Help Pfizer Consumer Healthcare Celebrate Earth Day 2014

Earth Day celebrations began on April 22, 1970 to raise international awareness of environmental issues. In 2003, the American Chemical Society (ACS) began to participate actively in planning earth day events. The Virginia Section began hosting an annual Earth Day celebration in 2006 and won the ACS Chemists Celebrate Earth Day (CCED) award that same year.

On April 11, 2014, students from the ACS Student Affiliate Chapters at Virginia Commonwealth University (VCU) and Virginia Union University (VUU) participated for the first time in the Pfizer Consumer Health Care (PCH)–Richmond Earth Day Celebration. PCH has been celebrating Earth Day for ten years. The ACS Earth Day theme for 2014 was "The Wonders of Water". Dr. Wreagan Williams (VCU) and Dr. Karl Jackson (VUU), worked with their students to develop a joint presentation on methods of water purification. Luis Garcia (VCU), Parita Shah (VCU) and Nhat Le (VUU) talked about the urgent global need for clean drinking water, and developed a power point

presentation on global methods for water purification. They also showed a working model of a water purification system made from common household recycled trash. The event was attended by PCH colleagues.

In conjunction with the ACS, PCH's Wildlife Habitat Committee also hosted an Earth Day Illustrated Poetry Contest for the children of colleagues. Students were asked to submit illustrated poetry based on the CCED theme. Winners of the student contest at Pfizer received gift cards for ice cream and their submissions were forwarded to the Virginia Section to include in the statewide and national competitions.

The ACS theme for CCED-2015 is "Climate Science, It's More than A Weather Report". Contact Dr. Kristine Smetana, Chair of the Section's Committee on Community Activities to see how you can get involved (kmetana@jtcc.edu; (804) 707-5143).

How will your company, university, or school participate in Chemists Celebrate Earth Day? Tell us your story and it may be included in a future edition of the Bulletin.



**Students Nhat Lee (VUU),
Luis Garcia (VCU), and
Parita Shaw (VCU)**

(this article was contributed by **Dr. Denise Walters**, Chair Elect of the Virginia Section and Senior Manager, Analytical Development, Global R&D, Pfizer Consumer Healthcare, Richmond)

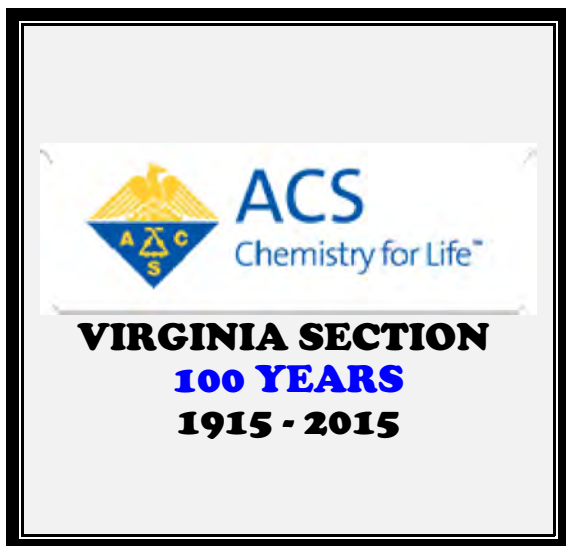
CHEMISTS CELEBRATE EARTH DAY (CCED) 2015



The CCED 2015 theme is "Climate Science: More Than Just A Weather Report!" exploring climate science and the role chemistry plays in the environment. CCED seeks to bring international focus to environmental causes, such as clean air, water, and energy. The ACS offers events, contests, and educational resources for members, chemical educators, students, and chemistry enthusiasts to illustrate the positive role that chemistry plays in preserving the Earth.

The Virginia Section will be participating in CCED this year. **Dr. Kristine Smetana**, Chair of the Section Committee on Community Activities, will be organizing the activities that will be held on April 18 at John Tyler Community College. The Section is actively seeking groups and organizations to sponsor more CCED activities. Contact Kristine at kmetana@jtcc.edu or (804) 706-5143 with suggestions for other CCED events and to volunteer your assistance. Look for more information in the April issue of the Bulletin.

GRAND CENTENNIAL CELEBRATION GALA FOR THE VIRGINIA SECTION



During 2015, the Section will celebrate its 100th anniversary. As part of the centennial activities, the Section will hold a **Centennial Gala** in October. **Diane Grob Schmidt**, 2015 President of the ACS, will be the featured speaker. Look for details in future issues of the Bulletin. If you have ideas about ways to celebrate during our centennial year or would like to volunteer to assist in planning and executing the anniversary commemorations, please contact Dr. Todd Koch who is chairing an *ad hoc* committee for the centennial: todd.koch@pfizer.com; (804) 257-2890.

CHEMISTRY SEMINARS AT VIRGINIA COMMONWEALTH UNIVERSITY

March 19 - **Dr. Holly Walter Kerby**, Madison Technical College, Wisconsin

April 7 - **Dr. James M. Mayer**, Yale University (**Mary Kapp Lecture**)

April 9 - **Dr. Omar Farha**, Northwestern University

April 21 - **Dr. Alan K. Soper**, ISIS Science & Technology Facilities Council, UK



Seminars are held at 3:30 p.m. in Room 1024, in the Physical Science Wing of Oliver Hall, 1001 West Main Street, Richmond. For more information, call (804) 828-1298.



CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA

March 27 - **Professor Stephen Hannessian**, University of Montreal, "The Enterprise of Drug Discovery from an Academic Perspective: A Personal Odyssey" (**Hecht Lecture**)

April 3 - **Dr. Morris Bullock**, Pacific Northwest National Laboratory, "Design of Molecular Electrocatalysts for the Production and Oxidation of Hydrogen: Shoving Protons Around with Proton Relays"

April 10 - **Dr. Steve Vogel**, National Institutes of Health, "Fluorescence Polarization and Fluctuation Analysis (FPFA): A Method for Simultaneously Measuring Fluorescence Lifetime, Time-resolved Anisotropy, Fluorophore Concentration, Molecular Brightness, and Lateral Diffusion Times"

April 17 - **Professor Emad Tajkhorshid**, University of Illinois at Urbana-Champaign, Beckman Institute

April 24 - **Professor Jeffrey Johnson**, University of North Carolina at Chapel Hill, "On the Merits of Pursuing Stereochemical Errors in Natural Product Synthesis"

May 1 - **Professor Alan Marshall**, Florida State University, "Reading Chemical 'Fine Print': The Key to Exploiting Nature's Compositional Complexity" (**Jefferson Lecture**)

Chemistry colloquia are held at 4:00 p.m. in Room 304 of the Chemistry Building. The complete colloquium schedule is on-line at <http://chem.virginia.edu/events-seminars/>.

SCIENCE FAIR JUDGES NEEDED

METRO RICHMOND STEM FAIR - March 14, Clover Hill High School. Screeners are needed to read and score student papers prior to the Fair and judges are needed on March 14. Contact Martha Vogel, Coordinator of the Metro Richmond Science Fair: (804) 343-6525, ext. 231; stemfair@mysic.org. More information at <http://sciencefair.msinnovation.info/>.

VIRGINIA JUNIOR ACADEMY OF SCIENCE - May 21, James Madison University, Harrisonburg. Contact Susan Booth, VJAS Director: (757) 897-3104; susan.science@gmail.com. More information at <http://www.vacadsci.org>.

QUESTIONS FROM THE PAST

This question was asked in the February Bulletin: In 1989, the Virginia Section received a prestigious award. It was presented by Clayton Callis to Sheryl Baldwin in Miami Beach, Florida. **What was the nature of this award?** On September 12, 1989, the Virginia Section received an award for being the **Outstanding Local Section** in the medium-large category. ACS President Clayton Callis presented the award to Dr. Sheryl Baldwin, Secretary of the Virginia Section. Councilors Allan Powell and Oscar Rodig and Alternate Councilor Jerry Bass attended the national meeting in Miami Beach. The award to the Virginia Section was for 1988 activities. Eddie Thomas was Chair of the Section in 1988. On September 22, 1989, Dr. William Neville, Region IV ACS Director, attended the Virginia Section's Award Meeting at VCU and formally presented the national award to the entire Section.

A new question from the past: The 305th meeting of the Virginia Section was held at the Medical College of Virginia Amphitheatre in Richmond on Friday, November 7. The speaker was Alden H. Emery, Executive Secretary and Business Manager of the ACS who spoke on "Some Problems Faced by the American Chemical Society. The talk was preceded by a reception and dinner in the Monticello Room of Ewart's Cafeteria (dinner price was \$1.25). Approximately 75 members and guests attended. **What was the year of this meeting—1937, 1947, 1957, or 1967?** Extra credit if you can name the Chairman of the Section for that year.

Chemistry at Randolph-Macon College



Randolph-Macon
College

Ashland, Virginia

The chemistry program at Randolph-Macon is designed to prepare a student for graduate school, medical school, dental or veterinary school, or a career in industry, government, or academics, but it is first and foremost a degree in the liberal arts. Therefore, a chemistry major will complete a core of arts, humanities, and social science courses as well as an ACS-approved major curriculum.

The chemistry curriculum includes all the core courses in chemistry (general, organic, physical, inorganic, analytical, biochemistry), plus many interesting electives such as Chemistry of Wine Making, Medicinal Chemistry, and Chemistry & Crime. Students may select from a variety of emphases: Research (ACS degree), Biochemistry, Forensic, General, or Chemical Education.

The hallmark of the R-MC Chemistry program is a dedication to the individual student. This means one-on-one student-faculty research projects. The College's Summer Undergraduate Research Fellowship (SURF) program (which was begun in the chemistry department in 1997) brings 5-7 chemistry student participants each summer. Their work has resulted in publications in peer-reviewed journals, as well as presentations at national and international meetings.

The proximity of Ashland to Richmond and to Washington, DC enables students to carry out internships at state or federal laboratories, as well as at the research laboratories of industrial corporations, and makes it convenient for faculty to schedule trips to such facilities. Chemistry majors at Randolph-Macon are encouraged to work as student assistants in the chemistry laboratory program. By doing so, they gain valuable teaching experience and consolidate their knowledge of laboratory procedures.



The chemistry department is housed in Copley Science Center, a three-story building which also houses the departments of biology, computer science, mathematics, psychology, and physics. Our students have access to all of the scientific instrumentation in the department: 500 and 400 MHz FT NMR, AA, GC/MS, HPLC, GPC, DSC, TGA, and two FT-IR instruments, one equipped with a microscope. In addition, we have a state-of-the-art polymer characterization facility. Each faculty member is assigned a research laboratory, and the department houses a small chemistry library. Additional chemistry monographs, textbooks, and periodicals are located in the McGraw-Page Library on campus.

Faculty include Dr. Nora Green, Dr. April D. Marchetti, Dr. Rebecca Michelsen, Dr. Kassy Mies, Dr. Serge Schreiner (department chair), and Dr. John Thoburn. For more information please visit www.rmc.edu.

CURRENT CONTACT INFORMATION

Does ACS have your correct contact information? If you have had a change in address, phone number, or e-mail address, contact ACS to update your information. Please include both the old and new contact information and your membership ID (the 8-digit number in the upper left hand corner of the C&E News address label). Telephone (800) 333-9511 or e-mail service@acs.org.

CAN YOU IDENTIFY THESE PERSONS?



These four persons attended the Virginia Section meeting on December 1, 2006. One of them was the speaker for the meeting, one was Chair of the Section, and the other two received awards. They were employed at Virginia Union University in Richmond, the Open High School in Richmond, Boehringer Ingelheim Chemicals in Petersburg, and Fred Lynn Middle School in Woodbridge.



The "mystery person" shown in the February Bulletin was My-Linh Tong Nguyen, a senior chemistry major at the University of Virginia. She was recognized at the April 13, 2007 meeting as an outstanding chemistry student. She also introduced Dr. William Bare, the speaker for the Section meeting. Dr. Will Lewis, Section Chair, presided at the meeting and presented My-Linh with her certificate of recognition.



2015 CHEMISTRY OLYMPIAD

The Virginia Section will host the 2015 Chemistry Olympiad for high school chemistry students (both first- and second-year exams will be given). The Local Section competition will be held in March. The students who do well in the local competition will be nominated to compete in the national competition; that examination will be given on April 18 at James Madison University in Harrisonburg. Twenty students from across the U.S. will be selected to attend the study camp at the U.S. Air Force Academy in Colorado, June 2-17. Four of these students will be chosen to represent the U.S. at the 47th International Chemistry Olympiad in Baku, Azerbaijan, July 20-28. For more information, go to the Virginia Section website site at <http://www.virginia.sites.acs.org/>. The Virginia Section recognizes students, teachers, and schools with certificates, pins, plaques, and gift certificates. **Dr. Ann Sullivan** is the coordinator for the Chemistry Olympiad in the Virginia Section: (804) 943-2591 or (804) 523-5777; asullivan@reynolds.edu.

ACS WEBINARS

ACS Webinars® is a free, weekly online event connecting ACS members with subject matter experts and global leaders in chemical sciences, management, and business. Each webinar is about 60 minutes in length, comprising a short presentation followed by a question and answer session. The live webinars are scheduled on Thursdays at 2 p.m. Recordings of past webinars are available online (to ACS members). For a schedule of upcoming events and more information on ACS Webinars, go to <http://acswebinars.org>. Here are a few upcoming webinars:

March 5 - **Making Plastic Greener Through Next Generation Polymers**

March 12 - **Communicating Carbon Science**

March 19 - **Fragment-Based Drug Design Strategies**

April 9 - **Active vs. Passive Voice in Scientific Writing**

April 16 - **Catching Errors: Peer Review and Retractions in Publishing**

A CROCKETT DYNASTY?



The normal term of office for chair of the Virginia Section is one year. Dr. Joseph Crockett, who received the Distinguished Service Award on January 16, 2015, served as chair of the Section for two and a half years! In 1990, Joe was the Chair-Elect when Dr. Mark Slevi, who was the Section Chair, left the Section to take a job in California. Joe completed Mark's term and then served a full year as chair in 1991. Then in 2013, he assumed the office again for a full term. In addition, he has served in various other positions, including Vice Chair, Chair-Elect, Alternate Councilor, and Chair of the Safety Committee.

As it turns, out, Joe was not the first Crockett to take an active role in the Virginia Section. Dr. William Goggin (W. G.) Crockett was chairman of the Section in 1930. Prior to that, he held the positions of secretary and vice-chairman and was the editor of the Virginia Section Bulletin in 1928 and 1929. And he was Chair of the Housing Committee for the 73rd national meeting of the ACS, held in Richmond on April 11-16, 1927. During those years he was a professor of pharmacy at the Medical College of Virginia. He served as Chair of Pharmacy at MCV for over 17 years.

W. G. Crockett was born in 1888 and received his early education at Tazewell High School and the Randolph-Macon Academy in Bedford, Virginia. He graduated from Hampden-Sydney College (as did Joe Crockett), then earned an M.S. at New York University and a Doctor of Pharmacy from Columbia University. He served as a chemist with the Department of Health for the City of New York and also worked for E. R. Squibb and Sons in Brooklyn and the E. I. DuPont de Nemours and Company in Wilmington, Delaware. During World War I he was involved in the analytical research activities of the Chemical Warfare Service at the American University Experiment Station in Washington, D.C. He was professor of pharmacy at Baylor University in Dallas, Texas in 1919-20, before joining the faculty at MCV in 1920. In 1938, he served as president of the American Association of Colleges of Pharmacy. The Virginia Pharmacists Association honored him by giving an annual William G. Crockett award to a high-ranking sophomore pharmacy student at MCV. A laboratory in McGuire Hall on the VCU campus was named in his honor.



So, how is Joseph Crockett related to W. G. Crockett? They are distant cousins. Samuel Crockett(1708-1750) was Joe's great-great-great-great-great grandfather and also William's great-great-great grandfather. Samuel was born in northern Ireland and immigrated to America in 1715. He and his wife Esther had eight children. Joe is descended from John Crockett (1737-1798) and W. G. from John's brother Samuel (1739-1795).

Look for Dr. W. G. Crockett's 1930 "inaugural address" in a future issue of the Bulletin.

OFFICERS OF THE VIRGINIA SECTION OF THE ACS

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Todd Koch