



*The Bulletin*  
of the  
Virginia Section  
**AMERICAN CHEMICAL SOCIETY**

**OCTOBER MEETING NOTICE**

**James Madison University**  
**Harrisonburg, Virginia**  
**Friday, October 24, 2014**

**SOCIAL HOUR:** 6:00 p.m.  
Tours of Phys-Chem Bldg.  
901 Carrier Drive  
Harrisonburg, VA

**DINNER:** 6:30 p.m.  
nTelos Room  
ISAT/CS Building 259  
701 Carrier Drive

**PROGRAM:** 7:30 p.m.  
ISAT/CS Building, Room 159 - 701 Carrier Drive

**MENU:** Salad of Mixed Greens, Strawberries, Almonds, Feta Cheese with Champagne Vinagrette; Sliced Beef Tenderloin with a Roasted Garlic and Thyme Demi Glaze; Rosemary Roasted Potatoes; Vegetable Medley; Pecan Pie; Coffee, Iced Tea, and Water  
**Vegetarian Option** - Stuffed Mushroom (Portabella Cap Stuffed with Boursin Cheese, Sautéed Spinach, and Roasted Red Peppers Topped with Mushroom Duzelle); Garlic Mashed Potatoes; Pecan Pie

**PRICE:** Members/Guests - \$20.00; Students, High School Teachers/Spouses - \$10.00; Retired ACS Members/Spouses, Retired Teachers/Spouses - \$15.00

**RESERVATIONS:** Please make reservations by NOON on **Tuesday, October 21** by calling Tammy at (540) 568-6246, or by e-mail to [devoretc@jmu.edu](mailto:devoretc@jmu.edu)  
**Specify meat or vegetarian option when you make your reservation.**

**HOST:** Dr. Thomas DeVore, (540) 568-6672; [devoretc@jmu.edu](mailto:devoretc@jmu.edu)

**SPEAKER:** **Dr. Daniel M. Downey, James Madison University**

**TOPIC:** **“Water Chemistry of North Branch Simpson Creek and the Rich Hole Wilderness Fire”**

**OCTOBER 2014**

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

## Dr. Daniel M. Downey



Daniel M. Downey, Ph. D. (1980, Louisiana State University) is a Professor of Analytical, Nuclear and Environmental Chemistry at James Madison University. Dr. Downey's research is primarily in the area of environmental analytical chemistry. He is also interested in the analytical use of radioactive materials and in chemical separations. For nearly 28 years, he and his students have worked on acid deposition (acid rain) projects. The most important projects have involved mitigating acidity in streams and lakes to protect and enhance fisheries and other aquatic life. An example of this type work may be found in the recent project of liming the streams in the St. Mary's Wilderness in Augusta County, Virginia.

Projects have also been done on the impacts of gypsy moth defoliation on stream water chemistry, the fate and analysis of herbicides and pesticides, aquatic water chemistry habitat information for amphibians and threatened and endangered species, fish otolith microchemistry, and other environmentally oriented projects. With his students who have worked on these projects, these research studies have been described in more than 180 papers presented at external conferences and 75 publications. Funding has been obtained from the Virginia Department of Game and Inland Fisheries, National Science Foundation, Virginia Department of Environmental Quality, USDA Forest Service and other agencies. He teaches classes in analytical chemistry, environmental chemistry and nuclear science.

### **“Water Chemistry of North Branch Simpson Creek and the Rich Hole Wilderness Fire”**

In April 2012, the entire watershed of North Branch of Simpson Creek in the Rich Hole Wilderness Area of Virginia was burned in a major wildfire. This fire presented an unusual opportunity for the study of effects of forest fires on headwater streams in the Appalachian Mountains due to the near complete and uncontrolled consumption of the timber understory. Virginia forest fires in most cases are suppressed and generally don't consume entire watersheds, but the Wilderness designation here precluded firefighting within the boundaries. The location of this fire was also of interest due to a database of water chemistry collected since 1987 for the Virginia Trout Stream Sensitivity Study. Just after the fire was extinguished the US Forest Service requested JMU to investigate the effects of the fire with the main areas of interest being changes in soil composition, surface run-off and water chemistry. As the most dramatic effects of forest fires on streams have been the result of episodic discharge, sampling was conducted May – September 2012 at North Branch during precipitation runoff events. In addition, synoptic samples were taken in 2012, 2013 and 2014 throughout the stream reach. Chemical parameters including pH, acid neutralizing capacity, base cations, acid anions, aluminum, turbidity and conductivity were measured for comparison to previous data sets. A second stream not affected by the fire, Bob Downy Branch, served as a “control.” This talk will knit together historic and present day land use, forest timber stands, acid deposition, fish, geology and the effects of fire to give a picture of the issues relevant to many Virginia headwater trout streams.

#### **TOURS OF CHEMISTRY FACILITIES AT UMW**

Tours of the Physics-Chemistry Building at the University of Mary Washington will be available during the Social Hour, 6:00 - 6:30 on October 24. Light refreshments will be served in the Lobby of the Physics-Chemistry Building.

## **DIRECTIONS TO MEETING SITE**

### **From the North on I-81**

The ISAT-CS Building is located on the east campus. (Skyline Area, east of I-81). From I-81: Take **exit 247A**, US 33 East (East Market Street), toward Elkton. Turn right at the first stop light (next to the closed Shoney's) on to **Burgess Rd.** Go through the stoplight at the Harrisonburg Shopping Center. Turn right at the stoplight at the top of the hill (just past the Bob Evans and the Texas Steak House) on to **Evelyn Byrd Ave.** Move to the left lane. Go through the stoplight at the bottom of the hill (Reservoir St.) on to campus. Once you pass the soccer fields, there will be large parking lots on both sides of the street. Turn right on to Carrier Drive at the stoplight. There will be parking lots on your right as you travel along Carrier Drive. **You must park in lot D2 to avoid being ticketed.** The entrance to D2 is at the west end of the lot. HHS and ISAT-CS are across the street from D2. The Physics and Chemistry Building, the Health and Human Services Building and the ISAT/CS Building are connected. The easiest way into the complex is through the Physics-Chemistry Building--go through the double doors into HHS, and follow the hallway into ISAT. ISAT 159 is on the West end of the building on the left. The nTelos room (ISAT 259) is directly above it. There are stairs on the right and an elevator next to ISAT 159 that will take you to the second floor.

### **From the South on I-81**

1. Take Exit #245
2. At the end of the exit ramp there is a traffic light....go west onto Port Republic Road and remain in the right lane
3. You will go a short distance to another traffic light where you will see an entrance to campus on your right
4. Turn right and enter the campus. You are now on Bluestone Drive
5. Continue on Bluestone Drive. You will see a number of parking lots on your right; a drained lake and campus buildings on your left.
6. Take the second right off of Bluestone Drive at Carrier Drive heading toward East campus
7. Carrier Drive will lead you back over the interstate, and you will see the ISAT/CS Building directly in front of you as you cross the bridge
8. Go past the building and you will see a parking lot on your left. **Park in the D2 lot** which is the closest to the Physics-Chemistry and ISAT buildings.



**ISAT/CS  
BUILDING**  
701 Carrier  
Drive

**\*\*\* VIRGINIA SECTION NEWS \*\*\*****FUTURE MEETING OF THE SECTION**

DATE: November 4, 2014  
LOCATION: **University of Mary Washington**  
Fredericksburg, Virginia  
HOST: Dr. Janet Asper  
PHONE: (540) 654-1143  
E-MAIL: [jasper@umc](mailto:jasper@umc)  
SPEAKER: **Dr. Gregory Petsko**, Brandeis University  
TOPIC: "The Coming Epidemic of Neurodegenerative Diseases  
and What Science Is – and Should Be – Doing About It"



NOTE: There will not be a Section meeting in December.

**THE CHAIR'S CORNER**

As we enjoy the cooler weather of Fall, there are a number of important events for the ACS. Ballots for the national ACS election are out and it is our chance to pick new leadership for the society. It is an interesting group of candidates with a variety of backgrounds. I encourage you to exercise your right to vote and participate in the election. In the near future, we will also be holding the Section elections. A strong group of candidates will be put forward and I encourage you to cast a ballot. Your vote is a statement of support for the incoming officers as well as a measure of the active members in the section.

October also brings National Chemistry Week. As usual, Kristine Smetana will be organizing a major event at the Science Museum of Virginia. The National Chemistry Week theme is "The Sweet Side of Chemistry – Candy" and Kristine is planning an event based on the Candyland board game. It will be October 25 this year. Please help support her efforts and consider volunteering for the event.

...Scott Gronert, Section Chair, 2014; [sgronert@vcu.edu](mailto:sgronert@vcu.edu)

**VAS FALL UNDERGRADUATE RESEARCH MEETING**

The Virginia Academy of Science Fall Undergraduate Research Meeting will be held on Saturday, October 18 at Virginia State University in Petersburg. Sessions will be held from 9:00 a.m. through 3:00 p.m. in the L. Douglas Wilder Building (Cooperative Extension). At the conclusion of the meeting, five \$500 research grants will be awarded to undergraduate students to support their research during the 2014-15 academic year. Note that the faculty mentor for the project must be a member in good standing of the Virginia Academy of Science. Other meeting information can be found on the VAS website: <http://www.vacadsci.org>.





## NATIONAL CHEMISTRY WEEK 2014

### VIRGINIA SECTION CELEBRATION - OCTOBER 25



**Celebrate National Chemistry Week (NCW) 2014!** Each year National Chemistry Week reaches millions of people with positive messages about the contributions of chemistry. The ACS will celebrate National Chemistry Week on **October 19 – 25, 2014**. The theme for this year is “The Sweet Side of Chemistry—Candy.” Visit [www.acs.org/ncw](http://www.acs.org/ncw) for more information on NCW 2014. There are free educational resources, including a special hands-on activity publication, *Celebrating Chemistry*. Join in the celebration of NCW 2014!

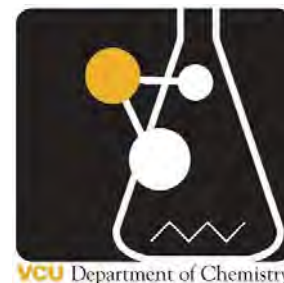
As usual, the Virginia Section will be participating in NCW. Dr. Kristine Smetana will be coordinating the Section activities and is soliciting volunteers to assist with the program. The Section’s NCW event will be on **Saturday, October 25** in Richmond at the Science Museum of Virginia. Hours are 10:00 a.m. until 3:00 p.m. Participants will **“Explore a Chemistry Candyland.”**

ACS members, students, and teachers (both college and high schools) are needed to make this event a success. This is an excellent opportunity to project a positive image of chemistry to the general public. It can only happen with the involvement of many persons. Contact Dr. Smetana for more information and to offer your help: [ksmetana@jtcc.edu](mailto:ksmetana@jtcc.edu); (804) 706-5153.



### SEMINARS AT VIRGINIA COMMONWEALTH UNIVERSITY

- Oct. 9 - **Dr. Jennifer Aitken**, Duquesne University, “Structure-Property Correlations in Diamond-like Semiconductors, Along the Path of Exploration of NLO Materials”
- Oct. 14 - **Dr. Anthony Bell**, University of Southern Mississippi, “Protein Moonlighting: Examining the Non-classical Function(s) of Proteins to Develop Novel Therapeutic and Biotechnology Applications”
- Oct. 23 - **Dr. Phillip Geissler**, University of California at Berkeley, “When Soft Interfaces Go Still: Fluctuating Roughness as a Driving Force in Nanoscale Assembly”
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Nov. 4 - **Dr. MaryAnne Drake**, North Carolina State University, "Flavor Considerations in Manufacture of Dried Dairy Ingredients: the Chemistry Behind the Curtain" (**Altria Seminar**)

Nov. 6 - **Dr. Scott E. Lewis**, University of South Florida

Nov. 13 - **Dr. Dudley Herschbach**, Harvard University, "Glimpses of Chemical Wizardry" (**John B. Fenn Memorial Lecture**) - Hibbs Hall, Room 303; 6:30 p.m.

Seminars are held at 3:30 p.m. in the Kapp Lecture Hall, Room 1024, in the Physical Science Wing of Oliver Hall, 1001 West Main Street, Richmond (see above for Fenn Lecture on Nov. 13).

For more information, call (804) 828-1298 or email Rhea Miller at [rmiller3@vcu.edu](mailto:rmiller3@vcu.edu).



## **CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA**

Oct. 10 - **Professor Rory Waterman**, University of Vermont, "Advances in  $\alpha$  Elimination: Catalytic Organoelement Synthesis"

Oct. 17 - **Professor Peter Bernath**, Old Dominion University, "Molecular Astronomy: Cool Stars, Brown Dwarfs, and Exoplanets"

Oct. 24 - **Professor Alex MacKerell**, University of Maryland, "Polarizable Empirical Force Field for Macromolecules Based on the Classical Drude Oscillator"

Oct. 31 - **Professor W. Carl Lineberger**, University of Colorado, "Anion Photoelectron Spectroscopy: From Radicals and Transition States to the Reaction Co-ordinate"

Nov. 7 - **Professor Gary Pielak**, University of North Carolina at Chapel Hill, "Unexpected Strength of Protein Quinary Interactions"

Nov. 17 - **Professor Helmut Schwarz**, Technical University of Berlin, "Chemistry with Methane: A Cold Approach to a Hot Problem"

Nov. 18 - **Professor Helmut Schwarz**, Technical University of Berlin, "Metal-mediated C-N Bond Coupling in the Gas Phase: Experiment and Computational Chemistry in Concert"

Nov. 21 - **Professor Giacinto Scoles**, Princeton University, "Contributions to Medicine from a Hard Core Nano-chemical Physicist Leading a Small Heterogeneous Army of Fearless Researchers with All Kinds of College Degrees: Chemistry, Physics, Biology, Biotechnology, Material Science, and MDs."

All seminars are held at 4:00 p.m. in room 304 of the Chemistry Building.

The full seminar schedule can be found at <http://chem.virginia.edu/events-seminars/fall-2014/>

### **FREE WANT ADS AND SITUATIONS WANTED**

Employers are reminded that the **Bulletin** publishes free ads for positions that are available. ACS members may place free "situation wanted" ads. Send the pertinent information to Dr. James Beck, 1977 Vesonder Road, Petersburg, VA 23805, call (804) 733-5286, or send it via e-mail to [beckjd1977@comcast.net](mailto:beckjd1977@comcast.net).

## ELECTION OF OFFICERS FOR 2015

Ballots will soon be available for Virginia Section members to vote for candidates for offices that will be filled in 2015. Instructions for voting electronically will be sent to all active members of the Section whose email addresses are on file with the national office. Voting should begin no later than October 22; all balloting must be completed by November 5. Section members who cannot vote electronically should contact Dr. Joseph Crockett, Chair of the Nominations Committee, to request a paper ballot: Joseph Crockett, Bridgewater College, Bridgewater, VA 22812; (540) 828-5431; [jcrocket@bridgewater.edu](mailto:jcrocket@bridgewater.edu). Below are brief biographical statements for the candidates. Write-in voting is possible by electronic means or on paper ballots.

### For CHAIR: Dr. Todd Koch

### Pfizer Consumer Healthcare

Todd Koch is a Senior Director in the Global R&D Operations Analytical Sciences team at Pfizer Consumer Healthcare in Richmond. He has been with Pfizer Consumer Healthcare (formerly Wyeth Consumer Healthcare) for 19 years, holding a variety of leadership positions in the Analytical Development and Product Development groups. Prior to joining Pfizer Consumer Healthcare, Todd spent six years characterizing new chemical entities at the Robert Woods Johnson Pharmaceutical Research Institute. He has a B.S. degree in Chemistry from the State University of New York at Brockport and a Ph.D. in Physical Chemistry from the State University of New York at Binghamton. Todd has been an ACS member since 1991 and a member of the Virginia Section since 1997. He is currently the Chair-Elect of the Virginia Section.

### For CHAIR-ELECT: Dr. Denise Walters

### Pfizer Consumer Healthcare

Denise Walters is a Senior Manager in the Global R&D Operations Analytical Sciences team at Pfizer Consumer Healthcare in Richmond. She has been with Pfizer Consumer Healthcare (formerly Wyeth Consumer Healthcare) for 15 years, holding a number of technical leadership positions in various Analytical Development groups, and has been in her current position since October, 2013. Prior to joining Pfizer Consumer Healthcare, Denise worked for five years as a study director/task leader at Battelle Memorial Institute in Columbus Ohio, supporting analytical projects for both industrial and government contracts. Before that, she worked for three years as a research scientist in pharmacokinetics and analytical development at Whitby Research in Richmond, Virginia. She has a B.S. degree in Chemistry and a Ph.D. in Pharmacy from Virginia Commonwealth University. Denise has been an ACS member since 1985 and has been an active member of the Virginia Section since 2000. She is currently the Vice Chair of the Section.

### For VICE CHAIR: Dr. Colleen Taylor

### Virginia State University

Dr. Taylor is an associate professor of chemistry at Virginia State University where she has filled a variety of roles over the last decade, including Interim Department Chair, blackboard trainer, Undergraduate American Chemical Society Student Affiliate Chapter mentor, general chemistry course coordinator, and research mentor. Her interest in the ACS student affiliate chapter has led her to include students in yearly outreach activities such as the DuPont Girls in Science, Fool for Arts Festival and National Chemistry week at the Science Museum of Virginia. Her most active endeavor with her student affiliates involved serving on the board for SERMACS 2011 and receiving the student affiliate grant to run the Undergraduate Program. Her research interests are in chemical education and interfacial coordination chemistry. The former area of interest has been a major focus for Dr. Taylor for the past several years. She has worked with a local High School to integrate guided inquiry exercises into the curriculum and has presented work on the integration of laboratory videos in place of recitation. She has presented several times on the Flipped Classroom in her General Chemistry courses. On November 13, 2013, Dr. Taylor was featured on the PBS radio program "With Good Reason: The Future of Higher Education" (<http://withgoodreasonradio.org/2013/11/the-future-of-higher-education/>). She serves on the Board of the Academy for Process Educators and is the current Chair of the local PE section in Virginia.

**For SECRETARY: Dr. Dustin Haddenman****AlBioTech**

Dr. Dustin Haddenham is a Senior Scientist, in the Bioorganic Chemistry group at AlBiotech. He is an experienced Organic Chemist who began his career working as a process chemist with Boehringer Ingelheim Chemicals in Petersburg, Virginia where he specialized in project management of technology transfers and process troubleshooting of active pharmaceutical ingredient manufacturing processes. After working with Boehringer for two years, Dr. Haddenham moved to AlBiotech where he is part of the bioorganic group focused on the design and synthesis of small molecules on the gram scale. Dr. Haddenham received a BS degree in Biochemistry from California Polytechnic State University--San Luis Obispo, and a Ph. D. degree in Organic Chemistry from the University of California at Santa Cruz. He has also completed post-doctoral work at Vanderbilt University in Nashville, Tennessee. Dr. Haddenham has authored many peer reviewed research papers on topics ranging from the development of small molecule allosteric modulators of the CNS system to borane reduction methodology development. He is currently serving as Secretary of the Virginia Section.

**For TREASURER: Dr. Thad Hannel****Altria Client Services**

Thad Hannel received his B.S. degree in Chemistry and a minor in Mathematics from Indiana University (Southeast) in 2005. He received his Ph.D. in Analytical Chemistry from the University of Kentucky in 2010 where he worked under Professor Robert Lodder. His research at the University of Kentucky was focused on the development of integrated sensing methodologies for the identification of "false samples" through integration of chemometric techniques directly into the sensor system. These Integrated Sensing and Processing (ISP) methodologies have been applied to Acoustic Resonance Spectrometry (ARS), Near-Infrared (NIR) Hyperspectral imaging and in the development of a novel solid state spectrometer. In 2009 he co-founded Escent Technologies LLC with venture capital based on his research with the solid state spectrometer. In 2013, Dr. Hannel began working as a contractor for Altria where he applied his knowledge of NIR spectroscopy and chemometrics to solve real world problems in manufacturing. He now currently works for Altria as a research scientist in the Modeling and Simulation group where he applies his knowledge of chemometrics to solve diverse problems in a wide range of areas significant to the business.

**For COUNCILOR (three-year term): Dr. Linette Watkins****James Madison University**

Dr. Linette Watkins is now serving a one-year term as a councilor for the Virginia Section. She is head of the Department of Chemistry at James Madison University and was recently named a 2014 ACS Fellow. Dr. Watkins is a biochemist with a B.S. from Trinity University and a Ph.D. from the University of Notre Dame. After completing a post-doctoral appointment at Texas A&M University, she spent 17 years at Texas State University before being appointed as department head at James Madison University in 2014. Her research is focused on understanding bacterial desulfurization and bioremediation. She also promotes active learning in the biochemistry classroom, and using undergraduate research to promote student success. In the ACS, Dr. Watkins has been a strong advocate for diversity and inclusion as the Chair of the Committee on Minority Affairs, through the ACS Scholars, and as a founding member of the Women Chemists of Color program. She also served as a local section leader in the Central Texas local section, as Chair of the 2011 Southwest Regional Meeting, and as the organizer of Minority Affairs Subdivision programming for the Division of Professional Relations. She was recently elected to the Council Policy Committee for the ACS.

**For ALTERNATE COUNCILOR (three-year term): Dr. Joseph Crockett****Bridgewater College**

Joe Crockett is the Immediate Past Chair Virginia Section of the Virginia Section and a Professor of Chemistry at Bridgewater College in Bridgewater, Virginia. Joe is a graduate of Hampden-Sydney College (B.S. in Mathematics, 1973) and the University of North Carolina (Ph.D., 1979). He taught at Tulane University (1977-79) and at Baker University in Kansas (1979-85) before coming to Bridgewater in 1985. Joe has been active in the local section, serving as Vice Chair, Chair-Elect, and Chair during the period 1989-91 and again from 2011-2013. He has been a member of the Executive Committee since 1986, is currently serving a one-year term as an alternate councilor, and is chair of the Safety Committee.



For TRUSTEE (three-year term): Dr. James N. Demas

University of Virginia

James Demas is a professor of chemistry at the University of Virginia where he has served since 1971. He received his Ph.D. in Physical Chemistry from the University of New Mexico with Glen Crosby and was a postdoc with Arthur Adamson at the University of Southern California. He has three times been a visiting staff scientist at Los Alamos National Laboratory. He is currently active in both research and teaching, and is the author of over 200 scientific and educational papers as well as two books. His research specialty is luminescence of metal complexes and their applications. He has several patents using photochemistry and photophysics. Dr. Demas is also an active member of the Virginia Section ACS where he has served well in several executive officer roles. He was the recipient of the Virginia Section's Distinguished Service Award in 1999. His hobbies include computers, photography, biking, and last but not least – cinema.

## IRS FORM FOR VIRGINIA SECTION

The Virginia Section of the ACS is a nonprofit 501(c)(3) organization. An annual 990 form must be filed with the IRS and made available to the public. Contact the Section Treasurer, Dr. Stephanie Mabry, to access the Virginia Section Form 990: (804) 788-5280; Stephanie.Mabry@aftonchemical.com.

## QUESTIONS FROM THE PAST

This question was asked in the September Bulletin: Here is the composition of an *ad hoc* committee of the Virginia Section that was formed in 1987: Seaton Fulghum (Hermitage High School), Mark Hellberg (A. H. Robins), Mary Hobbs (Lee-Davis High School), George Kirvan (DuPont), William Rademaker (Midlothian High School), Barry Riddle (Reynolds Metals), Sarah Rutan (VCU), Donald Shillady (VCU), William Soine (MCV/VCU), Eddie Thomas (Philip Morris), Lidia Vallarino (VCU), Jim Beck (Virginia State College). **What was the purpose of this committee?**

The National Chemistry Day Committee organized the Virginia Section's events for the first ACS National Chemistry Day (later National Chemistry Week) on November 6, 1987. Dr. Lidia Vallarino was the Chair of the Committee. Section activities included a day on "What Chemists Do" at the Science Museum of Virginia, a crystal growing contest, special displays, and talks at schools. Virginia Governor Gerald Baliles issued a proclamation declaring November 6 Chemistry Day in the Commonwealth of Virginia.



A new question from the past: Smith is the most common surname in the United States (there are about 2,400,000 Smiths in the country). The Virginia Section has had two Smiths who served as Chair and one who received the Distinguished Service Award. And two Smiths were speakers at Virginia Section meetings. **Can you name any of the Virginia Section Smiths?**

## THE JEFFERSON CUP

For many years, the Virginia Section has given an engraved Jefferson Cup to each person who has presented a program at a meeting of the Section. The first "Jefferson Cup" was made by John Letelier, a Richmond silversmith, for Thomas Jefferson. Letelier sent eight silver cups, each about 2 5/8 inches high and with rounded bottoms, to Monticello in October, 1810. Jefferson had Letelier make the cups from two large silver breakers that had been willed to him by George Wythe, his friend and mentor. The eight original "Jefferson cups" were used at Monticello until Jefferson's death in 1826. His daughter, Martha Randolph, gave seven of the cups to her children. The eighth cup is believed to have been given to Dr. Robley Dunglison, Jefferson's physician. Seven of the eight original cups have been located and three of those are now at Monticello.



## REPORT ON THE SEPTEMBER 2014 SECTION MEETING

The September 19, 2014 meeting of the Virginia section featured the presentation of the Section's three teaching awards and an address by Dr. Tracy Hamilton of the University of Alabama at Birmingham. Dr. Scott Gronert, Chair of the Virginia Section, presided at the meeting. Vice Chair Todd Koch assisted with the award presentations. The program was preceded by a reception at the historic Scott House.

The Distinguished Elementary School Science Teacher Award was presented to Ms. Rita Larson, who teaches at Martin Luther King, Jr. Elementary School in Prince William County. Ms. Larson was introduced by her colleague James Glenn. Her husband Ed accompanied her at the meeting.

Mr. Nate Shotwell, science teacher at Holman Middle School in Henrico County, received the Distinguished Middle School Science Teacher Award. He was introduced by Dr. Brian Fellows, Principal of Holman Middle School. Mr. Shotwell was accompanied by his wife Jennifer and his delightful daughter Riley Anne.

The Franklin D. Kizer Distinguished High School Chemistry Teacher Award was given to Ms. Heather Warkentien, chemistry teacher at Osbourn High School in Manassas. Mr. Kent Jaffrey, chemistry and physics teacher at Osbourn High School, introduced the award winner. Ms. Warkentien's husband Lars accompanied her.

Dr. Koch presented each of the three award recipients with a plaque and a check for \$300. Dr. Koch then introduced the speaker, Dr. Tracy Hamilton who gave an interesting presentation on "Zymurgy: The Art and Science of Brewing Beer."

Special thanks to Scott Gronert and the Department of Chemistry at Virginia Commonwealth University for organizing this excellent meeting and for providing financial support. Also, many thanks to Eileen Downey, Chair of the Teacher Awards Committee, for all her fine work.



Left-to-Right:

Dr. Scott Gronert, Chair of the Virginia Section

Ms. Heather Warkentien, The Franklin D. Kizer Distinguished High School Chemistry Teacher

Mr. Nate Shotwell, Distinguished Middle School Science Teacher

Ms. Rita Larson, Distinguished Elementary School Science Teacher



## CHEMISTRY AT JAMES MADISON UNIVERSITY



The Department of Chemistry and Biochemistry at James Madison University offers a B.S. in biophysical chemistry and a B.S. in chemistry with programs certified by the American Chemical Society in chemistry, biochemistry, materials chemistry and chemical education. We also offer a concentration in chemistry-business. The 20 full-time faculty offer a modern curriculum with opportunity to take advanced courses in biochemistry, polymers, environmental chemistry, nuclear chemistry and materials science, just to name a few.

A critical component of our program is the incorporation of undergraduates in research and we have recently completed 23 years of our Research Experience for Undergraduates (REU) program, funded by the National Science Foundation, making it one of the longest-lived NSF funded undergraduate research programs in the country. Members of our faculty are committed to teaching, and scholarship as an extension of teaching, and publish regularly with undergraduate co-authors. Our undergraduate research program has been recognized by the Dreyfus Foundation in the form of a Jean Dreyfus Boissevain Undergraduate Scholarship for Excellence in Chemistry, and the Research Corporation departmental development award. James Madison ranks among the top of all baccalaureate and masters degree institutions in the number of graduates going on to earn PhDs in the physical sciences.

In May 2005, the department moved into a new state-of-the-art building on East Campus that it shares with physics. This facility currently houses over \$8 M in state of the art chemical instrumentation that is routinely used by students in their classes and for research. The most visible components of our instrument holdings are the Shenandoah Valley Regional NMR Facility, JMU Regional Undergraduate Laser Facility and the Liquid Chromatography/Mass Spectroscopy Laboratory. The NMR facility has a 300 MHz, a 400 MHz, and a 600 MHz



NMR all of which are available to off campus users. The laser facility has been used to educate faculty from across the United States on ways to integrate lasers into their laboratory programs. Other notable instrumentation available for use by students includes numerous specialized FTIR's, a range of thermal analysis instrumentation, a variable temperature powder X-ray diffractometer, atomic force microscopes, and a scanning electron microscope.

JMU has two very active award-winning student chemistry organizations: The JMU ACS Student Affiliate Chapter and the Gamma Kappa Chapter of Alpha Chi Sigma (the professional Chemistry fraternity).



Please visit our website at <http://www.jmu.edu/chemistry> to learn more about the Chemistry Department at James Madison University.



## CAN YOU IDENTIFY THESE PERSONS?



The photo is from October, 2004 when the subjects were participating in the National Chemistry Week (NCW) activities at the Science Museum of Virginia. Over 1600 persons visited the NCW tables at the Museum that year. Hands-on activities included Slime, Chromatography, Oobleck, POP, Amazing Water, and Bobbing Raisins. The activities were organized by the Educational Events Coordinator at the Science Museum, who is shown in the photograph. The other person was (and is) an active member of the Virginia Section who later served as Chair of the Section. Other participants at the NCW in 2004 included Mary Francis Hobbs and 18 of her chemistry students from Huguenot High School, Lucy Duah-Williams and 23 of her students from the Governor's School in Alberta, Tom Earles, Laurel Brent, Celissa Lovett, Darryl Sneden, and Peggy Truett. Darry and Peggy demonstrated natural and chemical processes for fibers.

The ten "mystery persons" shown in the September issue of the Bulletin were all recipients of Virginia Section's Distinguished Service Award. Left-to-right: Jim Patrick (1990), Don Shillady (1992), Jerry Bass (1979), Sheryl Baldwin (1996), Eddie Thomas (1993), Bill Welstead (1983), Doyle Smith (1980), Frank Kizer (1978), Jim Demas (1999), Jim Beck (1991).



### ...A LOOK BACK...

Some past meetings of the Virginia Section:

One Year Ago: **Christopher Ehrhardt** - "Biosurveillance and Chemical Analysis of Bacterial Threat Agents," Longwood University, Oct. 18, 2013

Five Years Ago: **Robert Blackledge** - "The Floyd Landis Sports Doping Case as Evaluated by a Forensic Analytical Chemist," Bridgewater College, Oct. 23, 2009

Ten Years Ago: **Frank Settle** - "Chemistry and Nuclear Weapons," Ever's Family Restaurant, Mount Crawford, Oct. 22, 2004

25 Years Ago: **John Powers** - "Correlating Chemical and Sensory Patterns", James Madison University, Oct. 20, 1989

50 Years Ago: **Lester Reed** - "Macromolecular Organization and Function of the Multienzyme Pyruvate Dehydrogenase Complex," University of Virginia, Oct. 30, 1964

60 Years Ago: **Erle Caley** - "Some Relationships of Chemistry to Archaeology," Howard Johnson Restaurant, Waynesboro, Oct. 15, 1954



**WORDS OF WISDOM FOR OCTOBER:** "Believe That You Can And You Are Halfway There"