



## The Bulletin

of the  
Virginia Section  
AMERICAN CHEMICAL SOCIETY

### MARCH MEETING NOTICE

### MARCH 2018

**Randolph-Macon College  
Ashland, Virginia**

**Friday, March 9, 2018**

**RECEPTION:**       **5:30 pm**  
Estes Dining Hall  
Second Floor

**DINNER:**         **6:00 pm**  
Estes Dining Hall  
Second Floor

**PROGRAM:**       **7:00 pm**  
Copley Science Center  
Room 100

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

**MENU:** Asiago Chicken Farfalle with Sun-dried Tomatoes, Sliced Sirloin of Beef with Mushroom Sauce, Scalloped Potatoes, Sauteed Squash and Zucchini, Hot Rolls, Coffee, Tea, Water

**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 5**, by contacting **Dr. April Marchetti** at [amarchetti@rmc.edu](mailto:amarchetti@rmc.edu) or by leaving a message at (804) 752-7319. NOTE: When you make your reservation, **please provide the name of each guest and the total number in your party.**

**HOSTS:** **Dr. April Marchetti**, Garnett-Lambert Professor of Chemistry, Randolph-Macon College; [amarchetti@rmc.edu](mailto:amarchetti@rmc.edu)  
**Dr. John Thoburn**, Professor of Chemistry, Randolph-Macon College, [jthoburn@rmc.edu](mailto:jthoburn@rmc.edu)

**PROGRAM:**

*Chemical* **JEOPARDY!**

# Chemical JEOPARDY!

**ARE YOU A FAN OF "AMERICA'S FAVORITE QUIZ SHOW"???**

**Then you won't want to miss our own version of JEOPARDY!**

The March 9<sup>th</sup>, 2018 meeting of the Virginia Section of the ACS will forego the usual after-dinner speaker in favor of the [first annual Chemical Jeopardy! game](#), hosted by Randolph-Macon College.

Here's how it will work. We will have three teams of contestants play a round of the now classic game Jeopardy! Each team will consist of one person from an academic institution and one person from industry. The other meeting attendees will form the audience. Contestants will select an "item" from the board. The moderator will read an "answer" or prompt hidden under the selected square. The first team to provide a correct answer will earn points and be allowed to make the next selection from the board. If none of the contestants is able to answer the question, the question will be thrown out to the audience. Play will continue until all the questions on the board have been revealed. The team with the highest score will be declared the winner. So come match your wits with our illustrious contestants on March 9<sup>th</sup> at R-MC. The topics will all be related to chemistry, from the prosaic to the sublime to the absurd. It will be a great evening of good fun for everyone. And while we won't have Alex Trebek on hand, his stand-in, R-MC Professor **John Thoburn**, guarantees an exciting and entertaining game of Jeopardy!

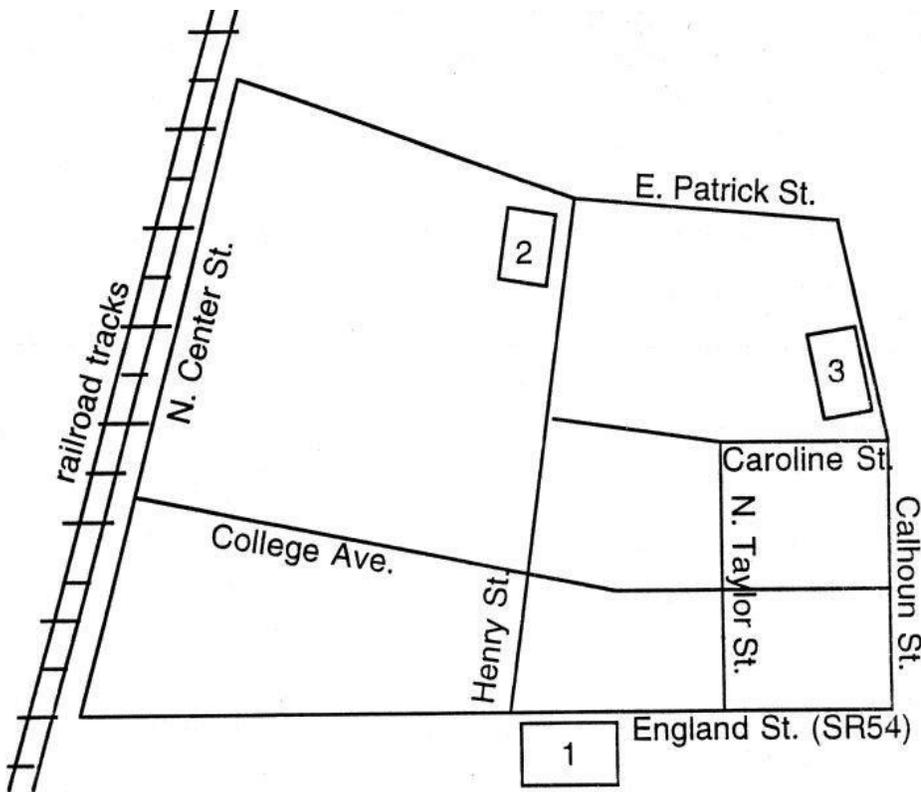


## DIRECTIONS

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



**Estes Dining Hall**



**Copley Science Center**

## Chemistry at Randolph-Macon College



Randolph-Macon  
College

Ashland, Virginia

The chemistry program at Randolph-Macon College 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, instrumental, biochemistry), plus many interesting electives such as Chemistry of Winemaking, Medicinal Chemistry, and Forensic Chemistry. Students may select from a variety of emphases: General, Research/Graduate School, Biochemistry, Forensic, or Education.

The hallmark of the R-MC Chemistry program is a dedication to the individual student – nearly all students in our program have completed some sort of individualized research project by the time they graduate from the College. In addition, the College's Schapiro Undergraduate Research Fellowship (SURF) program allows students to complete 9 weeks of paid research under the supervision of a faculty member over the summer and culminates in presentations on SURF Day and our campus-wide Research Day. In addition, chemistry student SURF projects have 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 and industrial research laboratories 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 two buildings: Copley Science Center and our brand-new Macon F. Brock, Jr. Hall, which opened in Fall 2017. In these two buildings our students have access to all of the scientific instrumentation in the department: 500 and 400 MHz FT NMR, MP-AES, Atmospheric Pressure MS, GC/MS, HPLC, GPC, DSC, TGA, and multiple FT-IR and UV-Visible instruments.



Faculty include **Dr. Susan Borowski, Dr. Nora Green, Dr. April D. Marchetti, Dr. April Mattei, Dr. Rebecca Michelsen, Dr. Madeline Sampson, Dr. Serge Schreiner** (department chair), and **Dr. John Thoburn**. For more information please visit [www.rmc.edu](http://www.rmc.edu).

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

**FUTURE MEETING**

DATE: **April 13, 2018**  
 LOCATION: University of Virginia  
 Charlottesville, Virginia  
 HOST: Dr. James Demas  
 PHONE: (434) 924-3343  
 EMAIL: demas@virginia.edu  
 SPEAKER: **Dr. Shana Cyr**, Finnegan Law Firm  
 TOPIC: "Intellectual Property"  
**Undergraduate Research Poster Session**



**September** - Virginia Commonwealth University, Richmond - **Teacher Awards**

**October** - University of Mary Washington, Fredericksburg

**November** - Longwood University, Farmville

**THE CHAIR'S CORNER**



Looking ahead, we have a lot of great events planned for February and March. The WCC is meeting on February 15<sup>th</sup> at 5:00 pm at VCU Chili's to discuss their 10<sup>th</sup> anniversary event this summer. The YCC is hosting a tour of the Department of Forensic Science in Richmond on February 23<sup>rd</sup> at 9:30 am. We have an exciting Virginia section meeting coming up in March at Randolph-Macon College. The hosts are planning a fun night of "Chemical Jeopardy!," and I hope you all will consider joining us to play the game.

There is also an opportunity in February for Virginia Section high school chemistry teachers to apply for a travel grant to attend the 25<sup>th</sup> Biennial Conference on Chemical Education (BCCE). I encourage local teachers to apply on our section website or to contact me for questions about the application. There are many grants available for various chemistry related activities, and I encourage you to reach out to me or someone in the section if you have an idea or activity that you are passionate about and would like to pursue this year.

...**Kathleen Spangler**, 2018 Chair of the Virginia Section - [kms2uu@virginia.edu](mailto:kms2uu@virginia.edu)  
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**WORDS OF WISDOM FOR MARCH: "The Darker  
 The Night, The Brighter The Stars Shine"**

## VIRGINIA ACADEMY OF SCIENCE ANNUAL MEETING

Longwood University  
Farmville, Virginia  
May 23-25, 2018



The 96<sup>th</sup> Annual meeting of the Academy will be held at Longwood University in Farmville on May 23-25. Chemistry presentations will be scheduled for Thursday, May 24. There will be a Poster Session for all Sections that will be set up and stay up all day Thursday, May 24. For more information on the chemistry program, contact Tom DeVore, Chemistry Section Secretary, at [devoretc@jmu.edu](mailto:devoretc@jmu.edu). Full information about the annual meeting and about Academy membership can be found on the Academy's website: <http://www.vacadsci.org>.

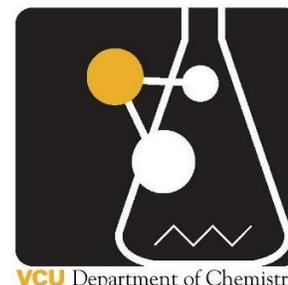
## CHEMISTRY SEMINARS AT VIRGINIA COMMONWEALTH UNIVERSITY

March 15 - **Dr. Joseph Reiner**, Virginia Commonwealth University  
Department of Physics

March 22 - **Dr. Richard Smith**, Pacific North National Lab (PNNL)  
(FENN MEMORIAL LECTURE)

April 9 - **RUTAN SYMPOSIUM**

April 26 - **Dr. Eliot R. Bernstein**, Colorado State University  
(MARY KAPP LECTURE)



Seminars are held in the Physical Science Wing of Oliver Hall, Room 1024, at 4:00 PM.

For more information, contact the Department of Chemistry at (804) 828-1298, [chemistry@vcu.edu](mailto:chemistry@vcu.edu).

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[kms2uu@virginia.edu](mailto:kms2uu@virginia.edu)



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

March 23 - **Professor Amy Herr**, University of California at Berkeley, "Profiling Cellular-to-Molecular Diversity Using Electrophoretic Cytometry"

March 30 - **Professor Aaron Vannucci**, University of South Carolina

April 6 - **Professor Gerald Joyce**, Scripps Research Institute (HECHT LECTURE)

April 20 - **Professor Davita Watkins**, University of Mississippi, "Supramolecular Approaches to Advanced Functional Materials" (JEFFERSON LECTURE)

April 27 - **Professor Christopher Cummins**, Massachusetts Institute of Technology, "Phosphorus-Element Bond-Forming Reactions"

Seminars are held at 3:30 PM in room 205 of the Mechanical Engineering Building (MEC).

The full schedule of seminars is at <http://chemistry.as.virginia.edu/seminars>.

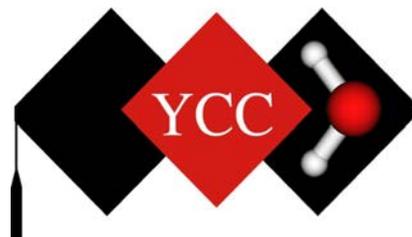
For more information, contact the Department of Chemistry at (434) 924-3344, [chem@virginia.edu](mailto:chem@virginia.edu).

## **THE YOUNGER CHEMISTS COMMITTEE (YCC)**

Hello Everyone!

I'm **Julian Bobb** ([bobbja@vcu.edu](mailto:bobbja@vcu.edu)) and I am the Virginia Younger Chemists Committee Chair for 2018. I'm a 5th year PhD graduate student in Dr. Samy El-Shall's Lab in the Department of Chemistry at Virginia Commonwealth University. My research is primarily focused on heterogeneous catalysis.

The Younger Chemists Committee (YCC) serves the membership of the American Chemical Society by advocating for and providing resources to early-career chemists and professionals in the chemical sciences and related fields.



If you are interested in serving on the committee or being added to our email list, please send me a note at [bobbja@vcu.edu](mailto:bobbja@vcu.edu). Thanks!

### **Virginia Younger Chemists Committee**

email: [vayoungerchemistscommittee.com](http://vayoungerchemistscommittee.com)

Like us on *Facebook*: Virginia Younger Chemists Committee

Find us on *LinkedIn*: VA Younger Chemists Committee

Follow Us on *Instagram*: [rva\\_ycc](https://www.instagram.com/rva_ycc)

Follow Us on *Twitter*: [@RVA\\_YCC](https://twitter.com/RVA_YCC)

## TOUR OF CIRRUS VODKA



On Wednesday, January 31<sup>st</sup>, the ACS Virginia Section Younger Chemists Committee (YCC) hosted a tour and happy hour at **Cirrus Vodka** in Richmond. The Richmond-based potato vodka brand is available to consumers at Virginia ABC stores, restaurants, and bars. In total, there were 12 attendees, including a number of VCU chemistry graduate students and one person from industry. Firstly, we were escorted on a tour of the distillery by an accommodating staff, whereby we were lectured on the fermentation and distillation processes for the preparation of gluten-free vodka from potatoes. The tour was followed by a happy hour and networking event.



[article and photos by  
Julian Bobb, Chair,  
Younger Chemists  
Committee (YCC)]

## CHEMISTS CELEBRATE EARTH WEEK 2018

**CCED is now CCEW!** After celebrating Earth Day for 14 years, the ACS will now be celebrating **Earth Week**. The dates are April 22-28, 2018. CCEW encourages ACS members and science enthusiasts to build awareness of chemistry at the local level. ACS local sections, schools, businesses, and individuals are invited to organize or participate in events in their communities with a common goal: communicate the positive role that chemistry plays in the world.



CCEW celebrates its 15th anniversary in 2018 with the theme "Dive into Marine Chemistry." The CCEW 2018 edition of the publication *Celebrating Chemistry* and other online resources are now available. There will be the usual **Illustrated Poem Contest** and a variety of promotional products, including the popular Enviro-Moles, will be available from the ACS Store. For more information on CCEW and descriptions of many educational resources, check the CCEW website: <https://www.acs.org/content/acs/en/education/outreach/ccew.html>. There will be a webinar for high school chemistry teachers titled "Teaching Methods and Resources for CCEW 2018" scheduled for 7:00-8:00 pm on April 11.



The Virginia Section will be participating in Earth Week. **Dr. Kristine Smetana**, Chair of the Community Activities Committee for the Section, will be coordinating the CCEW activities. Contact her for information, to suggest activities, and to volunteer your help: (434) 395-2133;

## USA SCIENCE & ENGINEERING FESTIVAL



The ACS will be participating in the **USA Science & Engineering Festival (USASEF)**, to be held on April 7 and 8 at the Walter E. Washington Center in Washington, D.C. There will be an ACS booth at the USASEF Expo on both days and on the “Sneak Peek Friday” (April 6). Sponsors and exhibitors will showcase all of the amazing places where **STEM Can Take You** with over 3,000 hands-on activities, amazing stage shows featuring science celebrities, and much more. The ACS exhibit, titled “Exploring Our World Through Chemistry,” will feature many activities, fun giveaways, information on ACS resources, and a showing of the popular **ACS Reactions YouTube** series. Virginia Section members can volunteer to help with simple hands-on activities at the exhibit on April 6, 7, and 8 and they can participate in a “Conversations with Chemists” session on April 7. Volunteer registration ends on **March 2**. For more information or to sign on as a volunteer, contact **David Horwitz** at [d\\_horwitz@acs.org](mailto:d_horwitz@acs.org) or [outreach@acs.org](mailto:outreach@acs.org).

## VCU PROFESSORS TO RECEIVE ACS AWARD



The 2018 **ACS Award for Affordable Green Chemistry** will be given to **Dr. Frank Gupton** and **Dr. D. Tyler McQuade**. Dr. Gupton is the Floyd D. Gottwald Professor of Chemistry and chair of the department of chemical and life science engineering at Virginia Commonwealth University (VCU) and Dr. McQuade is a professor of chemical and life science engineering at VCU. The ACS award is being given for “their outstanding success in developing a sustainable and efficient synthesis of nevirapine through a process intensification that reduced cost and improved access to HIV/AIDS treatment.”

Nevirapine was discovered by Hargrave *et al.* at Boehringer Ingelheim Pharmaceuticals, Inc. It is used to treat and prevent HIV/AIDS, specifically HIV<sub>1</sub>, and has been used in the United States since 1996. **A Medicines for All Institute** has been established at VCU in collaboration with the Bill & Melinda Gates Foundation. The mission of the institute is to expand global access to lifesaving medications by finding new ways to make them more efficiently. The ACS Award for Affordable Green Chemistry is sponsored by Dow Chemical and endowed by Rohm and Haas.



## **DR. M. SAMY EL-SHALL SELECTED AS AN OUTSTANDING VIRGINIA SCIENTIST**



Governor Ralph Northam and the Science Museum of Virginia have announced the 2018 Outstanding STEM Award recipients. Six individuals were selected for their scientific contributions which help strengthen Virginia's position as a leader in science, technology, engineering and math (STEM) fields. **Dr. M. Samy El-Shall**, Vice Chair of the Virginia Section, was one of three persons to be honored as "Virginia's Outstanding Scientists." According to the press release from the Governor's Office, "Dr. El-shall is an internationally renowned scientist for his work in the fields of clusters and nanoscience, which is fundamental to the area of catalysis for the development of clean transportation fuels and the production of new chemicals for pharmaceutical drugs." He is the Chairman of the Chemistry Department and the Mary Eugenia Kapp Chair in Chemistry at Virginia Commonwealth University in Richmond.

**Dr. Arun J. Sanyal**, the Education Core Director at Virginia Commonwealth University's Center for Clinical and Translational Research, and **Dr. Robert J. Orth**, a professor and chair of the Department of Biological Sciences at the Virginia Institute of Marine Science (VIMS), also were designated as "Virginia's Outstanding Scientists." **Mr. Jack Ross**, founder of the technology Company Beanstalk, Inc. was named as a **STEM Catalyst**. **Mr. Prathik Naidu**, a graduate of Thomas Jefferson High School for Science and Technology in Fairfax County and now a student at Stanford University, and **Ms. Ana Humphrey**, a junior at T.C. Williams High School in Alexandria, were honored as **STEM Phenoms**.

The six 2018 honorees will receive their awards at the Science Museum of Virginia on Thursday, March 1. The Virginia Outstanding STEM Awards ceremony is made possible by the generous support of Altria. **Dr. Denise Walters**, the 2016 Chair of the Virginia Section and a member of the Board of Trustees of the Science Museum of Virginia, will be attending the awards ceremony and will report on it in the April issue of the Virginia Section *Bulletin*.



## **NEWS OF SPEAKERS AT VIRGINIA SECTION MEETING**



**Dr. Nicholas Farrell**, Professor of Chemistry at Virginia Commonwealth University (VCU), has been designated a **University Professor** by the VCU Board of Visitors.

This honor recognizes faculty members who teach or conduct research that crosses discipline boundaries and have an established prominence in multiple fields of study with national or international recognition in at least one field of study. Professor Farrell's research encompasses chemistry, biochemistry, chemical biology, and medical sciences. In 2016, he received the Distinguished Research Award from the Virginia Section of the ACS. His presentation at the March, 2016 Section meeting was on "Platinum: From Inert Electrode to Anti-Cancer Drugs."



**Dr. Emily A. Carter**, Dean of the School of Engineering & Applied Science at Princeton University, will receive the 2018 **ACS Award in Theoretical Chemistry**. She is recognized as one of the world's leading developers of new theoretical methods for chemistry and materials. Dr. Carter gave the address at the Powell Lectureship at the University of Richmond on March 1, 2013. Her topic was "The Role of Science in Moving the Planet to Green Energy and a Sustainable Future." The award in theoretical chemistry is sponsored by the ACS Division of Physical Chemistry.



**Dr. Dennis C. Liotta**, the Samuel Candler Dobbs Professor of Chemistry at Emory University, will receive the 2018 **Alfred Burger Award in Medicinal Chemistry**. He is one of the inventors of the antiviral agent FTC that is used in HIV-infected persons as well as other antiviral drugs. More than 90% of HIV-infected persons in the U.S. take or have taken these drugs. Dr. Liotta was the speaker for the W. Allan Powell Lectureship at the University of Richmond in February, 2016. His talk was titled "Drug Discovery in Academia." The Burger Award is sponsored by Gilead Sciences.



**Dr. William Klemperer**, Erving Professor of Chemistry, Emeritus, at Harvard University, died on Nov. 5, 2017. He was a world leader in the field of molecular spectroscopy, including novel molecular beam techniques. **Dudley Herschbach**, his friend and colleague, said that he was an innovative, versatile, and ebullient physical chemist." Dr. Klemperer spoke to the Virginia Section on Oct. 16, 1959 in a meeting at the University of Virginia. His topic was "Infrared Spectra at High Temperatures."



**Dr. Elsa Reichmanis**, Brook Byers Professor of Sustainability at the Georgia Institute of Technology, has been named the recipient of the 2018 **ACS Award in the Chemistry of Materials**. She is a leader in materials chemistry and one of the first scientists to recognize how material structure and associated chemical interactions during processing must be considered together. Dr. Reichmanis spoke to the Virginia Section in a meeting at the University of Mary Washington on November 10, 2010. Her topic was "Advanced Polymeric Materials for Electronic Applications." The ACS Award in the Chemistry of Materials is sponsored by DuPont.



**Dr. Ronald Breslow**, the Samuel Latham Mitchill Professor of Chemistry at Columbia University, died on Oct. 25, 2027 at the age of 86. His research focused on the design and synthesis of new molecules. He synthesized the cyclopropenyl cation, the simplest possible aromatic system. He also pioneered the concept of antiaromaticity and founded the field of biomimetic chemistry. Dr. Breslow was the president of the national ACS in 1996 and was a member of the National Academy of Sciences. He joined the faculty at Columbia University in 1956 and was a University Professor since 1992.

**Madeleine Jacobs**, former ACS executive director said this of Dr. Breslow: "Ron was one of the most visible ACS presidents. He was unique in his ability to talk about the centrality of chemistry to society." He was the Powell Lectureship speaker at the University of Richmond on Feb. 20, 1998 where he spoke on "The Chelate Effect in Binding, Catalysis, and Chemotherapy"



**Dr. M. Samy El-Shall**, Professor of Chemistry at Virginia Commonwealth University (VCU), has been named by the VCU Board of Visitors as a Commonwealth Professor. This designation recognizes faculty members with extraordinary scholarly attainment, educational advancement, or leadership in an academic discipline or field of study, with national or international distinction. Dr. El-Shall is the Mary Eugenia Kapp Chair in Chemistry and the Chairman of the Chemistry Department at VCU. In 2009, he received the Distinguished Research Award from the Virginia Section. He has addressed the Section twice. In October, 2011 he spoke on the topic "Chemistry Makes Strong International Bonds;" his talk on September 25, 2009 was titled "CNN: Clusters, Nanoparticles and Nucleation—From Astrochemistry to Nanocatalysts." See the article above for his most recent honor.

## **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](mailto:service@acs.org).