



The Bulletin
of the
Virginia Section
AMERICAN CHEMICAL SOCIETY

NOVEMBER MEETING NOTICE

**University of Mary Washington
Fredericksburg, Virginia**

Friday, November 13, 2009

WORKSHOP: **5:00 p.m.**
Room 219
Jepson Science Center

SOCIAL HOUR: **6:00 p.m.**
Faculty Dining Room
Seacobeck Hall
College Avenue

DINNER: **6:45 p.m.**
Faculty Dining Room
Seacobeck Hall

PROGRAM: **7:30 p.m.**
Room 100, Jepson Science Center, College Avenue

MENU: Tossed Garden Salad with Assorted Dressings, Carved Roasted Turkey, Home-style Stuffing, Mashed Potatoes with Gravy, Fresh Green Beans, Rolls and Butter, Double Chocolate Layer Cake, Pumpkin Pie with Whipped Cream, Coffee, Hot Tea, Iced Tea

PRICE: Members /Guests - \$23.00; Students and High School Teachers - \$11.00;
Retired ACS Members/Spouses and Retired Teachers/Spouses - \$18.00

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

HOST: Dr. Roy F. Gratz, (540) 654-1412, rgratz @ umw.edu

SPEAKER: **Dr. Catherine C. Fenselau, University of Maryland**

TOPIC: **“New Methods for Proteomics”**

NOVEMBER 2009

S	M	T	W	T	F	S
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		<i>reservations</i>			<i>meeting</i>	
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DR. CATHERINE C. FENSELAU

Catherine Fenselau received an A.B. degree in chemistry from Bryn Mawr College and a Ph.D. in Chemistry from Stanford University. At Stanford she worked with Carl Djerassi. She also did postdoctoral work with Melvin Calvin at the University of California, Berkeley and with A.L. Burlingame of the NASA Space Sciences Laboratory. She has held professional positions at Johns Hopkins University and the University of Maryland Baltimore County. At present she is a Professor in the Department of Chemistry and Biochemistry at the University of Maryland. She is also a member of the Greenebaum Cancer Center at the Maryland Medical School and is an affiliate faculty member of the Fischell Department of Bioengineering. She has held visiting professor positions at the Moscow Institute of Physics and Technology, Kansai University (Japan), and the University of Warwick (U.K.)



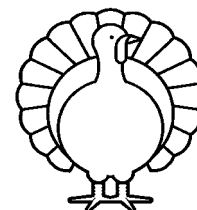
Dr. Fenselau has some 350 publications in refereed journals and holds five patents. Her honors include the Adams Award, Pittsburgh Conference on Analytical Chemistry in 2010; the Thomson Medal from the International Mass Spectrometry Foundation in 2009; the Field and Franklin Award for Contributions to Mass Spectrometry from the American Chemical Society in 2008; the Hillebrand Prize from the Capitol Section of the ACS in 2005; the AnaChem Award in 2003; the EAS Award for Achievements in Analytical Chemistry in 1999; and the ACS Garvan Medal in 1985. She is Associate Editor of *Analytical Chemistry*. Her research interests include Mass Spectrometry and its Applications in Biology and Medicine; Drug/Protein Interactions; New Methods for Proteomics; and Membrane Proteins.

“NEW METHODS FOR PROTEOMICS”

New instrumentation, new sample preparation methods, and new bioinformatic algorithms are required to make qualitative and quantitative analyses robust, rapid and inclusive on a proteomic scale. Proteomics and recent contributions from Dr. Fenselau's laboratory to proteomic strategies will be discussed.

- Catalytic incorporation of $^{18}\text{O}_2$ for comparative quantitation (Yao and Fenselau, *Anal. Chem.* 73: 2836, 2001; Fenselau and Yao, *J. Prot. Res.* 8: in press, 2009)
- Microwave-accelerated residue specific acid cleavage (Swatkoski et al, *J. Prot. Res.* 6: 4525, 2007; Swatkoski et al, *J. Prot. Res.* 7: 579, 2008)
- Middle-down Analysis Using an Orbitrap for Polypeptides. (Cannon, Lohnes, Wynne, Edwards and Fenselau, *ThP 212, Proceedings of the 57th Conference on Mass Spectrom. & Allied Topics*, May 31- June 4, 2009.)

HAPPY THANKSGIVING



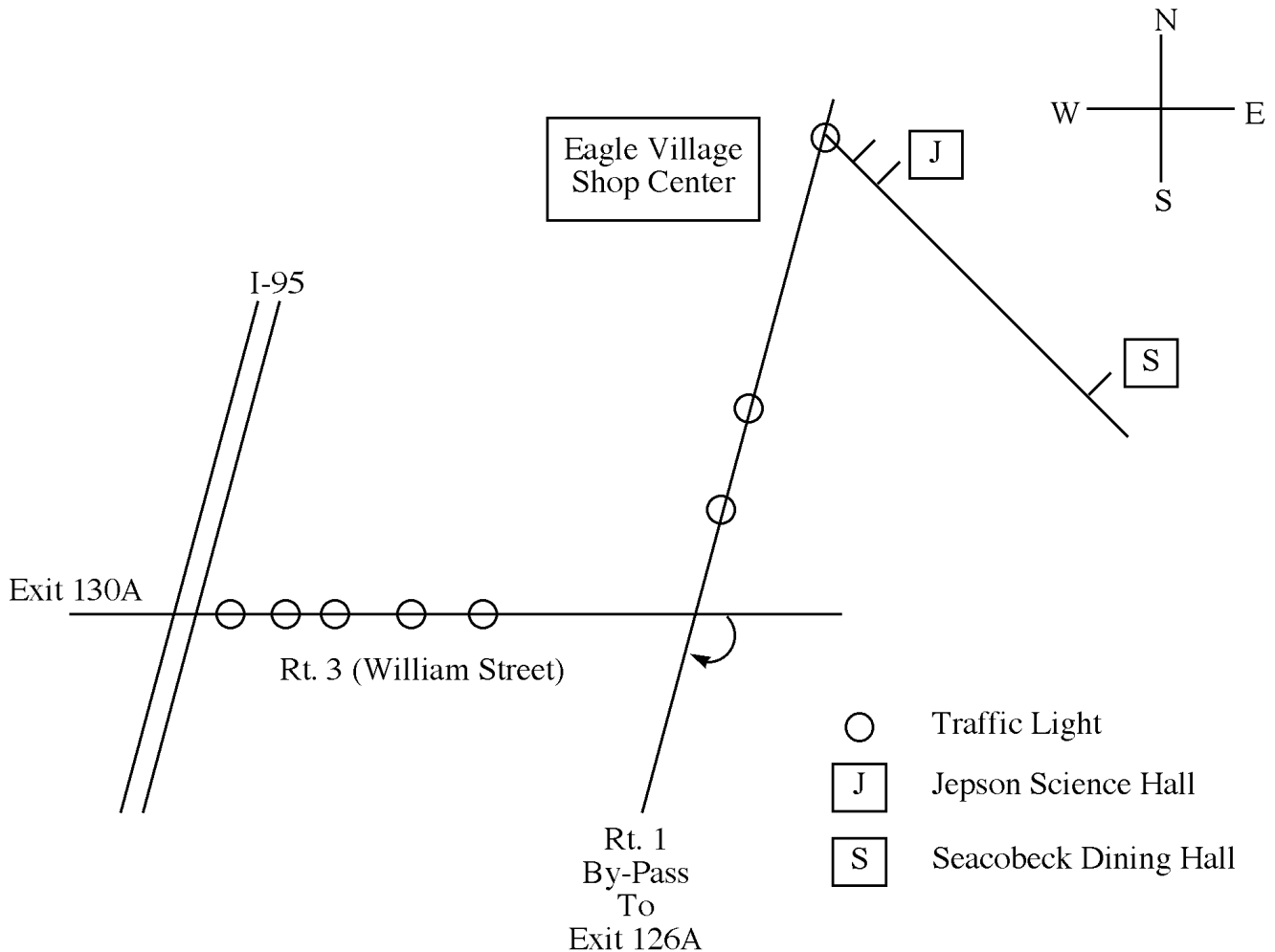
DIRECTIONS

Fredericksburg is located just off I-95, about 50 miles north of Richmond.

Traveling from the south on I-95, take Exit 126A, Rt. 1, north to Fredericksburg. Stay on the Rt.1 bypass (a four-lane divided highway, with the usual interstate exit clutter for the first mile) for about four miles until you get to College Avenue (traffic light, across from the Eagle Village Shopping Center with a Giant Food store). Turn sharp right on to College Avenue and make the second left (< 1/4 mile) into the parking lot at the Jepson Science Center, or park on College Avenue. Walk along College Avenue to the second building past Jepson Hall; enter Seacobeck Hall by the north rear door.

From the west, come into Fredericksburg on Rt. 3 (William Street, aka Plank Road). About one mile from I-95 (Exit 130A) turn north on the Rt. 1 bypass (turn right on the cloverleaf after passing under Rt. 1). Go about one mile until you get to College Avenue (3rd traffic light, across from the Eagle Village Shopping Center with a Giant Food store). Turn sharp right on to College Avenue and make the second left (< 1/4 mile) into the parking lot at the Jepson Science Center or park on College Avenue. Walk along College Avenue to the second building past Jepson Hall; enter Seacobeck Hall by the north rear door.

Map of University of Mary Washington



*** VIRGINIA SECTION NEWS ***

FUTURE MEETINGS

DATE:	December 4, 2009	DATE:	January 23, 2010
LOCATION:	Virginia Union University Richmond, VA	LOCATION:	Science Museum of Virginia Richmond, VA
HOST:	Dr. Dorothy Eseonu	HOST:	Dr. Stephanie Mabry
PHONE:	(804) 257-5615	PHONE:	(804) 788-5280
E-MAIL:	dneseonu @ vuu.edu	E-MAIL:	stephanie.mabry @ verizon.net
SPEAKER:	Dr. Thomas H. Epps, III	SPEAKER:	Dr. Foster Agblevor
TOPIC:	"Using Block Copolymers to Create Functional Nanomaterials" Presentation of Teaching Awards	TOPIC:	"Thermochemical Conversion of Biomass to Fuels and Chemicals"

EPA WORKSHOP - NOVEMBER 13 UNIVERSITY OF MARY WASHINGTON

"EPA's New Academic Lab Rule: How the Feds See It"

Kristin Fitzgerald

Office of Resource Conservation and Recovery
U. S. Environmental Protection Agency

The EPA has finalized the Academic Laboratory rule to help improve the environmental performance of teaching and research laboratories. This rule provides increased regulatory flexibility, while enhancing **safe management of hazardous waste**. The rule requires the development of a laboratory management plan and provides incentives for disposal of old and expired chemicals. This workshop will address the features of the new rule and the requirements and ramifications for colleges and universities. **Room 219 of the Jepson Science Center at UMW, 5:00 p.m. on Friday, November 13.** Everyone is welcome.

TEACHING AWARDS

The December meeting of the Virginia Section will be held at Virginia Union University in Richmond on **Friday, December 4**. The Section's teacher awards will be made at this meeting. These include the Distinguished High School Chemistry Teacher Award, the Distinguished Middle School Science Teacher Award, and the Distinguished Elementary School Teacher Award. The teacher awards are sponsored by Boehringer Ingelheim Chemicals, Inc.

THE CHAIR'S CORNER

Glen Seaborg chaired an education commission that published "A Nation at Risk" in 1983. The report declared science education in the United States must be greatly improved. Ever since, science education policymakers have tried to find some mechanism that will lead to real improvement across the nation. Some teachers provide islands of excellence, but U.S. students tend to lag their counterparts in the other developed countries. Many states devised standards for common discipline areas in schools, including science, by the mid-1990s. Virginia issued science standards for learning in 1995. The National Academy of Sciences, with ACS involvement, published national science education standards in 1996. Some states, including Virginia, reviewed their established science education standards against the national standards; others simply adopted the national standards.



Revising science education has become a perennial activity ever since Seaborg's report at both state and national levels. The latest effort is the development of voluntary common core national standards sponsored by the Council of Chief State School Officers and the National Governors Association. This work is based somewhat on the work of ACT, Inc. both for college admission and for workforce readiness. Draft mathematics and "English" core standards were issued recently and core science standards may be published soon. The expectation is that these voluntary core standards will be adopted throughout the nation due to their sources. Some early reviewers of this work have wondered if states like Virginia might take a step backward if they use the core standards.

Standards have a strong driving force in education. Chemists from all types of activities should review education standards for both mathematics and science as they become available and make their opinions known to education policymakers at local, state and national levels.

...Ken Chapman
Chair, ACS Virginia Section

WCC 2010 PLANNING MEETING

The Women Chemists Committee of the Virginia Section will hold a lunch meeting on Friday, October 30, 2009 at 12:00 noon at Beauregard's Thai Room Restaurant, 103 E. Cary St., Richmond, VA 23219. Free parking is available at the restaurant. The purpose of the meeting is to discuss the past year's events and to plan activities for 2010. All interested persons are invited to attend. Please RSVP by Wednesday October 28 to Stephanie Mabry at 804-788-5280 or **stephanie.mabry @ aftonchemical.com**.

CHEMISTRY SEMINARS AT VIRGINIA COMMONWEALTH UNIVERSITY

October 29 - **Luis Echegoyen**, NSF Chemistry Division, "Buckyball Maracas: Chemical and Electrochemical Properties of Endohedral Fullerenes"

November 5 - **Gary Glish**, University of North Carolina-Chapel Hill

November 12 - **Rezaa Ghiladi**, North Carolina State University

November 19 - **Jill Venton**, University of Virginia

December 3 - **Benjamin Yellen**, Duke University

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



CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA

October 30 - **Professor Francesco Stellacci**, "On the Role of Nanostructure in Bio- and Organic Solid-Liquid Interfaces"

November 6 - **Professor Paul Barbara**, "Are the Electronic Properties of Conjugated Polymers Deformable?"

November 10 - **Professor Pedro Perez**, "Catalytic Functionalization of Unreactive Hydrocarbons"

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/>.

QUESTIONS FROM THE PAST

This question was asked in the October issue of the Bulletin: On March 27, 2009, the Virginia Section and the Virginia Blue Ridge Section held a joint meeting at Lynchburg College (Lynchburg is in the Virginia Blue Ridge Section). The Virginia Section met at least once before at Lynchburg College. **When was that meeting and who was the speaker** whose topic was "Triboluminescence: Squeezing the Light out of Crystals"? Answer: Dr. Jeffrey Zink of UCLA spoke at the joint meeting on October 18, 1990.

New question. Here is some information on a meeting of the Virginia Section:

Location - The University Club at the Medical College of Virginia

Dinner (Supper) Cost - "About a Dollar"

Dinner Reservations - "notify Mr. Braxton Valentine of the Valentine Meat Juice Company"

Speaker - Dr. Arthur L. Waters, Eli Lilly Company

Topic - "Insulin"

What year was this meeting held – 1914, 1924, 1934, 1935, 1945, or 1955?

REPORT ON THE SEPTEMBER 2009 SECTION MEETING

Over 100 persons assembled at Virginia Commonwealth University in Richmond on Friday, September 23, 2009 for the Virginia Section's Annual Awards Meeting. Mr. Kenneth Chapman, Chair of the Virginia Section, presided. He presented the Virginia Section's highest award, the Distinguished Service Award, to Dr. Will H. Lewis, Jr. Dr. Lewis was introduced by Jim Beck, Editor of the Virginia Section Bulletin. Dr. M. Samy El-Shall, Professor of Chemistry at Virginia Commonwealth University, received a Distinguished Research Award. Dr. El-Shall was introduced by Dr. Donald Shillady, retired Professor of Chemistry at VCU.

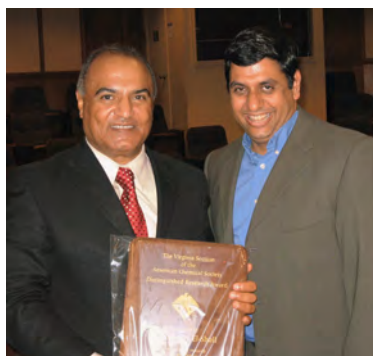
Dr. Lewis entertained the audience with a "Chemist's Stroll Down Memory Lane." Dr. El-Shall described some of his research in his presentation on "CNN: Clusters, Nanoparticles and Nucleation—From Astrochemistry to Nanocatalysis." Each award recipient received a plaque and an engraved Jefferson Cup. Dr. Lewis was presented with an inscribed desk set and Dr. El-Shall's students surprised him with an splendid flower arrangement.

Section Chair Ken Chapman introduced eleven Section members who had previously received the Distinguished Service Award (see photograph below). The Section has been giving this award since 1948. He displayed the ChemLuminary Award that the Section received at the fall meeting of the ACS. This award for Chemists with Disabilities Inclusion was given to the Section in recognition of programs that Dr. Kristine Smetana conducted for children with disabilities. Mr. Chapman also recognized Dr. Ann Sullivan, Coordinator of the Chemistry Olympiad for the Virginia Section. The Section was recognized at the national ACS meeting for its 25 years of participation in the Chemistry Olympiad program.

The Section expresses sincere thanks to the Chemistry Department at Virginia Commonwealth University for hosting this meeting.



Dr. Will Lewis with the Distinguished Service Award



Dr. M. Samy El-Shall and Dr. Yezdi Pithawalla with the Distinguished Research Award



Dr. El-Shall and His Students



Dr. Will Lewis Reminiscing



Nobel Laureate Dr. John Fenn with Dr. Kristine Smetana



Dr. M. Samy El-Shall, Distinguished Research Award recipient, with twelve recipients of the Virginia Section's Distinguished Service Award.
Left-to-right: Front row - Dr. Donald Shillady (1992), Dr. John Fenn (2004), Dr. Sheryl Baldwin (1996), Dr. William Welstead (1983), Dr. El-Shall, Dr. James Demas (1999), Dr. James Beck (1991)
Back row - Dr. Gerald Bass (1979), Dr. William Rademaker (2006), Dr. Jeffrey Seeman (2007), Mr. Charles E. Thomas (1993), Dr. Ann Sullivan (2005), Dr. Will Lewis (2009)

CORRECTIONS

In the "Mystery Person" item of the September, 2009 issue of the Bulletin, it was incorrectly stated that Dr. E. Ann Nalley had served as president of the Virginia Section in 2006. Dr. Nalley was president of the American Chemical Society in 2006.

In the 1993 History of the Virginia Section, published in the October, 2009 issue, the name of the student who received High High Honors on the national Olympiad examination was misspelled. He is Bryan **Myers**.

POSITION AVAILABLE

PART-TIME CHEMIST/SCIENTIST FOR R & D

Tallant Industries, Inc. is a manufacturer of unique building products located just south of Fredericksburg in Spotsylvania County. We are seeking a chemist/scientist/chemical engineer to work part-time in our modest Research and Development lab. It would be ideal for a retired individual who is desirous of continuing to work on a part time basis. Although we do not require a full-time staff, we are currently in need of some part-time assistance for special projects focusing on product improvements, paint coatings, fire-retardant testing, cost savings, Energy Star Rating and other projects. Knowledge or experience with paints, resins, coatings, or polymers is a plus. The ideal candidate will be self-motivated and enjoy working independently. Good writing and documentation skills necessary for preparing detailed project updates, clearly communicating project progress and preparing documents for regulatory submission.

If interested in this position, please e-mail your resume to: **ballen @ tallantinc.com** or fax it to 540-898-4991. Website: **www.ondura.com**

CHEMISTRY AT THE UNIVERSITY OF MARY WASHINGTON

The chemistry program at the University of Mary Washington is beginning its twelfth year in the Jepson Science Center. The facility provides student research space; modern teaching labs, including an organic chemistry lab with hood space for every student; and state-of-the-art multimedia and Internet capabilities. Seven full-time faculty teach a traditional chemistry major with 10-15 graduating seniors each year. In spring 2009, the department received approval of its program by the ACS, and it now offers an ACS-certified degree as an option. In addition to the usual courses in organic, analytical, and physical chemistry, a full



year of biochemistry with lab is available as an elective, as are courses in inorganic chemistry and environmental chemistry. The general chemistry and analytical programs use several cooperative, discovery-based experiments in the laboratory. The department is well-equipped, providing all students with hands-on experience with a variety of techniques and instruments, including H-NMR, C-NMR, FT-IR, GC/MS, ICP, and a scanning probe microscope. UMW chemistry graduates have earned advanced degrees at schools such as UVA, VCU, MIT, Princeton, Florida, Johns Hopkins, and Maryland and medical degrees at UVA, MCV, and EVA. Other graduates have gone directly to work at government labs including NIH, the Naval Research Lab, and the Patent Office, or for industries such as Dow Chemical, Philip Morris, Wyeth, and Virginia Power.

SECTION RECOGNIZED FOR CHEMISTRY OLYMPIAD WORK

The American Chemical Society is celebrating the 25th anniversary of the Chemistry Olympiad. At the national meeting, held in Washington in August, the Virginia Section was recognized for having participated in the Olympiad every year since its inception. Dr. Ann Sullivan, Coordinator of the Chemistry Olympiad for the Virginia Section, accepted the certificate of recognition from Dr. Tom Lane, President of the Society. Dr. John Comerford directed the Olympiad competition in the Virginia Section for many years. Phyllis James and David McMillin also served as Olympiad coordinators. Dr. Ann Sullivan has been the program director since 2003.



Dr. Ann Sullivan

VIRGINIA SECTION WEBSITE

Information on Virginia Section meetings, copies of the Bulletin, and much more can be found on the Virginia Section Website. It can be accessed via <http://membership.acs.org/VVA/>. Dr. Ann Sullivan is the Webmaster. She can be reached at [asullivan @ reynolds.edu](mailto:asullivan@reynolds.edu).

WORDS OF WISDOM FOR NOVEMBER: *“What Is Called
Good Luck Is Usually Nothing But Good Work”*

DISTINGUISHED SERVICE AWARD WINNERS VIRGINIA SECTION, ACS

In 1948 the Virginia Section presented its first Distinguished Service Award to Dr. Wortley F. Rudd, Dean Emeritus of the School of Pharmacy at the Medical College of Virginia. The initial award to Dr. Rudd was for his "outstanding contribution toward improvement of the professional standing of chemists." On September 25, 2009, Dr. Will H. Lewis, Jr. became the 63rd recipient of the Section's most prestigious award. Here are some of the Distinguished Service Award winners:

1970	Lynn D. Abbott		
1971	Loyal H. Davis	1991	James Beck
1972	Alfred R. Armstrong	1992	Donald Shillady
1973	James E. York, Jr.	1993	Charles E. Thomas
1974	Oscar R. Rodig	1994	William Smithey
1975	Lowell V. Heisey	1995	John Comerford
1976	Preston H. Leake	1996	Sheryl Baldwin
1977	W. Allan Powell	1997	Beverly Orndorff
1978	Franklin D. Kizer	1998	Philip Burks
1979	R. Gerald Bass	1999	James Demas
1980	J. Doyle Smith	2000	Carl Trindle
1981	Willard W. Harrison	2001	Patrick Barber
1982	Helmut R. R. Wakeham	2002	Lidia Vallarino
1983	William J. Welstead, Jr.	2004	John Fenn
1984	Billy L. Stump	2005	Ann Sullivan
1985	William F. Kuhn	2006	William J. Rademaker
1986	Carl Lunsford	2007	Jeffrey I. Seeman
1987	Trevor B. Hill	2008	Ralph O. Allen
1988	James R. Shanklin	2009	Will H. Lewis, Jr.
1989	J. Samuel Gillespie		
1990	James B. Patrick Russell Rowlett, Jr.		

CAN YOU IDENTIFY THIS PERSON?

The photograph is from April, 2008 when the persons shown were participating in the "Chemists Celebrate Earth Day" program at the Science Museum of Virginia in Richmond. The chemist who is helping the student with a hands-on experiment served as Chair of the Virginia Section in 2008. He is a graduate of Hamden-Sydney College and is employed in the Quality Control Department at Boehringer Ingelheim Chemicals in Petersburg. He received a Leadership Development Award from the Younger Chemists Committee of the ACS that enabled him to participate in the YCC Leadership Development Workshop in Fort Worth, Texas in January, 2009.



The "mystery persons" shown in the October Bulletin are Dr. Dorothy Eseonu and Dr. Kristine Smetana. Dr. Eseonu is a past Chair of the Virginia Section and is heading a new Section committee to coordinate Project SEED and ACS scholarships. Dr. Smetana is the Chair of the Community Activities Committee. She coordinates the Section's programs for National Chemistry Week and Chemists Celebrate Earth Day and is a candidate for Alternate Councilor of the Section.

EMINENT ORGANIC CHEMISTS VIDEOS

Dr. Jeffrey I. Seeman, member of the Virginia Section and recipient of the Section's Distinguished Service Award in 2007, has interviewed a number of eminent organic chemists for a series of videos that are being produced by the ACS Division of Organic Chemistry. The videos are part of the Division's celebration of its 100th anniversary. Eight of the interviews are now available online. Dr. Seeman, who produced and directed the series, has interviewed chemists who have made significant contributions to the field of organic chemistry and who have won numerous awards for their innovative work. The first group of interviewees includes John D. Roberts, Madeleine Joullié, K. C. Nicolaou, Ronald Breslow, Ken Houk, Marjorie Caserio, and Peter Stang. The series, titled "Eminent Organic Chemists: The Human Side," aims to reveal some of the personalities and motivation of the chemists. The videos can be found at the website organicdivison.org; click on "video interviews." Additional chemists will be added to the list. The project is supported by the Division of Organic Chemistry and an ACS Innovative Activity grant, with additional funding from the Richmond-based company GroundWork Design. Dr. Seeman is the founder of the awards program Citation for Chemical Breakthroughs that is sponsored by the ACS Division of the History of Chemists (NIST). This program celebrates scientific publications that have had significant and long-lasting impact. Also, he is the editor of a series of some 20 autobiographies of eminent chemists titled Profiles, Pathways and Dreams. He is a Visiting Senior Research Scholar at the University of Richmond.



Dr. Seeman

NEW INTERACTIVE ACS WEBSITE

The ACS has created a new interactive website, *ACS Now More than Ever*, that provides members with a comprehensive description of ACS programs and services. You can learn about career services, professional development programs, ACS meetings, local sections, technical divisions, the ACS network, ACS publications, CAS, outreach programs, and legislative activities. Go to www.acsnow.org to access the website.

THE BULLETIN

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