



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

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**SUMMER 2010 ISSUE**

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**VIRGINIA SECTION MEETINGS - FALL 2010**

**September 24** **Pfizer Product Development Laboratory**, Richmond  
Annual Awards Program  
Distinguished Service Award: **Dr. Kristine S. Smetana**  
Outstanding Industrial Innovator Award: **Dr. Tze-Chi Jao**  
Local Contact Person: Mr. Mark Mabry  
(804) 257-2034; Mark.Mabry @ pfizer.com



**October 15** **Longwood University**, Farmville  
**Dr. Lisa M. Balbes**, Balbes Consultants, LLC  
"Career Management in the Information Age"  
Local Contact Person: Dr. Melissa Rhoten  
(434)395-2636; rhotenmc @ longwood.edu

**November 12** **University of Mary Washington**, Fredericksburg  
Local Contact Person: Dr. Roy Gratz  
(540) 654-1412; rgratz @ umw.edu

**December 10** **J. Sargeant Reynolds Community College**, Richmond  
Teacher Awards Program  
**Dr. Gerd Kobal**, Altria Client Services  
"What can we learn from Sensomics ?"  
Local Contact Person: Dr. Ann Sullivan  
(804) 523-5777; asullivan @ reynolds.edu

**\*\*\* VIRGINIA SECTION NEWS \*\*\*****SEPTEMBER AWARDS MEETING**

The September meeting of the Virginia Section will be held in Richmond at the Pfizer Laboratory on Friday, September 24, 2010. The Virginia Section will be presenting its Distinguished Service Award to **Dr. Kristine S. Smetana**. Dr. Smetana is a Professor of Chemistry at John Tyler Community College. She has done extensive work in ACS outreach programs, including National Chemistry Week and Chemists Celebrate Earth Day, and will share some of her experiences in teaching and in taking chemistry to the general public. **Dr. Tze-Chi Jao**, R&D Fellow at Afton Chemical Corporation, will receive an Outstanding Industrial Innovator Award. Dr. Jao will speak on the "Importance of Fundamental Research for Fuel and Lubricant Technology Development." Meeting details will appear in the September issue of the Bulletin. For more information, please contact Mr. Mark Mabry at Pfizer Consumer Healthcare [(804) 257-2034; Mark.Mabry @ Pfizer.com] or Virginia Section Chair Elect Dr. Stephanie Mabry at (804) 788-5280; stephanie.mabry @ verizon.net.

**REPORT ON THE MARCH SECTION MEETING**

The Virginia Section met on Friday, March 26 at James Madison University in Harrisonburg. Dr. Daniel Rabinovich of the University of North Carolina at Charlotte spoke on "Chemical Philately and Education." He was introduced by Dr. Barbara Reisner. Dr. Rabinovich showed images of a wide selection of stamps featuring chemists and chemistry (contact him at drabinov @ uncc.edu to get copies of the stamp images). His talk was preceded by a tasty dinner in the new East Campus Dining Hall. Thanks to Dr. Barbara Reisner and her colleagues and students for organizing this excellent meeting.

**VIRGINIA SECTION CELEBRATES ITS 95<sup>th</sup> ANNIVERSARY**

A picnic honoring the 95<sup>th</sup> anniversary of the chartering of the Virginia Section in 1915 was held on Saturday June 12, 2010 at R. Garland Dodd Park at Point of Rocks in Chester, Virginia. Attending were thirty-five Virginia Section members, their families, and guests. The event started with John Coe, a master naturalist from the Chesterfield Parks & Recreation department, giving a short presentation on the history of the park and then leading a nature walk along the boardwalk path through the tidal marsh. Following lunch, student volunteers from John Tyler Community College led several hands-on science activities for children, including film canister rockets and chromatography butterflies. This event was partly supported by an Innovative Project Grant from the national ACS.

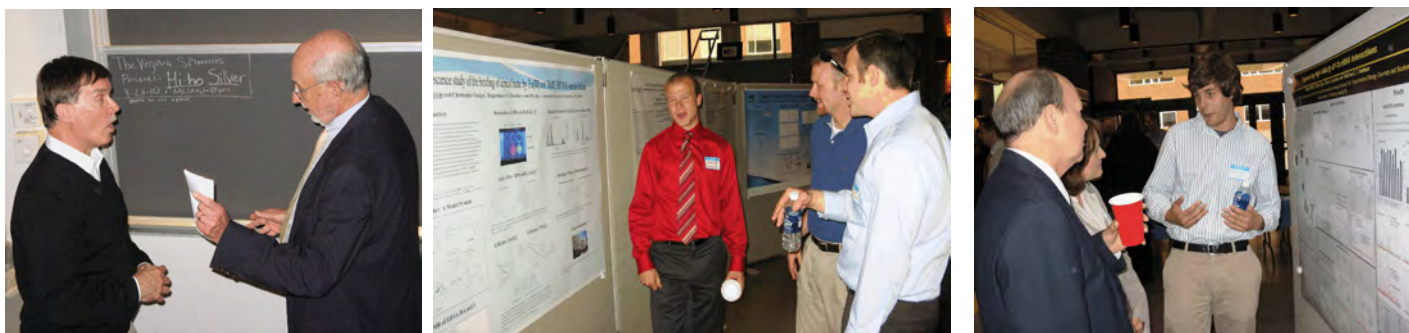


## WCC NETWORKING LUNCH

The Virginia Section's Women Chemist Committee (WCC) held a noon luncheon meeting at the Jade Chinese Restaurant near Ashland on Friday, June 11, 2010. A small group of chemists attended the lunch, but the resulting discussion was lively. Topics included balancing the care of elderly parents and children with work, demands of academic careers, and the effects of recent industrial downsizing.

## REPORT ON THE APRIL SECTION MEETING

About 100 persons attended the University of Virginia meeting on April 23, 2010 and heard Dr. Charles M. Grisham of the University of Virginia speak on "Bizarre Biochemistry." In his fascinating presentation, Dr. Grisham described several interesting applications of biochemistry, including Decoding the Polar Bear Paradox, the Blue People of Kentucky, Blondes in Renaissance Paintings, the Anatasia Mystery, and Komodo Dragon Venom. The speaker was introduced by Kelly Howard, Head Alchemist of Alpha Chi Sigma at the University of Virginia. Dr. Grisham's talk was preceded by the 24th annual Poster Session that featured student research at colleges and universities. Thirty-seven posters were presented by students from twelve colleges and universities (a complete list of authors and titles is included in this issue of the Bulletin). Five of the posters were by students from schools located outside the Virginia Section and one was from the National Institute of Health. Section Chair Yezdi Pithawalla recognized twelve outstanding senior chemistry majors from colleges and universities within the Virginia Section (the names of the recipients are listed below). Each student received a Certificate of Recognition and a copy of the *Merck Index*. The Section thanks Dr. James Demas and his colleagues at the University of Virginia who assisted with this successful meeting. Persons who would like more information on Dr. Grisham's talk, including links to references, should send an e-mail to him: [cmg @ virginia.edu](mailto:cmg@virginia.edu).



## **SIXTY-YEAR MEMBERS OF THE ACS**

Congratulations to these Section members, each of whom has been a member of the American Chemical Society for 60 years:

<b>Dr. William Diveley</b>	<b>Richmond</b>
<b>Mr. William Geib</b>	<b>Hopewell</b>
<b>Dr. Clare Gerow</b>	<b>Midlothian</b>
<b>Mr. David Gushee</b>	<b>Front Royal</b>
<b>Dr. Theodore Katz</b>	<b>Richmond</b>
<b>Mr. Frank Kovarik</b>	<b>Waynesboro</b>
<b>Dr. William Nevill</b>	<b>Roseland</b>
<b>Mr. Harry Peterson, Jr.</b>	<b>Glen Allen</b>
<b>Mr. William Scharpf</b>	<b>Palmyra</b>
<b>Mr. Basil Snider, Jr.</b>	<b>Midlothian</b>
<b>Dr. Donald Swanson</b>	<b>Williamsburg</b>
<b>Mr. Robert Thomson</b>	<b>Charlottesville</b>
<b>Mr. Charles Volz</b>	<b>Piney River</b>
<b>Mr. Harry Wilbur</b>	<b>Richmond</b>

## **FIFTY-YEAR MEMBERS OF THE ACS**

Congratulations to these Section members, each of whom has been a member of the American Chemical Society for 50 years:

<b>Dr. Marvin Boots</b>	<b>Richmond</b>
<b>Dr. Joseph Borzelleca</b>	<b>Richmond</b>
<b>Dr. John Gilje</b>	<b>Harrisonburg</b>
<b>Mr. Emery Lazar</b>	<b>Castleton</b>
<b>Mr. William McCarty</b>	<b>Lancaster</b>
<b>Dr. George Milne</b>	<b>Williamsburg</b>
<b>Dr. Richard Sundberg</b>	<b>Charlottesville</b>
<b>Dr. John Trebellas</b>	<b>Williamsburg</b>
<b>Dr. George Whitney, III</b>	<b>Williamsburg</b>

### OUTSTANDING CHEMISTRY GRADUATES

At the April meeting, the Virginia Section recognized graduating seniors from colleges and universities within the Section. Schools in the Virginia Section were invited to nominate senior chemistry majors for this honor. The outstanding students for the year 2010:

<u>College/University</u>	<u>Student</u>
Bridgewater College	Nicholas S. Sirica
College of William & Mary	Rebecca Mikulas Allred
Hampden-Sydney College	Chad Harte
Longwood University	Catherine H. Swandby
Mary Baldwin College	Katherine-Jo Galayda
Randolph-Macon College	Stephany Garcia
University of Mary Washington	Zachary M. Detweiler
University of Richmond	Diomedes Saldana Greco Lauren Firich
University of Virginia	Monica Umesh Kasbekar
Virginia Commonwealth University	Derek M. Salter
Virginia State University	Nacole King

### TEACHER AWARDS

The Virginia Section is soliciting nominees for three teaching awards: the Outstanding High School Chemistry Teacher Award, the Outstanding Middle School Science Teacher Award, and the Outstanding Elementary School Science Teacher Award. If you would like to nominate persons for these awards, contact Dr. William Rademaker at (804) 794-3752; wrad @ verizon.net. Each award consists of a plaque and a check for \$300.00. The teacher awards are sponsored by Boehringer Ingelheim Chemicals; the 2010 awards will be presented at the December 10 Section meeting.

### GRANTS FOR K-12 SCIENCE PROJECTS

The Virginia Section is soliciting proposals for grants to support school science projects in grades K through 12. The \$50 to \$500 grants will be provided to teachers in the Virginia Section for the purchase of materials and supplies. To apply for support, request an application form from Mr. Ryan Warren, 6001 Grove Avenue, Richmond, VA 23226; (804) 288-2804; warrencr @ vcu.edu. Or complete an application on-line by accessing the Virginia Section website at <http://www.virginia.sites.acs.org/>.



**WORDS OF WISDOM FOR THE SUMMER:** "Forget Injuries,  
But Never Forget Kindnesses"

## QUESTIONS FROM THE PAST

This question was asked in the April Bulletin: In recent years, the Virginia Section has published a summer issue of the Bulletin. **In what year did the first Summer issue appear?** The first summer issue was distributed in **July, 1987**. Dr. James Shanklin of the A.H. Robins Company was the Editor of the Bulletin. That issue included the abstracts of 17 student posters that were presented at the April 24, 1987 meeting of the Virginia Section, held at the College of William and Mary in Williamsburg. There were eleven ads in that issue. Advertisers included Thomas Scientific, Allied Fisher Scientific, Virginia Lab Supply, American Scientific Products, VWR Scientific, and Excel Balance Service Company.

A new question from the past: Included in the July, 1987 issue of the Bulletin was the schedule of Section meetings for Fall of that year. The October 23 meeting was to be a joint meeting with the Blue Ridge Section. The speaker's topic was "Star Wars, The Technical Aspects." **Where was that meeting held and who was the speaker?**

## CANDIDATES FOR SECTION OFFICES FOR 2010

The Nominating Committee, chaired by Ken Chapman, has submitted the following slate of Virginia Section officers for 2011:

For **CHAIR**: Dr. Stephanie Mabry, Afton Chemical

For **CHAIR ELECT**: Dr. Karen Carter, AlBiotech, Inc.

For **VICE CHAIR**: Ms. Trish Lauck, Boehringer Ingelheim Chemicals, Inc.

For **TREASURER**: Dr. Bradley "Brad" K. Norwood, Arista Laboratories

For **SECRETARY**:

For **COUNCILOR** (three-year term): Dr. Ann Sullivan, J. Sargeant Reynolds Community College

For **ALTERNATE COUNCILOR** (three-year term): Mr. Charles E. Thomas, Jr.,  
Philip Morris USA (retired)

For **TRUSTEE** (three-year term): Dr. Philip Burks, E.I. DuPont Company (retired)

Biographies of the candidates and voting instructions will appear in the September Bulletin. Balloting will be conducted in October. Write-in candidates are permitted. Note that no candidate is listed for the position of Secretary. If you would like to suggest a person for this position, please contact Ken Chapman at (804) 448-4852; kmc97 @ aol.com.

## 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.

**UNDERGRADUATE RESEARCH POSTER SESSION  
UNIVERSITY OF VIRGINIA - APRIL 23, 2010**

**Stephen Adams and Sarah E. G. Porter**, Department of Chemistry and Physics, Longwood University

“Comparison of Fuels Using GC-FID and Principle Component Analysis”

**Sarah Almahdali and Katherine N. Crowder**, Department of Chemistry, University of Mary Washington

“Chemical Modification of Titanium Surfaces for the Reduction of Carbon Dioxide to C-C Bonds”

**Mariam Awad and Carol J. Thiele**, Cell and Molecular Biology Section, Pediatric Oncology Branch, Center for Cancer Research, National Institute of Health

“The Role of CASZ1 in Differentiation The PC12 Model System”

**T. Eric Ballard, Taylor Koerner, Joe Salamoun, Craig Seymour, Xia Wang, Igor Olekhnovich, Paul S. Hoffman, Timothy L. MacDonald**, Department of Chemistry, University of Virginia; Department of Medicine, Division of Infectious Diseases and International Health, Department of Microbiology, University of Virginia School of Medicine

“Biological Activity of Modified and Exchanged 2-Amino-5-Nitrothiazole Amide Analogues of Nitazoxanide”

**Ben Burruss and Charles M. Sharpless**, Department of Chemistry, University of Mary Washington

“Physical and Photochemical Characteristics of Fractionated NOM”

**Upneet K. Chawla, Golda G. Harris, Ali K. Khan, Kendra J. Keith, Carol W. Price, and Linda Columbus**, Department of Chemistry, University of Virginia

“Functional Characterization of Aspartate Aminotransferases from *Thermotoga maritima*”

**Caitlin Cohen and Leanna Giancarlo**, Department of Chemistry, University of Mary Washington

“STM Investigations of Brominated Organics on Graphite”

**L. Wyatt Colvin and Christopher G. Gulgas**, Department of Chemistry and Physics, Longwood University

“Luminescence Study of the Binding of Dipicolinate by Eu(III) and Tb(III) EDTA Bis-amide Chelates”

**Jeffrey R. Cooper and Daren J. Timmons**, Department of Chemistry, Virginia Military Institute

“Liquid Crystals with Flavones”

**Zachary Miller Detweiler and Kelli Slunt**, Department of Chemistry, University of Mary Washington

“Analysis of Estrogen Content in Bovine Milk”

**Lauren Firich, James Eaton, Peter Barelli, Benjamin Giglio, John Stafford, Nakul Telang, and John Gupton**, Department of Chemistry, University of Richmond

“The Application of Haloenoic Acids to an Efficient Synthesis of Highly Functionalized Pyrrolinones”

**Katherine-Jo Galayda and Peter Ruiz-Haas**, Department of Chemistry and Physics, Mary Baldwin College

“Use of The Yeast Estrogen Screen to Determine Endocrine Disrupting Chemicals in the Shenandoah River, Virginia”

**Taylor D. Godsey and Henry D. Schreiber**, Department of Chemistry, Virginia Military Institute

“Characterization of the Fluorescent Properties of the Flowers of Four O’Clocks and Portulacas”

**Andrew W. Jeter and Tappey H. Jones**, Department of Chemistry, Virginia Military Institute

“Caste Specific Compounds from Myrmicine Ants”

**Nacole King and Ralph Matrone**, Department of Chemistry and Physics, Virginia State University

“Chemical Modification of Monoclonal Antibodies for Ac(III) Complexation”

**April Lao and Maria L. Craig**, Department of Biology and Department of Chemistry and Physics, Mary Baldwin College

“Evaluation of the Strength and Specificity of the Binding Interaction Between LL37 and DNA Using an Electrophoretic Mobility Shift Assay”

**Jennifer Leach and Jasmine Finnie**, Department of Chemistry and Physics, Virginia State University

“Symmetry Change of  $[\text{Co}(\text{299-dimethyl}^{\text{I}}\text{JW-phenanthroline})(\text{H}_2\text{O})_4]^{2+}$  in Sol Gel Material and Comparisons of Similar Chemical Binding Behavior using Dimethyl-2,2-dipyridyl and 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline”

**Caria S. Mckinney, V. I. Gavrilenko, C. Zhang, and A. V. Gavrilenko**, Center for Materials Research and Department of Chemistry, Norfolk State University

“Modeling of A Pi-Conjugated Polymer Poly(4H-cyclopenta[2,l-b;3,4-b']dithiophene-4-one)”

**Shanti M. Nambiar, Jenny A. Lounsbury, and James P. Landers**, Departments of Chemistry, Mechanical Engineering, and Pathology, University of Virginia



“A One-Step Method for Elution of Cellular Material and Preferential Lysis of Epithelial Cells from Mock Sexual Assault Samples”

**Stacey Nathan and Katherine N. Crowder**, Department of Chemistry, University of Mary Washington

“Surface Modification of Ti-6Al-4V: A Biomimetic Approach for Orthopedic Implant Applications”

**Kylene Peroutky**, Department of Chemistry, Bridgewater College

“Caution! The Danger of Heating Before Eating”

**Evan W. Reynolds, Kaleem J. Morris, and James N. Demas**, Department of Chemistry, University of Virginia

“Properties of Luminescence Quenching by Oxygen in Ionic Liquid Supports”

**Diomedes Saldana-Greco and Carol Parish**, Department of Chemistry, University of Richmond

“Octadienediyne Cyclization and Conformational Analysis” of the Resulting Didehydrocyclooctatetraene”

**Michael Salim, Yanita Boayue, Paris Hamilton, Lin Pu, Michal Sabat, and Kevin Caran**, Department of Chemistry and Biochemistry, James Madison University  
“Dimeric Propargylic Alcohols”

**Derek Salter and Matthew Hartman**, Department of Chemistry, Virginia Commonwealth University

“Engineering High Affinity EF-Tu:tRNA Interactions”

**Christian Schwantes, Kevin P. C. Minbiole, and Reid N. Harris**, Department of Chemistry and Biochemistry and Department of Biology, James Madison University

“The Antifungal Bacterium, *Janthinobacterium lividum*, Does Not Protect the Critically Endangered Panamanian Golden Frog from Chytridiomycosis”

**Asim Shabbir and Jill Venton**, Department of Chemistry, University of Virginia

“Effect of Carbon Nanotube Length on Detection of Neurotransmitters in FSCV”

**J. Ervin Sheldon and Christopher G. Gulgas**, Department of Chemistry and Physics, Longwood University

“Synthesis of Lanthanide Helicates for Anion-templated Assembly”

**Stephen P. Sibley and Sarah E. G. Porter**, Department of Chemistry and Physics, Longwood University

“Analysis of Water Soluble Vitamins in Energy Drinks by HPLC”

**Nick Sirica**, Department of Chemistry, Bridgewater College

“Refractive Indices and the Estimation of Bulk Polarization within Binary Alcohol-Water Solutions”

**Tsiga Solomon, Ashley Keller and Linda Columbus**, Department of Chemistry, University of Virginia

“PIPE Cloning of Membrane Proteins and Expression, Purification, and Biophysical Analysis of Inca Protein, of *Chlamydia trachomatis*”

**Philip Storm and John Bushweller**, Department of Molecular Physiology and Biophysics, University of Virginia

“Benzimidazole Precursors for Core Binding Factor Inhibitors”

**Katie Strong and Janet Asper**, Department of Chemistry, University of Mary Washington

“Synthesis of PEG Guanidinylation Reagents for Protecting Alkylguanidines”

**Catherine H. Swandby, Melissa Rhoten, and Joseph Garcia**, Department of Chemistry and Physics, Longwood University

“Environmental Analysis of Toxic Metals Produced by Cigarette Smoking on the Longwood University Campus”

**Hei-Man Tsui, Shamindri M. Arachchige, and Karen J. Brewer**, Department of Chemistry, Virginia Polytechnic Institute and State University

“Photocatalytic Hydrogen Production from Water Using the Supramolecular Complex  $[(\text{bpy})_2\text{Ru}(\text{dpp})]_2[\text{RhBr}_2]^{5+}$ : Effect of pH”

**Jason Wang and Carl Trindle**, Department of Chemistry, University of Virginia

“Structures and Energetics of a Proposed Rhodium-Based Catalyst for Water Splitting”

**Jonathan S. Williams and Charles M. Sharpless**, Department of Chemistry, University of Mary Washington

“Exploring Direct Photolysis Mechanisms of Polycyclic Aromatic Hydrocarbons (PAHs) in Non-polar Solvents”

### ***CHANGE IN SECTION WEBSITE***

The Virginia Section website has a new address:

**<http://www.virginia.sites.acs.org/>**

## CAN YOU IDENTIFY THIS PERSON?



The photograph is from 2007. The subject is shown with her two sons. At the time she was a Professor of Chemistry at Virginia Commonwealth University. She has been very active in the Virginia Section and was presented the Distinguished Service Award for 2002. She received her doctoral degree in inorganic chemistry from the University of Milano in Italy. Her most recent research work involved the development of lanthanide macrocyclic complexes as luminescent bio-markers. In 1996 she was honored by Iota Sigma Pi, the National Honor Society for Women in Chemistry with their highest recognition—the Iota Sigma Pi Honorary Member Award.

The “mystery persons” shown in the April, 2010 issue were Dr. Donald Shillady and Dr. Sheryl Baldwin, both of whom were recipients of the Virginia Section’s highest award—the Distinguished Service Award.



## CHANGE IN BULLETIN DELIVERY

This issue of the Bulletin is being used for a trial run on a new method of providing our members with Section news. We are not mailing the Summer issue to every member of the Section. Instead, we are informing most members by e-mail that the Bulletin has been posted on the Section website. E-mail addresses provided by the membership department of the national office of the ACS are being used. We recognize that this delivery method will create some problems. Some members do not have access to e-mail and others may not have provided the ACS with their current e-mail addresses. And we know that some of the e-mail addresses in the national membership file are outdated and others simply incorrect. We offer these alternatives to ensure that you have access to future issues of the Bulletin:

1. If you do not have e-mail or simply prefer to receive a printed copy sent to you by U.S. mail, please let us know that and we will place your name on our mailing list and send you a hard copy as we have been doing. Send your name and address to James Beck, 1977 Vesonder Road, Petersburg, Va 23805 or via e-mail to **beckjd1977 @ comcast.net**.
2. If you wish to receive the e-mail notification and are not sure that the ACS has your correct e-mail address, contact the national membership office by e-mail or telephone: service @ acs.org; 1-800-333-9511. Alternatively, you can send your current e-mail address to **beckjd1977 @ comcast.net**.

If you have questions or comments on this trial, please contact me by e-mail or phone. Thank you in advance for your cooperation. Suggestions and assistance are welcomed.

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## **THE BULLETIN**

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