



The Bulletin
of the
Virginia Section
AMERICAN CHEMICAL SOCIETY

IMPORTANT NOTICE ON BULLETIN DELIVERY

The January, 2011 issue of the Virginia Section Bulletin will not be mailed to all Section members! The January issue will be posted on the Virginia Section website and e-mail notification of the January 21 Section meeting will be sent to all members for whom we have e-mail addresses. You may need to take some action in order to ensure that you have access to future issues of the Bulletin and to meeting notices. Please review these scenarios to see if any action is required:

1. **If you have been receiving e-mail notification** of the meeting notices for the past several months and you can access the Bulletin via the Section website, no action is needed on your part. You will continue to receive electronic notification.

2. **If you have not been receiving e-mail notification**, but would like to do so and prefer to access the Bulletin on the Section website, we probably do not have your correct e-mail address. Send your correct e-mail address to **beckjd1977@comcast.net**. Be sure that your e-mail service will accept future mailings from this address and you will receive future notifications electronically.

3. **If you prefer to continue receiving paper copies** of the Bulletin via the U.S. Postal Service, send us a note to that effect, with your correct address. You can e-mail the information to **beckjd1977@comcast.net** or mail us the form below.

If you have questions or encounter problems in receiving notices of future meetings or cannot access the Bulletin issues, please let us know: **beckjd1977@comcast.net** or (804) 733-5286.

Please continue to mail me paper copies of the Virginia Section Bulletin.

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Return this form to James Beck, 1977 Vesonder Road, Petersburg, VA 23805 or send the information by e-mail to **beckjd1977@comcast.net**.

DECEMBER MEETING NOTICE

**J. SARGEANT REYNOLDS
COMMUNITY COLLEGE
Parham Road Campus
Richmond, Virginia**

Friday, December 10, 2010

SOCIAL HOUR: **6:00 p.m.**
The Gallery
Georgiadis Hall
1651 East Parham Road

DINNER: **6:30 p.m.**
The Gallery

PROGRAM: **7:15 p.m.**
The Gallery

MENU: Pasta Bar: Penne Pasta, Fettuccini and Rotini Spirals with Marinara and Alfredo Sauces Served with Grilled Chicken or Meatballs, Fresh Steamed Vegetables, Parmesan Cheese, Crisp Tossed Green Salad, Sourdough Bread with Garlic Butter, Assorted Cookies, Beverages

PRICE: Members/Guests - \$14.00
Students, High School Teachers/Spouses - \$7.00
Retired ACS Members/Spouses, Retired Teachers/ Spouses - \$10.00

DINNER RESERVATIONS: _____ Please make reservations for the dinner by **NOON on Friday, Dec. 3** by calling (804) 523-5777 or e-mail to asullivan@reynolds.edu

HOST: Dr. Ann Sullivan, (804) 523-5777; asullivan@reynolds.edu

SPEAKER: **Dr. Gerd Kobal, Altria Client Services**

TOPIC: **“What Can We Learn from Sensomics?”**

TEACHER AWARDS: **HIGH SCHOOL CHEMISTRY - Mr. Michael Farabaugh**
MIDDLE SCHOOL SCIENCE - Ms. Elizabeth Coffman
ELEMENTARY SCHOOL SCIENCE - Ms. Judy Fitzpatrick

DEC 2010

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

Dr. Gerd Kobal

Dr. Gerd Kobal currently holds the position of Vice President, Sensory and Analytical Sciences at Altria Client Services Company in Richmond, Virginia. A citizen of Germany, Dr. Kobal's background includes an M.D. from the Medical School of the University Erlangen-Nuremberg; a Ph.D. in Physiology and a Ph.D. in Pharmacology. He is the former Professor and Chair of the Department of Psychophysiology at the University of Bamberg, and former Professor of Physiological Pharmacology at the University Erlangen-Nuremberg.



Dr. Kobal has been with Altria since 2001 having started his industrial career as Director of Sensory Research. He is a member of the ACS, former President of ECRO (European Chemoreception Research Organization), member of the New York Academy of Sciences and various other scientific organizations. Since 2002 he has served as a Temporary Member of the NIH study section review board Cognitive Neuroscience.

Dr. Kobal has published 138 peer reviewed papers and 50 book chapters and is the recipient of six patents with two patents pending. He appears on the Biomed Experts website as the #3 expert in the category of "Smell", and his article "..., olfactory performance assessed by the combined testing of odor identification, odor discrimination and olfactory threshold" is the single most frequently cited publication in the journal *Chemical Senses*.

Dr. Kobal is married with three children and resides in Goochland, VA.

WHAT CAN WE LEARN FROM SENSOMICS?

Sensomics can be understood as the analysis of all (natural) product elements that are necessary for sensory perception. For the purpose of this presentation, however, sensomics is more narrowly defined as the science of flavor relevant chemicals.

Sensomics provides an in-depth analysis of flavor profiles by listing compounds, concentrations, and their potential interactions with other product elements. The typical Sensomics analytical process follows the following scheme:

- a. identifying the major flavor-relevant compounds—the goal is to find all compounds that contribute to the sensory experience;
- b. elucidation of chemical structures;
- d. quantification of flavor-relevant compounds as found in the product;
- e. translating compounds and concentrations into sensory perceptions and their strengths/intensities; and
- g. creating recombinants, i.e., the recombined set of isolated flavor compounds at proper concentrations in appropriate matrices.

DISTINGUISHED HIGH SCHOOL CHEMISTRY TEACHER AWARD***Mr. Michael Farabaugh***

Michael Farabaugh attended Midlothian High School in Chesterfield County (where he was fortunate to have Bill Rademaker as his AP Chemistry teacher!). He graduated from the College of William and Mary with a chemistry degree in 1991, then did graduate research in bio-organic chemistry at both Purdue University and Michigan State University, working in Dr. John Frost's laboratory. Although he had originally intended to get his Ph.D in chemistry, Mr. Farabaugh realized that his passion was for teaching more than research. So he decided to finish up with a master's degree and then to pursue a career as a high school chemistry teacher. Mr. Farabaugh's master's thesis was entitled "Biocatalytic Production of Aromatics from D-Glucose."



In 1997 he moved to Charlottesville to attend the University of Virginia where he completed his master of teaching degree the following year. Mr. Farabaugh has been teaching chemistry at Monticello High School ever since the school first opened its doors in 1998. He is an enthusiastic teacher who loves to make chemistry come alive for his students. An experienced chemical demonstrator, he has performed entertaining science shows at schools in Albemarle County for many years. Over the past three years he has taught chemistry-themed classes as part of the University of Virginia's Summer Enrichment Program.

DISTINGUISHED MIDDLE SCHOOL SCIENCE TEACHER AWARD***Ms. Elizabeth "Liza" Coffman***

Elizabeth "Liza" Coffman was born and raised in Winchester and graduated from John Handley High School. It was during that time that she fell in love with science, thanks to Nature Camp in Vesuvius and Mr. Jonathan Wilson, her high school biology teacher. She went on to study Fisheries Science at Virginia Tech (B.S. '03) and Middle Education at James Madison University (MEd '05). She believes that science is a way of thinking—the place where logic and creativity intersect. She loves science, and became a teacher because there is nothing more powerful than an educator who



is both knowledgeable and passionate about his or her subject matter. She works hard to make her classroom a place of high standards, where ideas are valued and tested, and students learn more about how the world around them works. In September, she and her husband Seth welcomed their first child, Eleanor. In her spare time, she likes to read, garden, and hike.

DISTINGUISHED ELEMENTARY SCHOOL SCIENCE TEACHER AWARD***Ms. Judy Fitzpatrick***

Judy Fitzpatrick is currently a fourth grade teacher at Short Pump Elementary School in Henrico County. She grew up in Washington State and graduated from the University of Washington. She has taught in Washington State; Berlin, Germany; Seoul, Korea; and in Virginia. She is the mother of four sons and grandmother of one.

Ms. Fitzpatrick has a degree in Sociology and has taken classes and workshops in a number of areas including archaeology and engineering. She is currently completing her Masters in Ecological Teaching and Learning from Lesley University with an emphasis on Place-Based Education that will combine her interest in cultures and natural science.



Her teaching philosophy is to *be the guide on the side, and not the sage on the stage*, and to have her classroom lessons incorporate 21st century learning activities including collaboration and communication, critical thinking and problem solving, creativity and innovation, and information fluency as well as technology and outdoor experiences. She is especially interested in brain research and how it impacts learning.

She loves teaching science and has come to realize that science is more about questions than answers and that has made all the difference in her teaching.

DIRECTIONS**From Points East:**

I-64 West to I-95 North or I-64 West to I-295 North Exit 200 and I-95 South. Parham Road West Exit 83B. Cross US Route 1 (Brook Road) at traffic light. Go through two traffic signals; at the third signal, the campus entrance is on the left.

From Points West:

I-64 East to Parham Road Exit 181. Left on Parham. Approximately five miles to the campus entrance on the right.

From Points North:

I-95 South to Parham Road West Exit 83B. Cross US Route 1 (Brook Road) at traffic light. Go through two traffic signals; at the third signal, the campus entrance is on the left.

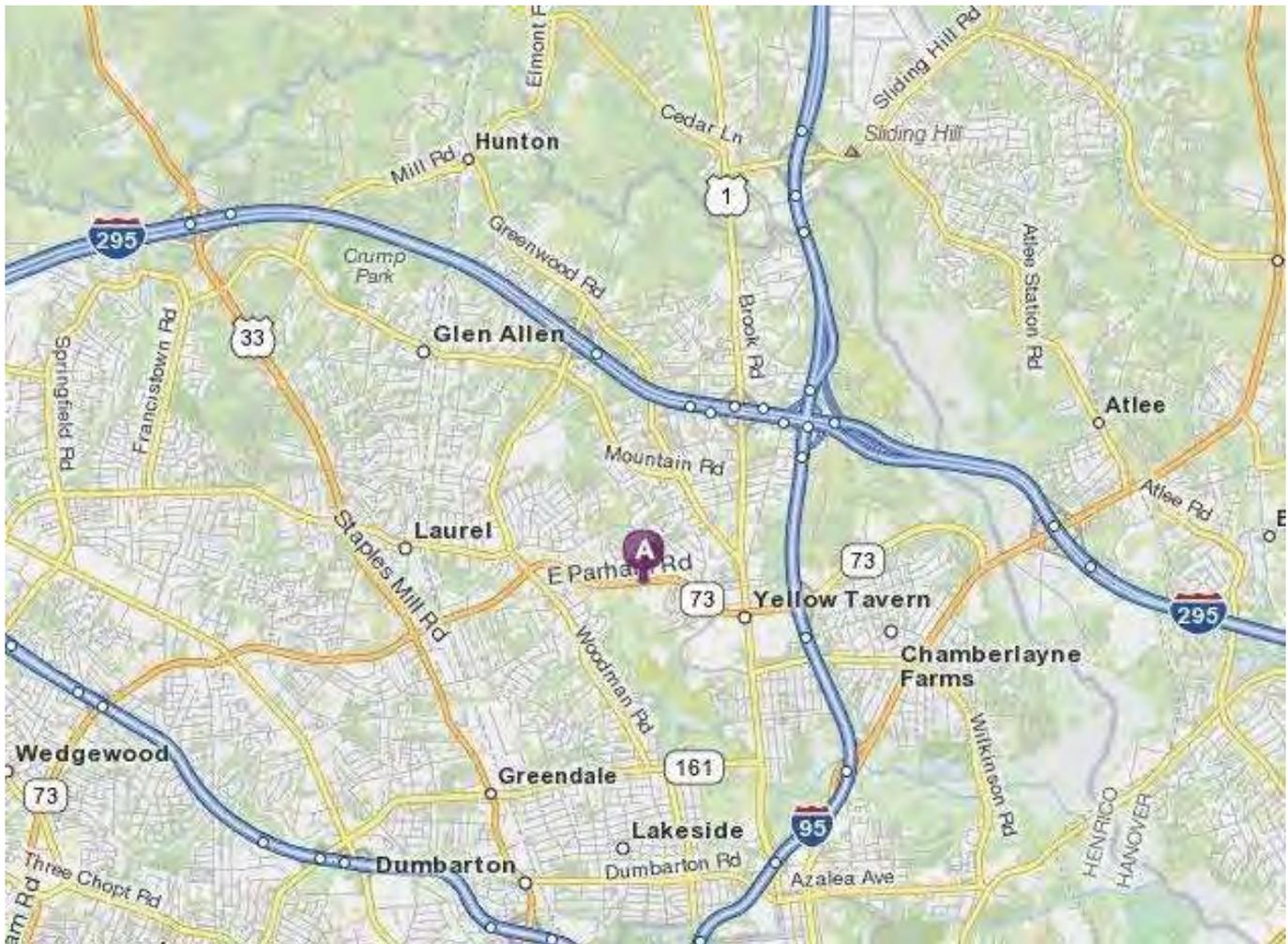
From Points South:

I-95 North to Parham Road West Exit 83B. Cross US Route 1 (Brook Road) at traffic light. Go through two traffic signals, at the third signal the campus entrance is on the left.

Enter the **second entrance** into the campus and Georgiadis Hall is the middle building. Go in the entrance beside the round stairwell, turn right and go down the stairs. The Gallery is to the right at the bottom of the stairs and through the double doors.

Note: If you enter the first entrance from Parham Road into the campus, you will have to drive behind Burnette Hall and the round stairwell will be on the other side of the building.

MAP



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

FUTURE MEETINGS

DATE: **January 21, 2011**
 LOCATION: **John Tyler Community College**
 Chester, Virginia
 HOST: Dr. Kristine Smetana
 PHONE: (804) 706-5143
 E-MAIL: ksmetana@jtcc.edu
 SPEAKER: **Dr. Herbert J. Sipe**
 TOPIC: "Toxic Chemicals and Society"

DATE: **February 25, 2011**
 LOCATION: **Randolph-Macon College**
 Ashland, Virginia
 HOST: Dr. April D. Hennis Marchetti
 PHONE: (804) 752-7319
 E-MAIL: amarchet@rmc.edu
 SPEAKER: **Dr. Brian Moores**
 TOPIC: "Food Chemistry"

DATE: **March 18, 2011**
LOCATION: University of Richmond
Richmond, Virginia
HOST: Dr. Lisa Gentile
PHONE: (804) 484-1578
E-MAIL: lgentile@richmond.edu
SPEAKER: **Dr. Harry Gray**
POWELL LECTURESHIP

DATE: **April 15, 2011** (tentative)
LOCATION: University of Virginia
Charlottesville, VA
HOST: Dr. James Demas
PHONE: (434) 924-3343
E-MAIL: demas@virginia.edu
SPEAKER: **Dr. William Mattson**
TOPIC: "Creative Problem Solving
in Research"

EXECUTIVE COMMITTEE MEETING

The Executive Committee of the Virginia Section will meet at 9:00 a.m. on **Saturday, January 22, 2011**. The meeting will be held at the Science Museum of Virginia in Richmond. Directions and the meeting agenda can be found on the Section website: <http://www.virginia.sites.acs.org/>. Members of the Section are invited to attend the meeting. If you would like to have an item placed on the agenda, contact Dr. Stephanie Mabry at (804) 639-6991; Stephanie.Mabry@AftonChemical.com.

VIRGINIA ACADEMY OF SCIENCE MEETING

The 89th Annual Meeting of the Virginia Academy of Science will be held May 25-27, 2011 at the University of Richmond. The Virginia Junior Academy of Science will meet May 24-26.

WCC ACTIVITIES

The Women Chemists Committee (WCC) met on Friday October 22, 2010 at Dora's Brazilian Grill in Richmond for a networking meeting. Attendees enjoyed delicious food while discussing plans for future WCC events. The event overlapped with the In Light art exhibit held in Shockoe Slip. Thanks to Helene Haczynski for organizing this event. WCC plans for 2011 include a chemist career discussion panel on Friday February 11, 2011 at Virginia State University in Petersburg. This will be the third year for this popular event, which is being organized by Colleen Taylor at VSU. Undergraduate students from all local colleges will be invited. The next networking lunch will be held in June 2011. A WCC luncheon is also planned for SERMACS 2011 to be held in October, 2011 in Richmond. Other ideas discussed were sponsoring mobile lab carts in schools featuring women scientists and holding a second career panel in the fall at Virginia Union University.



OLYMPIAD TEAM WINNERS TO BE RECOGNIZED

The Virginia Section awards a number of prizes to students and schools that participate in the Chemistry Olympiad. School awards are given in four categories. Within each category, the school with the highest total of the top three student scores receives a plaque and a certificate of achievement. These team awards will be presented at the Section meeting on December 10. Here are the team award winners for the 2010 competition:

First-Year Examination		
Category	School	Teachers
Small School	The Governor's School of Southside Virginia	Lucy Duah-Williams
Large School	Maggie Walker Governor's School	Anna Shore, Jeremy Clark, Jennifer Todd
Second-Year Examination		
Small School	Collegiate School	Susan Foumess-Ewell, R. Hottman
Large School	Maggie Walker Governor's School	Anna Shore, Jeremy Clark, Jennifer Todd



CHEMISTRY SEMINAR AT THE UNIVERSITY OF VIRGINIA

December 3 - **Dr. Dmitri Svergun**, "Characterization of Biomacromolecular Solutions and Nanostructured Materials by Small-angle X-Ray Scattering (SAXS)"

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 November issue of the Bulletin: **Dr. Richard D. Caudle** died on August 12 at the age of 95. He was best known for his work on atmospheric photochemistry and especially on the mechanism of photochemical smog formation. Dr. Caudle spoke to the Virginia Section on "The Nature and Cure of Photochemical Smog." At the time he was a research scientist at the National Center for Atmospheric Research in Boulder, Colorado. **When and where did Dr. Caudle give his presentation to the Virginia Section?** The talk was given on November 16, 1973 at Randolph-Macon College in Ashland.



New Question: **In what year did the Virginia Section hold three meetings in the month of April, one in Hopewell, one in Charlottesville, and a joint meeting with the Hampton Roads Section in Williamsburg? Was it 1953, 1960, 1974, or 1982?** The speakers were Dr. Robert M. Reed, Dr. Glenn Edgar Ulyot, and Dr. James C. Engibous.

2011 CHEMISTRY OLYMPIAD

The Virginia Section will host the 2011 Chemistry Olympiad for all high school chemistry teachers and students who are interested in participating. The Local Section competition will be held between February 28 and March 28, 2011. The deadline for registration is February 14. Students who do well in the local competition will be nominated to compete in the national competition; that examination will be given on April 16 at J. Sargeant Reynolds Community College. The International Chemistry Olympiad will be in Ankara, Turkey. For more information and the application forms, go to the Virginia Section Website at <http://www.virginia.sites.acs.org>, click on "Contact Us", then on "Committees" and "Chemistry Olympiad". Dr. Ann Sullivan is the coordinator for the Chemistry Olympiad in the Virginia Section.

J. SARGEANT REYNOLDS COMMUNITY COLLEGE

J. Sargeant Reynolds
Community College



J. Sargeant Reynolds Community College was founded in 1972 to serve the capitol region in and around the city of Richmond. Since then, Reynolds has grown into the third largest college in the Virginia Community College System, enrolling students at three major campuses, off-campus sites, and "virtually" through distance learning. Responding to the recommendation of a legislative study committee that "every citizen of the Commonwealth be given an opportunity to attend an institution of higher learning offering academic, occupational/ technical, and community service programs at a nominal cost," in 1966 the General Assembly of Virginia established a state-wide system of community colleges. A newly established State Board for Community Colleges prepared a master plan for a system of 23 institutions. The Lieutenant Governor, J. Sargeant Reynolds, heralded the creation of the community college system by the General Assembly as "one of its finest acts and finest hours in this century." J. Sargeant Reynolds Community College, the last of these colleges, is named in honor of the late Lieutenant Governor of the State, who championed legislation creating the state-supported community colleges.

The college currently offers two-year occupational/technical degree programs, occupational/ technical certificate programs, two-year college transfer programs, and more than 40 career studies certificate programs requiring less than one-year of full-time study. Having enrolled more than 275,000 persons in credit courses since its opening, J. Sargeant Reynolds Community College continues to strive to meet the aspirations of its namesake to provide "a practical and economic answer to the future educational needs of thousands of ...Virginians." The college serves over 19,500 credit students each year who attend Reynolds for:

- Degrees that transfer to four-year universities and colleges in Virginia and elsewhere. Over 65 percent of our graduates transfer into programs to pursue a bachelor's degree. The Virginia Community College System and the College have signed more than 25 Guaranteed Admissions Agreements to assure baccalaureate degree access to associate degree graduates.

- Degrees, certificates, and career studies certificates that prepare credit students for employment
- Credit courses for students who do not currently wish to complete an entire program – during the day, evening, on weekends, via distance learning and through dual enrollment.

In addition, 17,000 non-credit students come to the college for workforce development courses and services through the Community College Workforce Alliance (CCWA), a collaboration between JSRCC and John Tyler Community College.

The community college system in Virginia serves over 50 percent of all first year college students in the state in both academic and occupational technical degree programs. J. Sargeant Reynolds Community College provides access to education that develops individuals for employment and career advancement, prepares students for successful transfer to colleges and universities, promotes personal enrichment and lifelong learning, and builds a skilled workforce that contributes to regional economic development.

The Associate in Science degree with a major in Science is designed for persons who plan to transfer to a four-year college or university in a major which requires a background in the natural or physical sciences and mathematics. With the many advances taking place in all areas of science, the opportunities for persons with expertise in this area are rapidly increasing. This program provides the necessary training for transfer into a broad range of scientific fields ranging from botany to zoology and chemistry, geology, or physics. In addition, the science major is designed to meet the requirements for admission to a professional school or upper-division major for career preparation in many of the medical professions including nursing, pharmacy, medicine, and veterinary medicine. Although a student who majors in the sciences does not receive a degree in any specific course study, J. Sargeant Reynolds offers a first year chemistry course for engineers and science majors and a separate course for non-science majors plus a second year of organic chemistry. The College also offers courses in microbiology, anatomy & physiology, geology and physics for the science major. However, the greatest benefit of the community college system is the low cost of tuition and generally small class size. Check out J. Sargeant Reynolds on the web at www.reynolds.edu.



CORRECTION TO NUMBER OF CERTIFIED GRADUATES AT UVA

An article in the October, 2010 issue of the Bulletin gave an incorrect figure for the number of certified chemistry bachelor's graduates at the University of Virginia. The correct number is **90**. There were a total of 119 bachelor's in chemistry at UVA in 2008-09. The figures for chemistry graduates at all schools offering an ACS-approved program can be found in the August 23, 2010 issue of *C&EN* (go to www.cen-online.org). We regret the error in the October Bulletin.

❄️❄️❄️❄️❄️ Happy Holidays ❄️❄️❄️❄️❄️

RESULTS OF VIRGINIA SECTION OFFICER ELECTIONS

Ken Chapman, Chair of the Nominating Committee, has reported these results of the balloting for 2011 officer positions.

Chair - Dr. Stephanie Mabry

Vice Chair - Dr. Joseph Crockett

Treasurer - Dr. Brad Norwood

Alternate Councilor - Dr. Janet Asper

Chair-Elect - Dr. Karen Carter

Secretary - Dr. Rob Davidson

Councilor - Dr. Ann Sullivan

Trustee - Dr. Philip Burks

Congratulations to the new officers and thanks to all who participated in the election.

REPORT ON THE NOVEMBER SECTION MEETING

The Virginia Section met at the University of Mary Washington in Fredericksburg on November 12, 2010, with over 80 persons present. Dr. Stephanie Mabry, Chair-Elect, presided. The speaker was Dr. Elsa Reichmanis of Georgia Tech. She was introduced by Mr. Ben Burruss, a senior chemistry major at the University of Mary Washington and President of their ACS Student Affiliate Chapter. Dr. Reichmanis spoke on "Advanced Polymeric Materials for Electronic Applications. Her talk was co-sponsored by the Women Chemists Committee (WCC) of the Virginia Section. Dr. Mabry presented Dr. Reichmanis with the traditional engraved Jefferson Cup and with a paperweight from the WCC. Thanks to Dr. Roy Gratz and his colleagues at the University of Mary Washington for organizing this meeting.

CAN YOU IDENTIFY THIS PERSON?



The exact date of the photograph is not known, but it was definitely prior to 2000 when the subject spoke at a Virginia Section meeting. Her talk, given at Longwood College on March 10, 2000 was on "Chemistry—Contributions to the Quality of Life." President Barack Obama recently announced that she is a winner of the National Medal of Technology & Innovation for 2010. This is the highest honor bestowed on scientists and engineers by the U.S. government. She served as president of the ACS in 1993; her work on dip-and-read diagnostic strips was named a National Historic Chemical Landmark earlier this year.

The chemist shown in the November Bulletin was Dr. Patrick Barber, Virginia Section Councilor and recipient of the Section's Distinguished Service Award. He was shown with his daughter Dawn and wife Pat.



WORDS OF WISDOM FOR DECEMBER: "It Is Not Good
To Swap Horses While Forging A Stream"

THE BULLETIN

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***Yezdi
Pithawalla***

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