



The Bulletin
of the
Virginia Section
AMERICAN CHEMICAL SOCIETY

JANUARY MEETING NOTICE

**Randolph-Macon College
Ashland, Virginia**

Friday, January 18, 2013

RECEPTION: 6:00 p.m.
(cash bar) Estes Dining Hall
Second Floor
306 Henry Street

DINNER AND PROGRAM: 6:30 p.m.
Estes Dining Hall
Second Floor

MENU: Choice of (1) Chicken Piccata **or** (2) Herb Roasted Pork Loin, **or** (3) Mushroom Strudel (vegetarian). Vegetable, starch, bread, dessert, and beverage included with each entrée. Please specify your choice of entrée when making your reservation.

PRICE: ACS Members and Guests - \$17.00
High School Students, College Students, High School Teachers - \$9.00
Retired ACS Members & Guests; Retired Teachers & Guests - \$12.00

DINNER RESERVATIONS: Please make reservations for the Dinner by **NOON on Monday, January 14**, by calling Ms. Barbara Wirth at **(804) 752-7368** or by e-mail to **bwirth@rmc.edu**. NOTE: When you make your reservation, **please provide the name of each guest, along with the choice of entrée for each one.**

HOST: Dr. April Marchetti, amarchet@rmc.edu

SPEAKER: **Dr. Scott Gronert**, Virginia Commonwealth University

TOPIC: **“Aldehydes in Your Proteins:
The Tree-Rings of Human Aging?”**

JANUARY 2013

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Dr. Scott Gronert

Dr. Scott Gronert is Professor of Chemistry and Chair of the Department of Chemistry at Virginia Commonwealth University. He holds a B.S. degree from California State University at Long Beach and a Ph.D. from the University of California, Berkeley. He did postdoctoral research at the University of Colorado. He began his academic career in 1990 at San Francisco State University and rose to the rank of Professor in 1997. In 2007 he joined the faculty at VCU and became Chair of the Department of Chemistry in 2009. His research focuses on the use of mass spectrometry in the investigation of problems in organic and biological chemistry. His work involves gas-phase reaction mechanisms and the analysis of protein post-translational modifications related to aging.



“Aldehydes in Your Proteins: The Tree-Rings of Human Aging?”

Along with physiological changes, there are well-established chemical changes that occur as a part of the aging process. One is a marked increase in the amount of oxidative damage to mitochondrial proteins. From fruit flies to humans, almost all animals experience this increase in free radical damage that begins at about 60% of normal lifespan. It is unclear whether this is the driver in the aging process or a symptom of other changes. A common marker is the accumulation of aldehyde functional groups on proteins and these could be considered the "tree rings" of human aging. The mechanism of oxidative damage will be discussed as well as its relationship with life-extending strategies such as calories restriction.



EXECUTIVE COMMITTEE MEETING

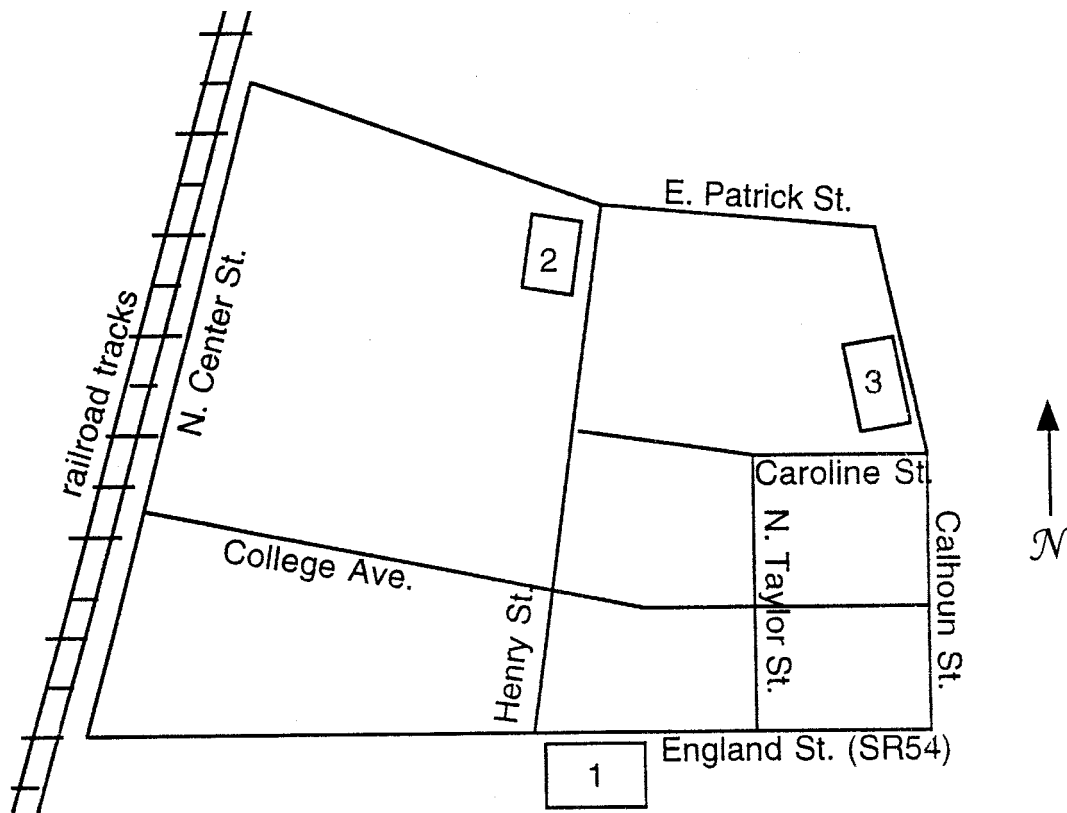
The Executive Committee of the Virginia Section will meet on Saturday, January 19, 2013 at the Downtown Campus of J. Sargeant Reynolds Community College in Richmond. Snacks will be provided at 8:30 a.m. with the meeting starting promptly at 9:00 a.m. Officers and committee chairs should bring 30 copies of their reports for distribution at the meeting. Directions to JSRCC and the meeting agenda can be found on the Section website: <http://www.virginia.sites.acs.org/>. All members of the section are invited to attend. For questions regarding the agenda and meeting, contact the 2013 Chair of the Virginia Section, Dr. Joseph Crockett, at (540) 828-5431; jcrocket@bridgewater.edu.

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

*** VIRGINIA SECTION NEWS ***

FUTURE MEETINGS

DATE: February 8, 2013
LOCATION: Virginia State University
 Petersburg, VA
HOST: Dr. Colleen Taylor
PHONE: (804) 524-5481
E-MAIL: cmtaylor@vsu.edu
SPEAKER: **Dr. Brent Gunnoe**
TOPIC: "Development of a Domestic
 Energy Base: Chemistry in the
 Center for Catalytic Hydrocarbon
 Functionalization"

DATE: March 1, 2013
LOCATION: University of Richmond
 Richmond, VA
HOST: Dr. Michelle Hamm
PHONE: (804) 287-6327
E-MAIL: mhamm@richmond.edu
SPEAKER: **Dr. Emily Carter**

(POWELL LECTURESHIP)

DATE: April 20, 2012
LOCATION: University of Virginia
 Charlottesville, VA
HOST: Dr. James Demas
PHONE: (434) 924-3343
E-MAIL: demas@virginia.edu
SPEAKER: **Dr. Clifton Draper**
TOPIC: "I Have Never Let My Schooling Interfere with
 My Education"

☞ **STUDENT POSTER SESSION**

THE CHAIR'S CORNER

From the Chair:

When most people have served as Chair of the Virginia Section they do not expect to repeat. They do go on and serve the section in other ways as committee members/chairs, as councilors, or working on special projects such as the recent SERMACS meeting. I never expected to be your chair for another round, but here we are and I hope to have a really outstanding year for our section. I'm surrounded by a lot of great people who do all the work—but they all would love to have more people to work with them.



There are several items I'd like to get done this year and this will require input/help from the current executive committee, the many members who I see at the monthly meetings, and all of the rest of the section members when we call on you. First, I'd like to see an expansion of National Chemistry Week activities throughout the section in October and Chemists Celebrate Earth Day activities in April. If these activities are not occurring in your area, let us know and we can get ideas to you for setting them up.

Second, I'd like to get together with department chairs/heads of all colleges (4 year – 17 schools - and 2 year – 9 schools) in our section sometime during this year. We have section activities at lots of places, but we also have "dark spots" where we don't. What can our section do for all of the 26 schools and what can these schools do for the section? How can we link local chemical industries more with the schools? We always have a note in the bulletin about chemistry at the location of our meetings, but could we do a second note about another school?

Third, I'd like to see more people at meetings. If you haven't been to a meeting recently you are really missing out on the social activities of the section and some really fantastic speakers. Making every meeting is hard for anyone, but consider an hour's drive to a meeting as time well spent.

Fourth, I'd like to have every high school in our section taking the Olympiad test. That would make more work for Ann Sullivan—but others can help. We can get out to our local high schools (retirees who are volunteer tutors) and "put the bug" in the ears of teachers to participate. If you are a teacher and not offering the Olympiad test for your students—contact us and get involved. You won't regret it.

Lastly, I'd like to expand the high school teacher's workshop that Kristine Smetana put together for SERMACS last year. This involved sessions on SOLs, green chemistry, lab safety, and lab demonstrations as well and lunch and a speaker. Perhaps we can get this set for late August or the first of September at a couple of sites (I volunteer Bridgewater as a site in the Shenandoah Valley).

All of these are doable and can be continued on a yearly basis—but none can be done without your help. Please consider getting or staying active in the section this year. Let us know what you are interested in doing—either the ideas above or something of your own. It's a lot of work, but together it can be done.

...Joe

Joseph Crockett, Section Chair, jrocket@bridgewater.edu

REPORT ON THE TEACHER AWARDS MEETING

Over 40 persons attended the annual teacher awards program that was held at John Tyler Community College in Chester on December 7, 2012. Section Chair Karen Carter presided.

Dr. Ann Sullivan, Coordinator of the 2012 Chemistry Olympiad, announced the winners of the team awards that are given to schools that participate in the Olympiad. St. Stephen's & St. Agnes' School, Albemarle High School, and Harrisonburg High School were acknowledged for their excellent Olympiad results. Dr. Carter then presented the Section's Distinguished Elementary School Science Teacher Award to **Ms. Laura Van Gelder**, a teacher at Triangle Elementary School in Prince William County. Mr. Mark Marinoble, Principal at Triangle Elementary School, introduced Ms. Van Gelder. Her husband, David Van Gelder, attended the awards meeting.

Mr. Michael Kenney, winner of the Distinguished Middle School Science Teacher Award, was unable to attend the awards meeting due to illness. He teaches science at Buford Middle School in Charlottesville.

Dr. Carter presented **Ms. Sandrall Sumrall Bennett**, chemistry teacher at Culpeper County High School, the **Franklin D. Kizer Distinguished High School Chemistry Teaching Award**. Ms. Bennett was introduced by Mr. Charles Toler, Vice Principal at Culpeper County High School. Mr. Jeff Dietz, Principal of Culpeper County High School, and Ms. Libby Oulette, Science Instructional Leader, also attended the meeting. Ms. Bennett's husband, Raymond Bennett, and her daughter, Kathryn Harrington, were also present.

Each award winner was presented a plaque and a check for \$300. In addition, each of the schools received \$300 for use in purchasing materials for teaching science. The teacher awards are sponsored by Boehringer Ingelheim Chemicals, Inc.

Ms. **Lynn Hogue** from Terrific Science presented an exciting talk on "The Joy of Toys: Finding Chemistry in Unexpected Places." She kept the audience in rapt attention with her interesting demonstrations featuring items such as Magic Sand, Love Boilers, Shrinky Dinks, Fortune Fish, "solid" water, a potato pop gun, and balloons on skewers.

The evening closed with the distribution of a number of door prizes. The Section thanks Dr. Kristine Smetana and her colleagues and students at John Tyler Community College for hosting this excellent meeting. Thanks also to Boehringer Ingelheim Chemicals, Inc. for sponsoring the teacher awards and to Eileen Downey, Chair of the Education Awards Committee for the Virginia Section.



Sandra Bennett, Lynn Hogue, Karen Carter, Laura Van Gelder



Kristine Smetana, Lynn Hogue, Karen Carter



Lynn Hogue with her Jefferson Cup



Will Lewis inserts skewer into balloon



Lynn Hogue and her potato pop gun



Laura Van Gelder with her husband David (right) and her Principal, Mark Marinoble



Sandra Bennett with her Principal, Jeff Dietz (left), Libby Oulette, the Science Instructional Leader at Culpeper, and Charles Toler (right), Assistant Principal at Culpeper High School



Happy New Year!

Chemistry at Randolph-Macon College



Randolph-Macon
College
Ashland, Virginia

The chemistry program at Randolph-Macon 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, biochemistry), plus many interesting electives such as Chemistry of Wine Making, Medicinal Chemistry, and Chemistry & Crime. Students may select from a variety of emphases: Research (ACS degree), Biochemistry, Forensic, General, or Chemical Education.

The hallmark of the R-MC Chemistry program is a dedication to the individual student. This means one-on-one student-faculty research projects. The College's Summer Undergraduate Research Fellowship (SURF) program (which was begun in the chemistry department in 1997) brings 5-7 chemistry student participants each summer. Their work has 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, as well as at the research laboratories of industrial corporations, 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 Copley Science Center, a three-story building which also houses the departments of biology, computer science, mathematics, psychology, and physics. Our students have access to all of the scientific instrumentation in the department: 500 and 400 MHz FT NMR, AA, GC/MS, HPLC, GPC, DSC, TGA, and two FT-IR instruments, one equipped with a microscope. In addition, we have a state-of-the-art polymer characterization facility. Each faculty member is assigned a research laboratory, and the department houses a small chemistry library. Additional chemistry monographs, textbooks, and periodicals are located in the McGraw-Page Library on campus.

Faculty include Dr. Nora Green, Dr. April D. Marchetti, Dr. Rebecca Michelsen, Dr. Serge Schreiner (department chair), and Dr. John Thoburn. For more information please visit www.rmc.edu.

WORDS OF WISDOM FOR FEBRUARY:

“UNDERSTAND MORE...FEAR LESS”

REPORT ON THE NOVEMBER SECTION MEETING

The November meeting of the Virginia Section was held at the University of Mary Washington in Fredericksburg. Dr. Janet Asper was the host. Dr. Charles Sharpless from the UMW chemistry faculty spoke on "Dirt du Soleil: The Photochemical Circus of Organic Matter and Its Environmental Consequences." Dr. Sharpless was introduced by Will Langston, president of the ACS Student Affiliate Chapter at the University of Mary Washington. Thanks to Janet Asper, Leanna Giancarlo, and other faculty members and students at Mary Washington for organizing this meeting.



Will Langston
introducing
Dr. Sharpless



**Dr. Carter presenting Jefferson
Cup to Dr. Sharpless**

VIRGINIA SECTION OFFICERS FOR 2013

CHAIR:	Dr. Joseph Crockett Bridgewater College Bridgewater, VA 22812	(540) 828-5431 jcrocket@bridgewater.edu
CHAIR-ELECT:	Dr. Scott Gronert Department of Chemistry Virginia Commonwealth University Richmond, VA 23284	(804) 828-1298 sgronert@vcu.edu
VICE CHAIR:	Dr. Todd Koch Pfizer Consumer Healthcare 1211 Sherwood Avenue Richmond, VA 23220	(804) 257-2890 todd.koch@pfizer.com
SECRETARY:	Dr. Rob Davidson Afton Chemical Corporation 500 Spring Street Richmond, VA 23219-3430	(804) 788-6327 rob.davidson@aftonchemical.com
TREASURER:	Dr. Stephanie Mabry Afton Chemical Corporation 500 Spring Street Richmond, VA 23219	(804) 639-6991 stephanie.mabry@aftonchemical.com



CHEMISTRY SEMINARS AT THE UNIVERSITY OF VIRGINIA

January 18 - **Professor Kian Tan**, Boston College, Designing the World's Smallest Enzyme: Using Synthetic Catalysts to Control Site-, Regio-, and Stereoselectivity"

January 25 - **Professor Matt Redinbo**, University of North Carolina-Chapel Hill

February 1 - **Professor Robert Griffin**, Massachusetts Institute of Technology

February 15 - **Professor Zachary Ball**, Rice University

February 22 - **Professor Stephen Craig**, Duke University, "Mechanochemistry: From Trapped Transition States to Self-Healing Polymers"

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/>.

2013 CHEMISTRY OLYMPIAD

The Virginia Section will host the 2013 Chemistry Olympiad for all high school chemistry teachers and students who are interested in participating. The Local Section competition will be held in March, 2013. The students who do well in the local competition will be nominated to compete in the national competition; that examination will be given in April at J. Sargeant Reynolds Community College in Richmond. The 2013 International Chemistry Olympiad will be held in Moscow next July. For more information and the application forms, go to the Virginia Section website at <http://virginia.sites.acs.org/chemistryolympiad.htm>. Information is available there on both the 2012 and the 2013 Olympiads. Dr. Ann Sullivan is the coordinator for the Chemistry Olympiad in the Virginia Section; asullivan@reynolds.edu.

QUESTIONS FROM THE PAST

This question was asked in the December Bulletin: The first Distinguished Chemistry Teacher Award was presented by the Virginia Section to Lawrence W. Jarman in 1948. The first Section award to a middle school science teacher was given to Jeannie Shepherd in 1990. **When was the first award presented to an elementary school teacher and who was the recipient?** Judy Fitzpatrick was the first elementary school teacher to be recognized by the Virginia Section; a fourth grade teacher at Short Pump Elementary School in Henrico County, she received her award in December, 2010.



A new question: Here is a set of officers for the Virginia Section: Chairman - W. Allan Powell; Chairman-Elect - Henry A. Hoffman; Vice-Chairman - Russell J. Rowlett, Jr.; Secretary - Oscar R. Rodig, Jr.; Treasurer - James E. York, Jr. **In what year did these officers serve? Was it 1952, 1964, 1977, or 1989?**

TEACHER AWARD WINNERS

YEAR	HIGH SCHOOL	MIDDLE SCHOOL	ELEMENTARY SCHOOL
2004	Pamela Gentry	George Fohl, Jr.	
2005	Pam Edwards	Gary Graham	
2006	Ram Bhagat	Mary Holmgren	
2007	Liza Schmieder	Dianne Nolan	
2008	Leslie A. Kovach	Mary P. Younger	
2009	Wesley James	Denise Yvette Stanton	
2010	Michael Farabaugh	Elizabeth Coffman	Judy Fitzpatrick
2011	Meg Van Liew	Denise Oppenhagen	Jessica Skeens
2012	Sandra Bennett	Michael Kenney	Laura Van Gelder

CAN YOU IDENTIFY THIS PERSON?



The photograph is from 2004 when the subject spoke at the January meeting of the Virginia Section. His topic was “*Terroir* and the Genesis of Quality Wine.” A wine aficionado, he has conducted many classes in wine appreciation and was a professor of wine education in the Culinary Arts program at J. Sargeant Reynolds Community College. He is a past-president of the Society of Wine Educators, a founder and former Chairman of its Board of Examiners, and served on the Board of Directors of the Richmond Wine Society. (Extra credit if you can give the location of the January 16, 2004 meeting).

Wayne Rose was shown in the December, 2012 Bulletin. Wayne was Chair of the Virginia Section in 2004 and presided at the meeting when this month’s “mystery person” spoke to the Virginia Section.



VSU STUDENTS HOLD BAKE SALE



Members of the ACS Student Affiliate Chapter at Virginia State University held a Periodic Table Bake Sale to raise funds to support outreach programs in chemistry. Cupcakes decorated with symbols of the elements were among the items sold. Stephanie Ellis, Jendai Robinson, and Elyse Allen worked on the project. Dr. Colleen Taylor is the faculty advisor of the Chapter at VSU.



**CALL FOR PAPERS
VIRGINIA ACADEMY OF SCIENCE
2013 ANNUAL MEETING**

The 91st Annual Meeting of the Virginia Academy of Science will be held at Virginia Tech on May 22-24, 2013. Titles of oral and poster presentations are now being solicited. Send the title of your presentation to the Secretary of the Chemistry Section of the VAS:

Michael Korn
mrkorn@liberty.edu
(434) 592-5456

More information on the VAS meeting and on the submission of titles for presentations can be found on the Academy's website: <http://www.vacadsci.org>.

ACS WEBINARS IN JANUARY

Here are the webinars scheduled for the month of January:

January 10, 2013 - "A Toast to the Chemistry of Noble Grapes," Dr. Susan Ebeler

January 17, 2013 - "Alternative Careers: From the Lab Bench to the Kitchen Bench," Bill Courtney

January 24, 2013 - "Ignorance: Why Science Shouldn't Start with a Hypothesis," Dr. Stuart Firestein

January 31, 2013 - "Gender Bending Science: Impacts of Endocrine Disrupting Chemicals,"
Dr. Charles Tyler

All webinars are scheduled for 2:00 - 3:00 p.m., EST. For more information, check the ACS Webinars website: www.acswebinars.org.

A CHEMISTRY JOKE

Brian Moores submitted this bit of humor that he found in the publication, *THE HEXAGON*.

The newly retired professor, a synthetic organic chemist of some renown, calls his former department chair and says, "Could you stop over after work? I have a killer jigsaw puzzle, and I actually can't figure out how to get started." The chair says, "Haha! It's great that you are keeping your mind active. What is it supposed to be when it's finished?" The professor says, "According to the picture on the box, it's a rooster."

The former chair stops by after work and the professor shows him the puzzle spread all over a table.

The chair studies the pieces for a moment, then looks at the box and says, "First of all, no matter what we do, we're not going to be able to assemble these pieces into anything resembling a rooster."

He sits the professor down and says, "Secondly, I want you to relax. Let's have a nice cup of tea, and then, he says with a deep sigh..... Let's put all the Corn Flakes back in the box."

[Editor's note—humorous anecdotes, riddles, jokes, etc. relating to chemistry are welcome. Send your humor to beckjd1977@comcast.net]

THE BULLETIN

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Joe Crockett

Chair Elect - Dr. Scott Gronert (804) 828-2753
Vice Chair - Dr. Todd Koch (804) 257-2890
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Treasurer - Dr. Stephanie Mabry (804) 639-6991
Bulletin Editor - Dr. James Beck (804) 733-5286
Bulletin Publisher - Dr. Will Lewis (804) 274-5869

