

# The Blue Ridge Chemist

The Blue Ridge Chemist, since 1947 the  
Official Local Section Publication of the  
Virginia Blue Ridge Section, American Chemical Society



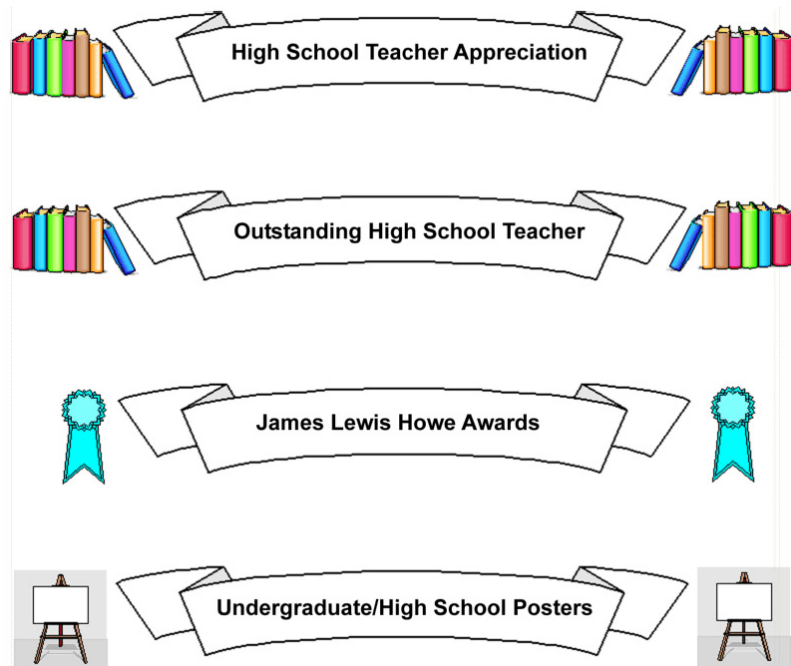
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VOLUME LXVII

April 8, 2015

No. 4

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Radford University hosts the April Meeting

## VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

**671<sup>st</sup> SECTION MEETING**  
**Hosted by Radford University**  
**Wednesday, April 8, 2015**

### PROGRAM:

**5:30-6:30 Social hour/poster session**  
**6:30-7:30 Dinner**  
**7:30- Awards and talk**

All events will take place in Muse Banquet Hall, located in the basement of Muse Hall. The speaker will be Dr. Jim Rancourt. The buffet dinner will have an Asian theme – Szechwan chicken stir fry, beef and broccoli, egg drop soup, egg rolls, vegetable fried rice, lo mein noodles, Asian slaw, fortune cookies, sticky rolls, hot mustard, chili sauce, soy sauce, iced tea, and water. Special diets can be accommodated by mentioning it when the reservations are made.

Cost for the dinner is \$14.00, with students and retired ACS members being half price. Poster presenters receive a free meal. High school teachers are guests of the section with a complementary meal for themselves and a companion. Reservations for the dinner must be made by WEDNESDAY, APRIL 1, SEVEN DAYS before the meeting, by phoning Chris Hermann at 540-831-5413, or by email to [chermann@radford.edu](mailto:chermann@radford.edu).



## Dr. Jim Rancourt, Polymer Solutions

James Rancourt, Ph.D. (Jim) is a Massachusetts native who received his B.S. in Chemistry from the University of Lowell. After gaining industry experience he relocated to Blacksburg, Virginia where he earned his Ph.D. in Polymer Chemistry from Virginia Tech. He finished his Ph.D. while simultaneously starting Polymer Solutions Incorporated (PSI) in 1987. Jim has grown PSI through complimenting his passion for helping others with his love of analytical chemistry. He has built a team of brilliant scientists and support staff which, coupled with the practice of great science, has resulted in PSI becoming the premier independent testing lab for plastics, polymers, rubbery, and metallic materials. PSI serves companies in a broad range of market segments including the Medical, Pharmaceutical, Packaging, and Consumer Product industries. PSI's clients range from the largest companies to small and promising innovative startups. Jim is recognized as an authority in his field and is frequently called on to provide expert testimony for a myriad of litigated matters involving manufacturing defects, design defects, misappropriation of trade secrets,

failure analysis investigations, and patent infringement. He has given over 55 presentations, holds 7 United States patents, and has been published over 60 times. Jim was also recently inducted into the Virginia Tech Entrepreneurial Hall of Fame. For an in-depth article about Jim's background, recent award, and Polymer Solutions [click here](#).

When Jim isn't busy at Polymer Solutions he enjoys running, biking, and spending time with his family--especially his grandchildren!

## Forensic Analysis of Fish Fillets

The specialized disciplines of chemistry are very diverse and it is marvelous how chemistry is able to benefit society and the environment in so many different ways. Analytical chemistry techniques and instrumentation, coupled with experience and expertise, are able to provide valuable insights toward understanding situations and solving problems. This presentation will describe a legal case involving an elderly man who ingested a sharp shard of plastic and sustained significant internal injuries. At the crux of the case was the identification of the plastic material, identifying potential sources of the plastic, and understanding the relationship between the food preparation environment and the physical characteristics of the plastic. A variety of analytical tools was applied to this project to determine who was at fault and may be held responsible for a \$5,000,000 verdict.



## James Lewis Howe Awardees

We are again pleased to be able to honor the outstanding students who are majoring in an area of chemistry in the Colleges and Universities in the Virginia Blue Ridge Local Section. These students are listed below.

**Cecilia Fabiola Ramos**  
Concord University–Chemistry



**HOMETOWN:** Calama, Chile  
**ANTICIPATED DEGREE:** B.S. in Pre-professional Chemistry and Mathematics, May 2015

### **AWARDS, HONORS, AND**

**MEMBERSHIPS:** International Transfer Distinction, Director's Scholarship, Harris Scholarship, Loretta G. Miller Scholarship, WVU-Parkersburg Scholarship, Dean's List, President's Scholar, Concord University Professions Aimed Towards Health (CU PATH), Concord University American Chemical Society (CUACS), Phi Theta Kappa Honor Society, Who's Who Among Students in American Universities and Colleges

**George "Ty" Page**  
Ferrum College–Chemistry



**HOMETOWN:** Wilsons, VA

**DEGREE:** B.S. Chemistry, Fall 2014

**MEMBERSHIPS:** Ferrum College Chemistry Club, Ferrum College Chess Club

**Michael P. Carson**  
Liberty University–Biochemistry & Molecular Biology

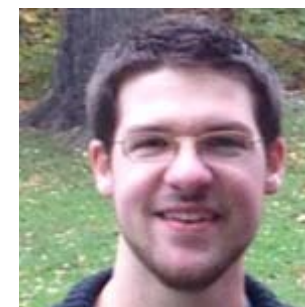


**HOMETOWN:** Anchorage, Alaska

**ANTICIPATED DEGREE:** B.S. in Biochemistry & Molecular Biology, May 2015

**AWARDS, HONORS, AND MEMBERSHIPS:** Honors Program, National Merit Finalist Scholarship recipient, Dean's List, Virginia Academy of Science Research Grant recipient, Promising Biochemistry Student Award recipient, accepted to the University of Virginia and the University of Washington Medical Schools, Virginia Academy of Science, LU Pre-Medical Honors Society (President), LU Scientific Research Society (officer).

**Jesse L Patterson**  
Lynchburg College–Chemistry



**HOMETOWN:** Lynchburg, VA

**ANTICIPATED DEGREE:** B.S. in Chemistry, May 2015

**HONORS AND MEMBERSHIPS:** Magna Cum Laude, 2012, Applied Science Medical Laboratory Technology, American Society for Clinical Pathology ACSP Certified Medical Laboratory Technician

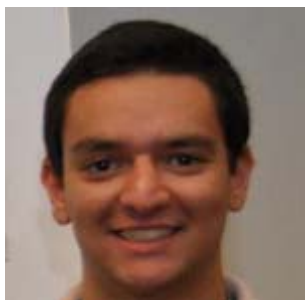
**Nima Hami**

Radford University–Chemistry

HOMETOWN: Sterling, VA

ANTICIPATED DEGREE: Pre-health  
Chemistry & Biology Spring 2015

AWARDS, HONORS, AND MEMBERSHIPS: SURF Grant,  
Deans list, American Chemical Society, Theta Chi Fraternity



**Alyssa Everett**

Randolph College–Chemistry

HOMETOWN: Las Vegas, NV

ANTICIPATED DEGREE: B.S. in  
Chemistry, May 2015

ANTICIPATED DEGREE: B.S. in  
Chemistry, May 2015

AWARDS, HONORS, AND MEMBERSHIPS: Freshman CRC  
Chemistry Award, Organic Chemistry Award, 2013 POLYED  
Undergraduate Award for Achievement in Organic Chemistry,  
Excellent Writer recognition, Recognition for Excellent Class  
Discussion, Outstanding Achievement Award in Chemistry,  
Randolph College, Iota Sigma Pi, Chi Alpha Sigma, ACS.



**Michelle Pasier**

Roanoke College–Biochemistry

HOMETOWN: Blacksburg, VA

ANTICIPATED DEGREE: B.S. in  
Biochemistry, May 2015



**Ashley Baker**

Sweet Briar College–Chemistry

HOMETOWN: Bristow, VA

ANTICIPATED DEGREE: B.S.  
Chemistry(Honors), May 2015



AWARDS, HONORS, AND MEMBERSHIPS: Sweet Briar  
College Alumnae Daughter Scholarship, Sweet Briar College  
Honors Pannell Merit Scholar, Academy of American Poets, 1st  
and 2nd places, Sweet Briar College Fall 2013, Dean's List,  
Alpha Lambda Delta, American Chemical Society, Iota Sigma  
Pi

**Dylan M. Guthrie**

Virginia Military Institute –  
Chemistry

HOMETOWN: Salem, VA

ANTICIPATED DEGREE: B.S. in  
Chemistry May 2015



AWARDS AND HONORS: Virginia Military Institute  
Biochemistry award for excellence in biochemistry, Larry L.  
Jackson 1962 Undergraduate Research Award for excellence and  
promise in chemical research, Phi Kappa Phi Honor Society for  
academic excellence, Gamma Sigma Epsilon National  
Chemistry Honor Society for achievement in chemistry,  
Academic Stars, Dean's List

**Rebekah Watkins**  
Virginia Tech–Biochemistry

HOMETOWN: Phoenix, Arizona

ANTICIPATED DEGREES: B.S. in  
Biochemistry, B.S. in Nanoscience,  
May 2015

AWARDS, HONORS, AND MEMBERSHIPS: Robert C.  
Richardson Scholarship, Brian Watkins Memorial Scholarship,  
Deans List, President of Collegiate Nanotechnology Society,  
National Society of Collegiate Scholars



**Mai Ngo**  
Virginia Tech – Chemical Engineering

HOMETOWN: Blacksburg, VA  
ANTICIPATED DEGREE: B.S.  
in Chemical Engineering, May 2015

AWARDS, HONORS, AND  
MEMBERSHIPS: Tau Beta Pi Scholar, GDAMS Engineering  
Memorial Christopher DiGiorgio Scholarship, Pratt Engineering  
Scholarship, Alexander Giacco Scholarship, James and Jane  
Gary Scholarship, John and Bernice Brooks Scholarship, RH  
Bogle Scholarship, Robert and Constance Sanders Scholarship,  
Honorable Mention submission for Posters on the Hill  
(sponsored by Council on Undergraduate Research), Dean's List  
with Distinction, Tau Beta Pi, Omega Chi Epsilon, American  
Institute of Chemical Engineers



**Brett Van Der Goetz**

Virginia Tech – Chemistry

HOMETOWN: Great Falls, VA

ANTICIPATED DEGREE: B.S. in  
Chemistry, May 2015

AWARDS AND HONORS: Walter B. Ellett Memorial  
Scholarship, Julius P. Bilisoly Scholarship, John William May  
'42 Scholarship, Chemistry Friends Scholarship, Charles B.  
Walker Scholarship, John & Sarah Harvie Scholarship, T.W.  
Hatcher Scholarship, Virginia Tech Chemistry Department  
Scholarship, Dean's List



**Christopher Hu**

Washington and Lee University –  
Biochemistry

HOMETOWN: Ridgewood, NJ

ANTICIPATED DEGREE: B.S. in  
Biochemistry, May 2015

AWARDS AND HONORS: The James Keith Shillington  
Scholarship, Andrew M. Hemm Prize for Excellence in Chinese,  
The First-year Chemistry Achievement Award, Intercollegiate  
Tennis Association Scholar-Athlete, 1st Team All-ODAC  
(Tennis), Phi Beta Kappa

**The ACS award at the Blue Ridge Highlands Regional  
Science Fair was 402:**

Samuel Christoffer Mogen *The Use of Layer-by-layer  
Techniques to Aid in the Protection of Antimicrobial Films*  
Southwest Virginia Governors' School; Sponsor: Jared Brown



**Dr. James Lewis Howe**  
**1859-1955**



James Lewis Howe was for many years Professor of Chemistry and Head of the Department at Washington and Lee University. As one of the most distinguished chemists in the Blue Ridge Section, we have chosen to name our annual awards to outstanding students in his memory.

Dr. Howe was born in Newburyport, Massachusetts in 1859; this is the same year in which Svante Arrhenius was born, and during Dr. Howe's professional career he was to know many of the famous early chemists, such as Liebig, Wohler, Bunsen, and many others. He attended Amherst College, where he pursued his favorite subjects of chemistry, German, and religion. He was selected to deliver the graduation address on the subject of "The Scientific Method and Religion".

He earned his M.S. and Ph.D. degrees at the University of Gottingen, and published his first scientific papers on the subject of aromatic carbon chemistry. He then began an intensive literature search of the platinum metals, beginning a bibliography for which he was to become world famous. He decided that the most interesting and least known metal of the group was ruthenium.

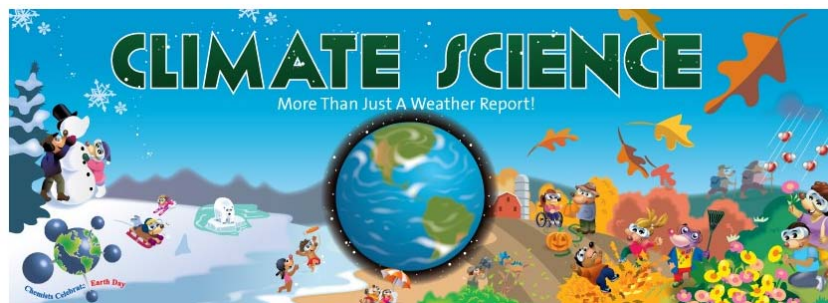
In 1883 he married Henrietta Leavenworth Marvine of Scranton, Pennsylvania. This marked the beginning of a marriage of 60 years duration. The Howes became the parents of two daughters and a son (who was also a chemist). After Mrs. Howe's death in 1944, one of his daughters, Guendolen Howe, became her father's constant companion.

Dr. Howe's teaching career began at Brooks Military Academy in Cleveland, Ohio. From there he went to Central University in Richmond, Kentucky, where he was Professor of Chemistry (and later Physics and Geology as well). In 1894 he accepted the Chair of Chemistry at Washington and Lee University, and for almost half a century he was at that institution.

It was here that he began his intensive bibliographic study of the platinum group and his outstanding research on the element ruthenium. In 1917 he was appointed chairman of a special subcommittee on platinum of the National Research Council. His work led to the development of platinum alloys, and averted a potentially crucial shortage in platinum, threatening our efforts during World War I. He later received several presidential commissions dealing with the platinum metals.

Dr. Howe was beloved by his students and colleagues at W&L. For the first fifteen years he was a one person department. His lectures were informal, but completely up to date. He was known for his extreme congeniality, charming personality, mild manner, and even temper. He was unceasingly helpful, and believed that more could be learned in the laboratory than from lectures.

Dr. Howe's unflagging energy found him serving in many capacities outside the scientific field. He was an Elder of the Lexington Presbyterian Church, an active Mason, and held positions in the Town Council in Lexington and the People's National Bank of Lexington.



The Chemists Celebrate Earth Day (CCED) 2015 theme is "Climate Science – More Than Just A Weather Report!", exploring climate science and the role chemistry plays in the environment, April 22, 2015. This year's theme investigates climate science and the role chemistry plays in the environment.

#### **CCED 2015 Community Event**

<http://www.acs.org/content/acs/en/education/outreach/cced/event.html> Learn how you can collect weather appropriate clothing for your region to be donated to local charities.

#### **K-12 Contest**

<http://www.acs.org/content/acs/en/education/outreach/cced/cced-illustrated-poem-contest.html> The National Illustrated Poem Contest is focused on this year's CCED theme, "Climate Science — More Than Just A Weather Report!" The illustrated poems relate to seasons and weather, atmospheric changes and composition, ultraviolet light, and any chemistry concepts pertaining to climate science.

Each year Chemists Celebrate Earth Day reaches millions of people with positive messages about the contributions of chemistry.

*Chemists Celebrate Earth Day is a program of the American Chemical Society's Office of Volunteer Support.*

## **Outstanding High School Teacher Awardee**



**Kurt Grosshans**

### **Christiansburg High School**

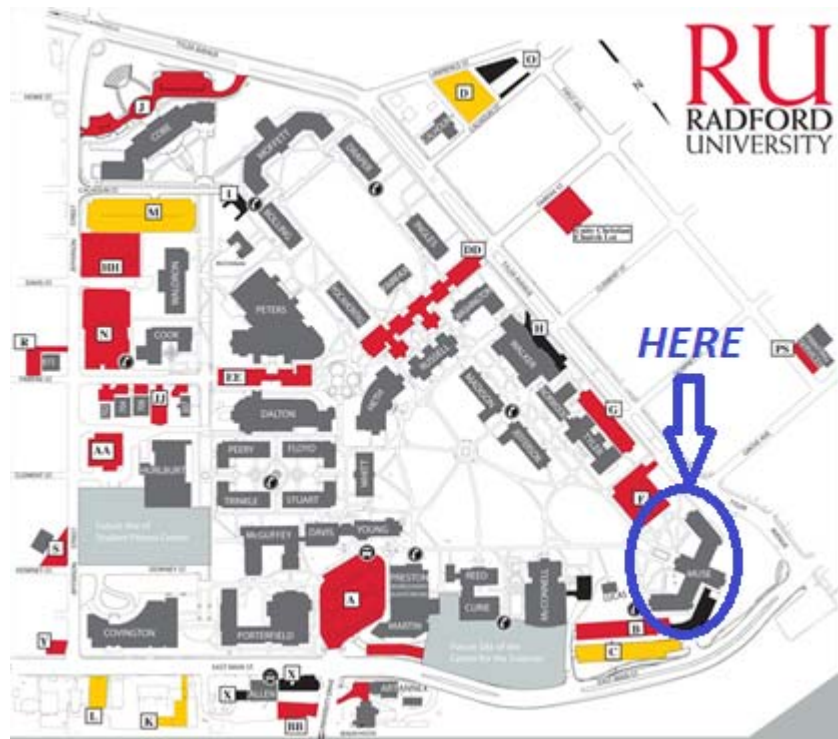
Kurt Grosshans received his undergraduate degree from SUNY New Paltz, his master's degree from Radford University, and his doctorate from Virginia Tech. He has taught biology, physics, and chemistry at the high school level. For the last 26 years he has taught chemistry and AP chemistry at Christiansburg High School in Christiansburg, Virginia. He is the sponsor of the Astronomy Club and Photography Club. He also currently teaches a physical science class at Radford University along with being a full time teacher at CHS. He is an avid brewer of beer, a fantastic application of biochemistry!

## Directions to Radford University

Directions: Take I-81 to exit 109 and follow Route 177 (Tyler Ave) to Main Street. Go straight into the parking lot beside the bank or make a right, then another right and go into the parking lot. All events will take place in Muse Banquet Hall, located in the basement of [Muse Hall](#). CAUTION: Parking permits are required before 6:00. Parking passes will be sent when dinner reservations and poster submissions are made.

## Map of Radford University

*(Adapted from Radford University Website)*



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U.S. Postage  
**PAID**  
Lynchburg, VA  
24502  
Permit No. 493

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c/o Nancy Richardson , Editor  
for VA Blue Ridge Section, American Chemical Soc.  
Department of Biology and Chemistry  
Liberty University  
1971 University Blvd  
Lynchburg, VA 24515

Return Service Requested

The next meeting will be a tour of a location to be announced in the next issue of the Blue Ridge Chemist.