

The Blue Ridge Chemist

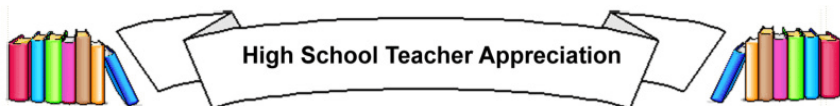
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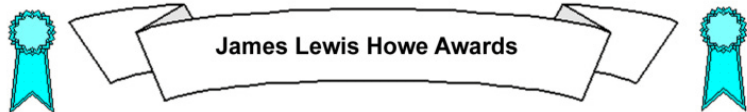
No. 4



High School Teacher Appreciation



Outstanding High School Teacher



James Lewis Howe Awards



Undergraduate/High School Posters

Radford University hosts April Meeting

<http://www.acs-vbrs.org>

VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

647th SECTION MEETING

Hosted by Radford University

Wednesday, April 11, 2012

PROGRAM:

5:30-6:30 Social Hour/Poster Session, Muse

6:30-7:30 Dinner, Muse Banquet Hall

7:30- Awards and talk, Muse Banquet Hall

All events will take place in Muse Banquet Hall, located in the basement of Muse Hall. The speaker is Dr. Jim Wightman from Virginia Tech, who will present a talk entitled: "Oil Films on Water Surfaces: A Study of Science and Technology, History and Ethics".

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 complimentary meal for themselves and a companion. Reservations for the dinner must be made by WEDNESDAY, APRIL 4, SEVEN DAYS before the meeting, by phoning Chris Hermann at 540-831-5413, or by email to chermann@radford.edu. When making dinner reservations, please request a parking pass from Chris Hermann.

J. P. Wightman
Professor Emeritus of Chemistry
Virginia Tech

Dr. James P. (Jim) Wightman is Alumni Distinguished Professor Emeritus of Chemistry at Virginia Tech. A native of Ashland, Virginia he received his B. S. degree in chemistry from Randolph-Macon College and his Ph.D. degree in chemistry from Lehigh University. He was a postdoctoral associate at Penn State prior to coming to Virginia Tech in 1962. He was a visiting professor at the University of Bristol (U.K.) during the 1975-76 academic year. Dr. Wightman was named an Alumni Distinguished Professor at Virginia Tech in 1987.



He received the Wine Award for outstanding teaching at Virginia Tech in 1972 and a NASA Public Service Award in 1986 for contributions to adhesion science. He was the 1991 recipient of the ASTM D14 Adhesives Age Award and received a Distinguished Alumni Award from Randolph-Macon College. He was awarded the Adhesive and Sealant Council Award for 1993. He was named Virginia's Outstanding Scientist for 1994. He received the Sporn Award for teaching introductory subjects at Virginia Tech in 1995 and the Alan F. Clifford Faculty Service Award in chemistry in 1998. He was the recipient of the 2001 SCHEV Outstanding Faculty Award for the Commonwealth of Virginia. He is a coauthor of 161 technical publications in surface chemistry and adhesion science.

**Oil Films on Water Surfaces: A Study of
Science and Technology, History and Ethics**

Key concepts from surface chemistry including surface free energy, Laplace pressure differential, and spreading coefficient will be presented as background for this lecture. Benjamin Franklin in 1757 observed, as noted in his autobiography, the calming effect of oil films on wind ruffled ocean waves. More than one hundred years later, Agnes Pockels in Germany using homely devices studied more quantitatively the effect of oil films on the surface of water. Her studies paralleled but were independent of those of the Englishman Lord Rayleigh, one of the world's foremost physicists at the end of the 19th century. Irving Langmuir, 1932 Nobel laureate, and Katherine Blodgett at the General Electric laboratories (USA) continued the studies of Pockels and Rayleigh and developed the experimental protocol used today to study monolayer films on water surfaces. Applications of these monolayer films include water conservation, mosquito control, and data storage nano-devices. A live demonstration by the presenter illustrates the fact that these monolayer films can also be used to extinguish a fire burning on a water surface.

Regional Science Fair Winners of the VBRS Award

Each year the Virginia Blue Ridge Sections presents an award to the project selected as the best overall chemistry project at the regional science fairs in its boundaries. Congratulations to:

Alli Printz, (Hidden Valley High School/ Roanoke Valley Governor's School) was the winner of the VBRS award at the Western Virginia Regional Science Fair. Her project was "Phytoremediation of Copper in Water by Solanum Lycopersicum". Her sponsor was Steve Smith.

Joseph Pauli (/Southwest Virginia Governor's School) was the winner of the VBRS award at the Blue Ridge Highlands Regional Science Fair. His project was titled "Calorie Content in Public School Food vs. Fast Food". His sponsor was Jared Brown.

Amy Shaver
Franklin County High School
Outstanding High School Teacher Awardee

I grew up near Frederic, Maryland and graduated from Gov. Thomas Johnson High School. During high school I went on a tour of the Maryland State Crime Lab with my AP Chemistry class. This spawned an interest in Forensic Science long before there was a CSI and NCIS television show. I attended West Chester University of Pennsylvania as a Forensic Chemistry and Toxicology major with a minor in Biology during which I completed an internship with both the Philadelphia Police Crime Lab in DNA analysis and for the Pennsylvania Equine Toxicology Lab in Toxicology. I was then employed by the Virginia Division of Forensic Science where I worked for eight years as a DNA Forensic Examiner. I came to education as a Career Switcher following the birth of my first child. I was employed by Franklin County High School as a science teacher seven years ago. I have taught Biology I, Biology II, AP Biology, Chemistry I and AP Chemistry. I have been actively involved in the implementation and expansion of the AP Science programs offered in Franklin County. I strongly encourage students to pursue careers in science, engineering and mathematics. I absolutely love teaching and couldn't imagine doing anything else at this point in my life.



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.

Rachel Brown
Concord University

HOMETOWN: Ravenswood, WV

ANTICIPATED DEGREE:
Comprehensive Chemistry, May 2012

AWARDS, HONORS, AND
MEMBERSHIPS:
American Chemical Society
Sigma Zeta
Gamma Beta Phi



Ted Canterbury
Radford University

HOMETOWN: Rich Creek, VA

ANTICIPATED DEGREE: B.S. in
Chemistry, May 2012

AWARDS, HONORS, AND
MEMBERSHIPS:
Ideas in I.T. (Computer Programming);
Phi Kappa Phi



Megan Christine Cox
Virginia Tech - Chemical Engineering

HOMETOWN: Silverdale, WA

ANTICIPATED DEGREE: Chemical Engineering, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

Virginia Tech Dean's List
Gerhard Beyer Scholarship
Warren Gentry Scholarship
Robert L. Duff Scholarship
Andrew S. Britton Scholarship
AIChE student chapter at Virginia Tech
The Gilbert L. and Lucille C. Seay Scholarship



Shu-Hui He
Virginia Military Institute

HOMETOWN: Taiwan

ANTICIPATED DEGREE: B.A. in Chemistry, and B.S. in Biology, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

CRC Press Chemistry Achievement Award
Tri-Beta
Gamma Sigma Epsilon Chemistry Honor Society



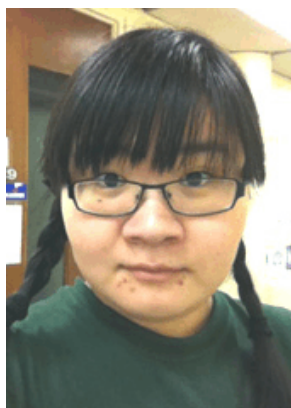
Xiaopu Jin
Hollins University

HOMETOWN: Anshan City, Liaoning Province, China

ANTICIPATED DEGREE: B.S. in Chemistry, B.A. Mathematics, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

Judith Gregory Smith Award Honorable Mention for demonstrated excellence in the natural sciences
American Chemical Society Division of Analytical Chemistry Undergraduate Award
Honor Student



Kevin M. Smee
Roanoke College

HOMETOWN: Bowie, MD

ANTICIPATED DEGREE: B.S. in Biochemistry, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

Dean's List, 2008-Present
Phi Beta Kappa Inductee (Nu Chapter)
Bondurant Research Summer Scholar
Roanoke College Summer Scholar
Undergraduate Award in Analytical Chemistry
Department of Homeland Security Scholarship (Declined offer)



Andrew R. Huehn

Virginia Tech - Biochemistry

HOMETOWN: Blacksburg, VA

ANTICIPATED DEGREE: B.S. in Biochemistry and B.A. in Chemistry, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

Fralin Summer Undergraduate Research

Fellowship Summer 2011

John and Gladys Lawrence Scholarship Fall 2009



David T. Severson

Washington and Lee University

HOMETOWN: Wichita, KS

ANTICIPATED DEGREE: B.S. in Biochemistry, B.A. in Mathematics, May 2012

AWARDS, HONORS, AND MEMBERSHIPS:

Beta Beta Beta Biological Honor Society

James Holt Starling Pre-medical

Scholarship

The Kendrick Award

The Johnson Opportunity Grant

Robert E. Lee Research Grant

Pi Mu Epsilon Mathematical Honor Society

Honor Roll

Dean's List

Alpha Epsilon Delta Pre-Medical Honor Society

Phi Eta Sigma Honor Society



Ashley Carpenter

Sweet Briar College

HOMETOWN: Factoryville, PA

ANTICIPATED DEGREE: B.S. in Biochemistry and Molecular Biology,

AWARDS, HONORS, AND MEMBERSHIPS:

Golden Test Tube Award for academic excellence in chemistry

Who's Who Among Students in American Universities and

Colleges Nominee

The Virginia Foundation for Independent Colleges Fellowship

Phi Beta Lambda (PBL) State Leadership Conference Award

Swim America™ Award of Achievement

First Year Honors

Dean's list

Summer Honors Research Program

Honors summer research, results published in the Journal of

Undergraduate Chemistry Research

Leadership Certificate Program

ACS American Chemical Society member

Iota Sigma Pi National Honor Society

Alpha Lambda Delta

Phi Beta Lambda Society member.

Martha V. Blakely
Virginia Tech - Chemistry



HOMETOWN: Reading, PA

ANTICIPATED DEGREE: B.S. in
Chemistry, B.S. in Biochemistry, Math
minor, May 2012

**AWARDS, HONORS, AND
MEMBERSHIPS:**

Virginia Tech College of Science Outstanding Senior
Weaver-James-Corrigan Award
Rhodes Scholarship Finalist
Marshall Scholarship Finalist
Alumni Presidential Scholarship
Atlantic Coast Conference (ACC) Academic Honor Roll
Intercollegiate Tennis Association Scholar-Athlete
College of Science Dean's List Fall
Department of Chemistry's Academic Excellence Award
Virginia Tech Finalist for Barry M. Goldwater Scholarship
Phi Kappa Phi
ACS Undergraduate Award in Analytical Chemistry
Skelton Award for Academic Excellence in Athletics
Top Six for Service (awarded by the Virginia Tech Athletic Dept.)
Honor Society of Phi Kappa Phi Emerging Scholars Award
T.W. Hatcher/ Department of Mathematics Scholarship
College of Science Rising Sophomore Scholarship
Dept. of Chemistry's CRC Freshman Chemistry Award
College of Science Rising Freshman Scholarship (Chemistry)
Rookie of the Year
Hokie Fall Invitational (Flight A Doubles Finalist 2009
Flight C Singles Champion 2008, 2010)
American Medical Student Association
VT Relay for Life Fall
Chemistry Club
Math Team Fall
Economics Club Spring
Frank Loria Award (Omicron Delta Kappa National Leadership
Honor Society)

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.

20th Annual Undergraduate/High School Poster Session

The Virginia Blue Ridge Section of the American Chemical Society is sponsoring the twentieth Annual Undergraduate/High School Poster Session as a part of the April 11, 2012 meeting at Radford University. Poster boards will be provided.

If you have a student or students who desire to participate, submit the information below by email to Chris Hermann (chermann@radford.edu) by April 2, 2012. **This is a firm deadline. No poster submissions will be accepted after this time.** All students and faculty will get email confirmation. If you do not get an email reply, then your submission was not received and you cannot present.

Name of Project: _____

Name(s) of Student(s): _____

Affiliation (name of high school, college, or university): _____

Class of Student(s) (freshman, sophomore, junior, senior): _____

Student(s) email address: _____

Advisor's Name, Address, Telephone Number, and email address:

Poster board (48" by 48") with tripod on table or just table will be provided. Please specify what you need.

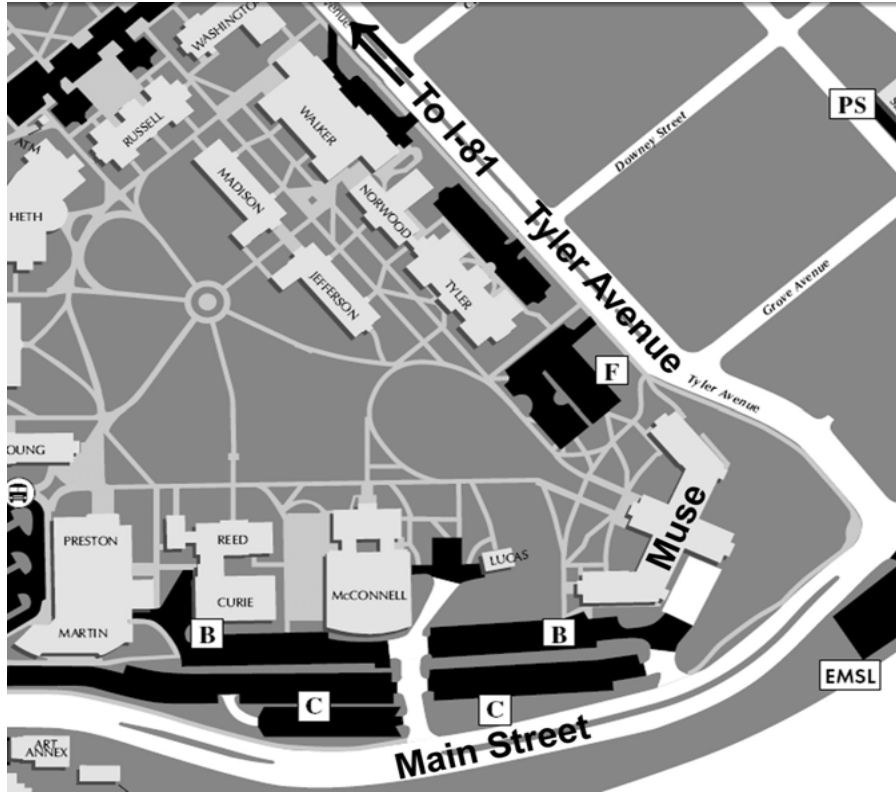
_____ poster board with tripod on table _____ only table

Directions for 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. CAUTION: Parking permits are required before 6:00. A parking permit can be received by email from Chris Hermann.

Map of Radford University

Adapted from Radford University Web Site



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Permit No. 31

Vernon Miller, Editor
VA Blue Ridge Section, American Chemical Soc.
Chemistry Dept., Roanoke College
Salem, VA 24153-3789

Return Service Requested

The May meeting will be a tour. Information on the tour will be in the next Blue Ridge Chemist.