

The Blue Ridge Chemist

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Virginia Blue Ridge Section, American Chemical Society



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Radford University Hosts April Meeting

<http://membership.acs.org/v/vbr>

VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

584th SECTION MEETING

Hosted by Radford University

Wednesday, April 14, 2004

PROGRAM:

| | |
|-----------|--|
| 5:00-5:30 | Students setup posters on posterboards |
| 5:30-6:30 | Social Hour/Poster Session |
| 6:30-7:30 | Dinner |
| 7:30- | Meeting and Awards |

The social hour, dinner, and meeting will take place in the Heth Ballroom at Radford University. (See map). The speaker will be Dr. Robert P. Bates, speaking on "The Chemistry and Alchemy of Brewing".

Dinner will be tossed salad with choice of three dressings, marinated London broil with Bordelaise sauce, seafood Newburg, blended wild rice, seasoned green beans, gingered baby carrots, rolls, fudge caramel delight, with iced tea, decaffeinated coffee, and regular Coffee. Special diets can be accommodated by mentioning it when the reservations are made. Cost for the dinner is \$12.00, with students and retired ACS members half price.

Reservations for the dinner must be made by WEDNESDAY, APRIL 7 by calling Chris Hermann at 540-831-5413 or by email to chermann@radford.edu, or regular mailing Department of Chemistry and Physics, Radford University, Radford, VA 24142.

The Chemistry and Alchemy of Brewing

Beer making, one of the oldest examples of biotechnology, is a fascinating study of chemistry, biochemistry, and engineering. It combines well recognized and controllable reactions and operations with complex, poorly understood phenomena, including the psychosensory response. Surprisingly, some of the most sophisticated science and technology are employed in the efficient production of mass advertised, mediocre beers. In contrast, traditional "alchemy-driven" methods can produce exceptional yet under-recognized beers. Fortunately, there is an achievable balance between these extremes. This presentation will cover the brewing process from raw material selection and preparation through fermentation to consumption. Emphasis will be on major pathways employed by brewers to produce a wide range of beers. These are exciting times for brewers and beer connoisseurs in the U.S. Future industry developments of relevance to consumers will be mentioned. With dedication and practice, the average chemist can brew above-average beers; so can the experienced kitchen alchemist

Dr. Robert P. Bates

Robert P. Bates received his B.S. degree in Food Technology from MIT. After several years in the food industry, he obtained an M.S. degree in Food Science from the University of Hawaii and a Ph.D. in Food Science from MIT. After a year at the Institute of Nutrition of Central America and Panama in Guatemala, he joined the University of Florida where he has been for 3+ decades. He is presently a professor of Food Science in the Food Science and Human Nutrition Department. Bates' areas of interest are food processing and utilization,



small-scale process and equipment development, fermentation technology and byproduct recovery, food product development, and international technical assistance. His major responsibilities involve teaching graduate and undergraduate food processing, fermentation, and product development courses; and conducting research/extension activities in home, community, and small-scale industrial food processing operations. He has completed

short and long-term international assignments in many countries in the Caribbean, Central and South America, and Asia. He fields frequent inquiries on food science and technology and related subjects from national, international, and industrial sources. Bates has developed and presented many short courses in the U.S. and overseas and has been an ACS tour speaker on various food science and technology topics for over 20 years.

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.

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 on the following pages.

Michelle L. Poore

Sweet Briar College

HOMETOWN: Pulaski, VA

ANTICIPATED DEGREE:

B.S. in Chemistry

AWARDS AND MEMBERSHIPS:

Iota Sigma Pi

Alpha Lambda Delta

Dean's List

Commonwealth Scholarship

Haris Pre-med Scholarship

SAACS (President)

Pre-Med Society (Vice-President)

Pink and Green Award (Public Service Award)

AEP scholar



Jillian E. Hafer

Virginia Military Institute

HOMETOWN: Danville, PA

ANTICIPATED DEGREE:

B.S. in Chemistry

AWARDS AND MEMBERSHIPS:

The Francis H. Smith

The Herbert E. Ritchy Award

Iota Sigma Pi

Phi Kappa Phi

Phi Eta Sigma

Institute Scholar

The Larry L. Jackson '62 Undergraduate Award



Matthew Donald Shoulders

Virginia Tech - Chemistry

HOMETOWN: Narrows, VA

ANTICIPATED DEGREE:

B.S. in Chemistry

AWARDS AND MEMBERSHIPS:

Chemistry Merit Scholarship

The Honor Society of Phi Kappa Phi

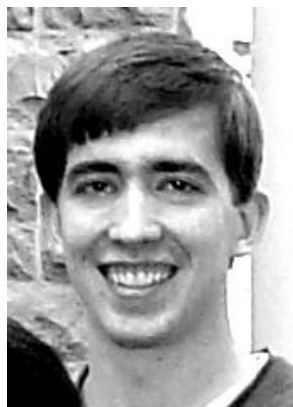
Golden Key International Honor Society

Department of Homeland Security Undergraduate Scholarship

National Society of Collegiate Scholars

Phi Sigma Theta National Honor Society

Dean's List



Brian O'Neal Ingram

Radford University

HOMETOWN: Martinsville, VA

ANTICIPATED DEGREE:

B.S. in Chemistry

AWARDS AND MEMBERSHIPS:

Phi Kappa Phi

Moore Burns Scholarship Recipient

Nestle USA Scholarship Recipient

Dale Boxley Snead Endowment in Chemistry Award Recipient

Radford University Ambassadors

American Chemical Society - Student Affiliates

Zylphia Shu-En Kirk Scholar



Michael James Wert

Washington and Lee University

HOMETOWN: Pittsburgh, PA

ANTICIPATED DEGREE:

B.S. in Chemistry

AWARDS AND MEMBERSHIPS:

Dean's List, Honor Roll

National Order of Omega

Recipient of the George Washington

Scholarship from Washington and Lee University

ACS (POLYED) Undergraduate Award for Achievement in

Organic Chemistry

Phi Eta Sigma National Freshman Honor Society

Various scholar athlete (baseball) awards



Kimberly Yearick

Virginia Tech - Biochemistry

HOMETOWN: Doylestown, PA

ANTICIPATED DEGREE:

B.S. Biochemistry

AWARDS AND MEMBERSHIPS:

R.W. and Frances H. Engel Scholarship

National Society of Collegiate Scholars, 2002-2004

Outstanding Graduating Senior in Biochemistry for the College of
Agriculture and Life Sciences

Virginia Tech Biochemistry Club, (President, Vice President)



Judith Amanda Toepfer

Virginia Tech - Chemical Engineering

HOMETOWN: Sterling, VA

ANTICIPATED DEGREE:

B.S. Chemical Engineering major,
Chemistry and Math minor



AWARDS AND MEMBERSHIPS:

AICHE, Student Chapter President
Tau Beta Pi, Student Chapter Treasurer
Student Engineering Council (SEC) Executive Board
(Awards and Scholarships Committee Chair, Dean's Committee)
Golden Key Honor Society
Society of Women Engineers
(SEC representative, Awards and Scholarships Committee)
Tutor for the VT Athletic department's Student Academic Support
Services
Sociology tutor for Alumni Distinguished Professor William
Snizek
National Society of Collegiate Scholars
Richard E. Herron Scholarship for Outstanding Performance in
Unit Operations Laboratory
Undergraduate research award recipient
1st Annual VT Undergraduate Research and Potential Graduate
Student Conference
Gerhard Beyer Scholarship
James K. Anderson Scholarship
Who's Who Among American University Students
E. W. Allen Memorial Scholarship
Pamplin Leader Award Scholarship
Semifinalist for Pamplin Scholar Award
Dean's list

Matthew G. Poferi

Roanoke College

HOMETOWN: Fishersville, VA

ANTICIPATED DEGREE:

B.S. Chemistry, Computer Information
Systems, and Business



AWARDS AND MEMBERSHIPS:

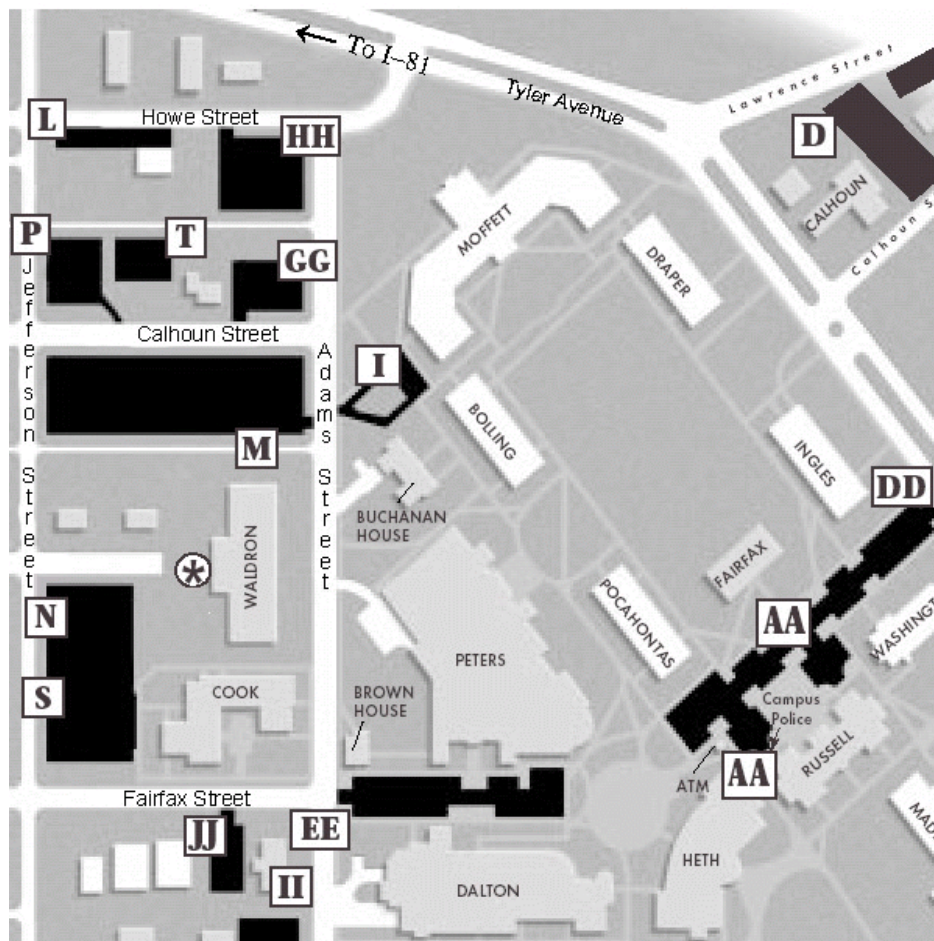
Roanoke College Honors Association
Alpha Chi National College Honors Society
Student Affiliates of the American Chemical Society
Phi Lambda Upsilon National Chemistry Honors Fraternity
Lambda Alliance
Alpha Phi Omega National Service Fraternity
Delta Mu Delta National Honors Business Fraternity
Alpha Lambda Delta Freshman Honors Society
Roanoke College Concert Choir
Theater Roanoke College
Research Presentations at
Spring 2003 ACS National Meeting in New Orleans
Spring 2004 ACS National Meeting in Anaheim
MARCUS at Sweet Briar College
Mid-Atlantic Regional Conference of Undergraduate
Scholarship
Bittle Academic Scholarship
McGowan Business Scholarship
American Chemical Society Student Affiliates Award
Organic Chemistry Award
Outstanding Junior Achievement in Computer Information
Systems
Roanoke College Summer Scholar
President's List

Directions to Radford University

Take I-81 to exit 109 and follow Route 177 approximately 3.5 miles to Radford University. Just before the campus take a right onto Adams Street and find a parking lot with open space. All events will take place in the Heth Ballroom.

CAUTION: Radford University police have been ticketing cars in lot DD, particularly before 7:00 p.m.

Map of Radford University



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THE BLUE RIDGE CHEMIST
Vern Miller, Editor
Roanoke College
Salem, VA 24153

The May Virginia Blue Ridge Section meeting will a tour of the new chemistry building at Virginia Tech, with a presentation of the research opportunities there. The contact person is Larry Taylor.