

# The Blue Ridge Chemist

The Blue Ridge Chemist, since 1947 the  
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Virginia Blue Ridge Section, American Chemical Society



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## Your Garbage



## My Reactants

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

## VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

### 595th SECTION MEETING

Hosted by Ferrum College

Thursday, November 17, 2005

#### PROGRAM:

- 5:30-6:00 Social Time, Vaughn Chapel Fellowship Hall  
6:00-7:00 Dinner, Vaughn Chapel Fellowship Hall  
7:00-8:00 Talk, Garber Hall, Room 106

The social time, and dinner, will take place in Vaughn Chapel Fellowship Hall, and the talk will take place in Garber Hall, Room 106. Dr. John J. Meister will be speaking on "Your Garbage = My Reactants: Trash Recycling".

Dinner will be roasted marinated cod loin, pork cutlets from loin with red wine demi glaze, roasted fugi apples, potato croquettes, fresh squash medley, rolls, sweet potato pie, tea, water, coffee. A vegetarian option of pasta primavera will be available if requested when the reservation is made. Cost for the dinner is \$14.00, with students and retired ACS members being half price. Note that this is an increase from the past.

Reservations for the dinner must be made by THURSDAY, NOVEMBER 10, SEVEN DAYS before the meeting, by contacting Jason Powell at 540-365-4376, or by email to [jpowell@ferrum.edu](mailto:jpowell@ferrum.edu), or by regular mailing to Garber Hall - Room 309, 80 Wiley Drive, Ferrum, VA 24088.

**John Meister**  
**New Mexico Institute of Mining and Technology**

John Meister is a chemist involved in the synthesis, application, and analysis of polymers. He worked his way through Pennsylvania State University as a dishwasher and laboratory technician before attending the California Institute of Technology as a graduate student in chemistry and physics. After working in the oil industry for 5 years as a research scientist designing better ways to recover oil from oil reservoirs, he entered academia and is now an associate professor of analytical and polymer chemistry at New Mexico Institute of Mining and Technology. John specializes in developing new polymers that can be made from natural products such as lignin and wood. He has designed process polymers based on lignin and wood. He has designed process polymers based on lignin for use in oil recovery and mineral processing. He is currently developing plastics from forest products and methods to form composites using parts of the corn plant.

**"Your Garbage = My Reactants: Trash Recycling"**

Technical solutions to social-technical problems, such as the warming of the planet by the greenhouse effect and the loss of energy supplies caused by the consumption of fossil fuels, often involve the utilization of biomass. There are many sources of biomass, ranging from sewage sludge to lobster hulls, but the bulk of this material is one of the two most common natural polymers, cellulose and lignin. Lignin is a wood processing residue of paper production or ethanol fermentation that is often burned as fuel. A method of grafting lignin has been developed that allows water-soluble and plastic graft copolymers of lignin to be made. The grafting reaction is a solution polymerization often run in aprotic, polar, organic solvents. The cationic copolymers are made by conducting the reaction with dimethyldiprop-2-enylammonium chloride, (3-oxy-4-oxo-

5-methylhex-5-enyl) trimethylammonium chloride. The plastics are made with 1-phenylethene and 4-methyl-2-oxy-3-oxopent-4-ene. The lignins grafted have been obtained from pine by the kraft process. This same reaction can also be run to run thermoplastic graft copolymers of lignin. These materials are being tested for applications as consumer plastics and as coupling agents in forming wood composites. The materials have also been shown to be biodegradable plastics and are being developed as materials for packaging and consumer products.

**From the Chair**

The Executive Committee has been working hard to re-examine and update our Bylaws and Job Manual. Both documents have been posted at <http://membership.acs.org/V/VBR/>, the section's Web site. Please wander through the site to take note of the hard work of our Web master, Gwen Sibert.

The Bylaws will be voted on at our January section meeting. Though we will not be voting on the Job Manual, please check this resource as well - you just might find a niche in which you can serve to better chemistry, ACS, and VBRS.

Finally, if you have been paying attention, you have noticed several additional positions on the ballot in this issue of the Blue Ridge Chemist. This aligns our practice more closely with our current Bylaws.

If you have any questions, please contact me.

Elizabeth Cox	coxe@wlu.edu	Department of Chemistry
Chair, VBRS	540-458-8163	Washington and Lee University
		Lexington, VA 24450

## From the Chair-Elect

The year 2006 promises to be a memorable year. In addition to a nice variety of meeting topics scheduled, we have two special events. Our April meeting will be our 600th local section meeting! We will celebrate this milestone at Radford University on April 19, with Dr. Atilla Pavlath, former National President of the ACS, as he presents a message celebrating local section activities. Our October meeting will be an even bigger bash. On October 23 (how's that for a chemically-relevant date), we will celebrate the section's 75th Anniversary! Dr. Ann Nalley, 2006 ACS President, will join us for a special celebration of 75 years of the Virginia Blue Ridge Section.

As we approach these special celebrations, we will include a brief snippet from our section's history in each edition of the Blue Ridge Chemist. We will have a history quiz each issue. A winner, drawn at random from correct entries, will receive a certificate for a free meal at an upcoming regular section meeting!

Adele Addington

## Dr. Charles H. Fisher Lecture Series

Dr. Geraldine L. Richmond

*Richard M. and Patricia H Noyes Professor*

*Department of Chemistry and Materials Science Institute, University of Oregon*

“Quilting Together a Professional Career in Science:  
A Woman Scientist’s Perspective

7:30 p.m., Wednesday, November 16, 2005  
Massengill Auditorium, Roanoke College

This is another lecture in the series honoring Charles (Hap) Fisher, a long time member of ACS and member of the Virginia Blue Ridge Section. All are cordially invited to attend.

## Ballot, Blue Ridge Section, ACS, for 2006

The Nominating Committee has prepared the following slate of nominees for the election at the November meeting. All have agreed to serve if elected. Other nominees will be accepted from the floor at that meeting. If you would like to nominate someone, please check with that person about his or her willingness to serve.

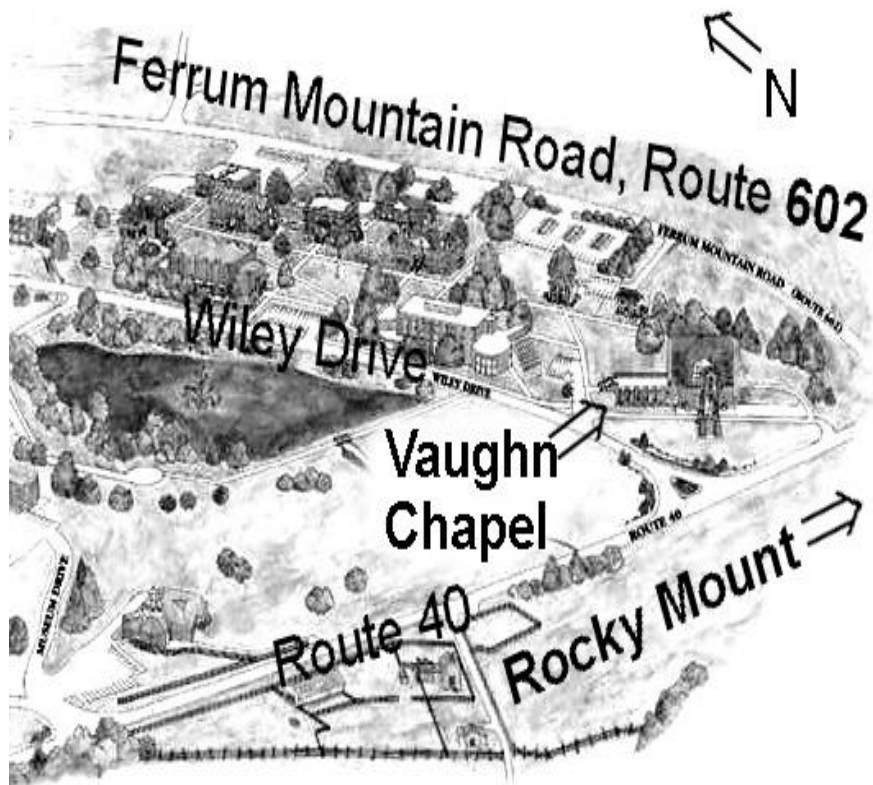
Chair	_____	Adele Addington, Roanoke College
	_____	_____
Chair-elect	_____	Dave Johnson, Ferrum College
	_____	_____
Secretary	_____	Joe Wigau, Radford University
	_____	_____
Treasurer	_____	Vernon Miller, Roanoke College
	_____	_____
Recorder	_____	Gary Hollis, Roanoke College
	_____	_____
Newsletter Editor	_____	Vernon Miller, Roanoke College
	_____	_____
Councilor	_____	Ben Huddle, Roanoke College
	_____	_____
Alternate- councilor	_____	Gwen Sibert, Roanoke Valley Governor’s School
	_____	_____

Please bring your ballot to the November meeting, or mail it to Jason Powell at Life Sciences, Ferrum College, Ferrum, VA 24088.

## Directions to Ferrum College

Directions to Ferrum College from Roanoke: Take Interstate 581 South which turns into Route 220 South. Stay on Route 220 through Boones Mill to Rocky Mount. Take the second Rocky Mount exit to Route 40 West. Ferrum is 10 miles beyond Rocky Mount on Route 40 West. Go past Ferrum Mountain Road (Route 602) on your right, and then take the next right into the college's main entrance, which is just past the bell tower. Suggested parking is in the lot next to the Chapel.

## Map to Ferrum College



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

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U.S. Postage  
**PAID**  
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Permit No. 31

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The January Virginia Blue Ridge Section meeting will be Monday, January 16, at Hollins University. The speaker will be Henry Bungay, speaking on "Bioenergy without the Hype". The contact person is Dan Derringer.