

# The Blue Ridge Chemist

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Virginia Blue Ridge Section, American Chemical Society



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**"The Alba Madonna" by Raphael (1483 - 1520)**  
National Gallery of Art, Washington, D.C.

**Ferrum College Hosts the October Meeting**

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

## VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

**642<sup>nd</sup> SECTION MEETING**  
**Hosted by Ferrum College**  
**Wednesday, October 19, 2011**

### PROGRAM:

**5:30-6:30 Social Time, Virginia Room in Franklin Hall**  
**6:30-7:30 Dinner, Virginia Room in Franklin Hall**  
**7:30-8:30 Presentation, Room 106 in Garber Hall**

The social time and dinner will take place in the Virginia Room in Franklin Hall. The talk will take place in room 106 in Garber Hall. The evening speaker is Dr. Natalia Smelkova from Ferrum College. She will be presenting a talk on "Role of Chemistry in Identification of Forgeries in Art".

The dinner consists of confetti salad (colorful greens, tomatoes, purple onions, cucumbers and Ferrum house dressing); slow roasted pork loin with onion compote; red wine beef pot roast with shitake mushrooms & roasted carrots; fennel Yukon gold mashed potatoes; Ferrum garlic green beans; maple leaf bread and chief's choice assorted dessert and beverage service (hot water with tea bags). Vegetarian meals will be made upon request. Cost for the meal is \$14.00, with students and retired ACS members being half price.

Reservation for the dinner should be made by Wednesday, October 12, **SEVEN DAYS** before the meeting by calling Dr. Maria Puccio 540-365-4238, or e-mail to [mpuccio@ferrum.edu](mailto:mpuccio@ferrum.edu), or regular mail to Dr. M. Puccio, Garber Hall 309, 80 Wiley Drive, Ferrum, VA 24088

**Dr. Natalia Smelkova**  
**Assistant Professor of Biochemistry**  
**Ferrum College**

Natalia Smelkova graduated from Vologda State Pedagogical Institute, Vologda, Russia in 1979 and Moscow State University in 1984 with a Masters Degree in Biology and Chemistry. She obtained her PhD degree in Biochemistry from New York University in 1998 after studying DNA replication of eukaryotes in the laboratory of Dr. James Borowiec. She was a postdoctoral fellow in the laboratory of Dr. Kenneth Mariani at Sloan-Kettering Institute, New York, where she continued studying DNA replication machinery and the mechanism of its functioning. Later she joined Molecular Staging, a biotechnology company, in New Haven, Connecticut, and studied replication of phage 29 DNA polymerase on small DNA circles. This technique is widely used for signal amplification in molecular diagnostics. While in the company, she authored a patent and memorandum of invention.



Dr. Smelkova joined the Natural Sciences and Mathematics School faculty at Ferrum College in 2007. There she has several research interests. One of them is Multiple Displacement Amplification (MDA), an analog of PCR, an isothermic method of amplification of DNA. This technique allows amplifying not only short, from 1000 to 2000 base pairs, sequences of DNA, but whole genomes of very different organisms. Another of Dr. Smelkova's interests is teaching interdisciplinary courses, such as Chemistry and Art. Presently she

is at the stage of preparing this course. Her greatest interest is the Italian Renaissance and Venetian school of painting. In addition, she is very much involved in the history of the National Gallery of art in Washington, D.C., and its marvelous collection.



**Role of Chemistry in Identification  
of Forgeries in Art**

Presently, with prices on many art objects skyrocketing, proper authentication becomes a major concern for museums and art galleries, acquiring these important art objects. In addition, it is of great interest for learning more about the techniques artists applied while creating their masterpieces.

During the last century, there were numerous analytical techniques developed, allowing us to see very intimate details of any object of art. Some of these methods, such as electron microscopy, X-ray diffraction, X-ray fluorescence and some others will be discussed, using as an example "The Alba Madonna" by Raphael from the National Gallery of Art in Washington, D.C.

## Interested in Hosting a Local Meeting?

The Blue Ridge section is looking to expand its horizons and we need your help. We would like for your school or department to host one of our local section meetings. We typically have one meeting per month during January-May and September-November. If you are interested in hosting a local section meeting for any of these months, please contact Kim Lane ([KTLane@Radford.edu](mailto:KTLane@Radford.edu)). As a meeting host you would be responsible for helping the executive board set the date of the meeting, helping select the speaker for the meeting, making local arrangements, and accepting reservations. This is a great opportunity for students to hear from some of the local scientists within the community. We would love to have your institution host a meeting. Please contact us if you have any questions or would like to schedule your institution to host a meeting during one of the mentioned meetings.



**IUPAC**  
International Union of Pure and Applied Chemistry

**World Polymer Congress**  
June 24–29, 2012

**www.MACRO2012.org**  
Enabling Technologies for a Safe, Sustainable, Healthy World.  
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## The 13th Annual ChemLuminary Awards Winners

The 13th Annual ChemLuminary Awards celebration was held in conjunction with the ACS National Meeting in Denver, CO, on August 30. Approximately 400 chemists came together to recognize local sections, regional meetings, and divisions that received accolades for their tireless efforts and work in promoting chemistry and the chemical sciences in local areas during 2010. ACS President Nancy B. Jackson opened the event with welcoming remarks and the presentation of 40 awards that included the ACS Award for Volunteer Service to the American Chemical Society to Zaida Morales-Martinez, and the Helen M. Free Award for Public Outreach to Bill Trammell. Prior to the awards presentation, 45 posters were presented by award finalists that reflected those outstanding activities being recognized. Following the presentation, the celebration continued with dancing until midnight. Recipients of this year's awards and a complete video of the presentation can be found on the ACS Website.

## **www.MACRO2012.org** Enabling Technologies for a Safe, Sustainable, Healthy World.

On behalf of the faculty, staff, and students at Virginia Tech, we welcome you to participate in the 2012 IUPAC World Polymer Congress on our beautiful campus in Southwest Virginia.

### U.S. Symposium Co-Organizers

*Recent Developments in Synthesis*

**Prof. Craig Hawker**, University of California Santa Barbara

*Modern Methods of Characterization*

**Dr. Kathryn Beers**, National Institute of Standards and Technology

*Surfaces and Interfaces*

**Prof. Thomas Russell**, University of Massachusetts Amherst

*Macromolecules and Nanotechnology*

**Prof. Paula Hammond**, Massachusetts Institute of Technology

*Macromolecules in Biotechnology and Medicine*

**Prof. Buddy Ratner**, University of Washington

*Complex Macromolecular Systems*

**Prof. Timothy Lodge**, University of Minnesota

*Energy, Optics, and Optoelectronics*

**Prof. Stephen Cheng**, University of Akron

*Sustainability Science and Engineering*

**Prof. Benny Freeman**, University of Texas at Austin

*Commercial Frontiers*

**Dr. Karl Haider**, Bayer MaterialScience LLC

*Advances in Interdisciplinary Interactions*

**Prof. David Schiraldi**, Case Western Reserve

*Polymer Physics*

**Prof. Ralph Colby**, Pennsylvania State University

### Regional Organizing Committee

Macromolecules & Interfaces Institute at Virginia Tech

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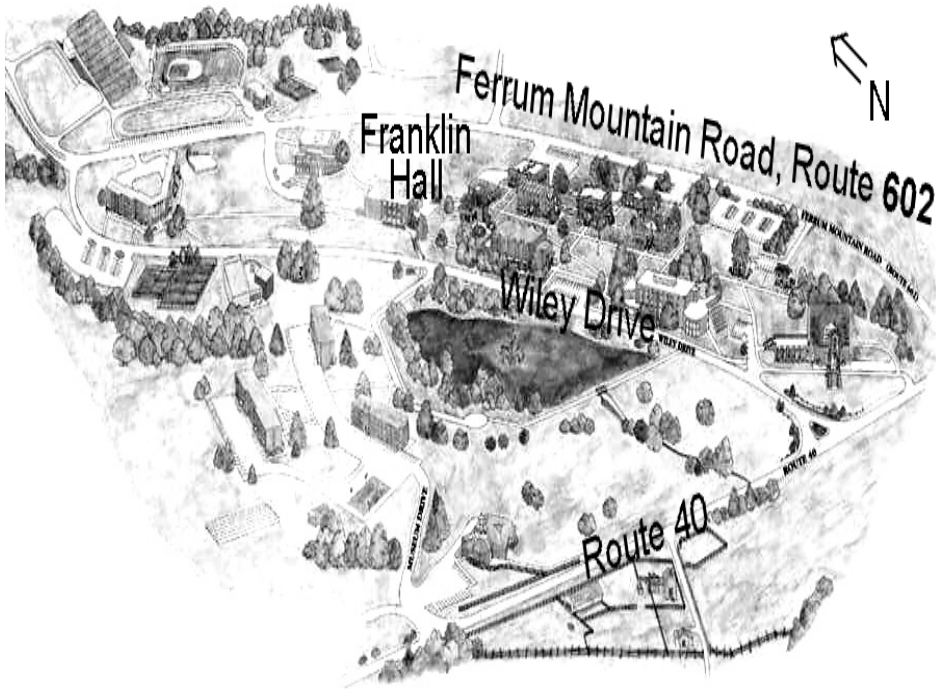
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## Directions to Franklin Hall, Ferrum College

From I-81 take I-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. Pass Ferrum Mountain Road (Route 602) on your right, then take the next right into the college's main entrance. You will pass Garber Hall (with the greenhouse) on the right, then Stanley Library and Schoolfield Hall. The next building on the right is Franklin Hall, and parking is available below Franklin Hall across from the Fitness Center. The Blue Ridge Mountain Room is located on the upper level of Franklin Hall.

## Map of Ferrum College



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Salem, VA 24153  
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Vernon Miller, Editor  
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Salem, VA 24153-3789

Return Service Requested

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The next meeting will be November 16 at Randolph College. The speaker will be Dr. David Johnson. The contact person is Ann Fabirkiewicz.