

# The Blue Ridge Chemist

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## National Chemistry Week



### Ferrum College hosts the October Meeting

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

## VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

### 688th SECTION MEETING Hosted by Ferrum College

Wednesday, October 25, 2017

#### PROGRAM:

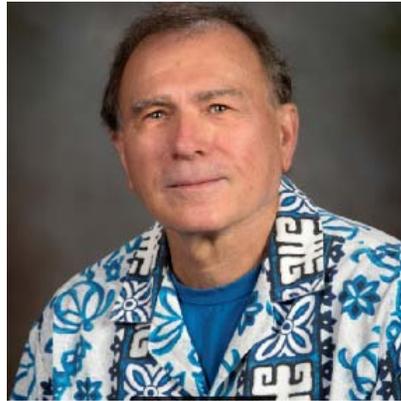
5:30-6:00 Social Time, Saari house Faculty House  
6:00-6:50:00 Dinner, Saari Faculty House  
7:00-8:00 Talk, GRB 106 (located in Garber Hall)

The social time and dinner will take place in the Saari house. The talk will take place in room 106 in Garber Hall. The evening speaker is Dr. Robert Bodnar, University Distinguished Professor of GeoSciences at Virginia Tech. His talk is titled "The Earth is a Complex Chemical System".

The meal will be heavy hors d'oeuvres, consisting of Ham Rolls (Honey Baked Ham on Yeast Rolls w/ Homemade Onion Jam & Swiss Cheese; Rolls Spread w/ a Honey, Butter, & Poppy Seed Spread) General Tso's Chicken Bites Spanakopita (Puff Pastry w/ a Mild White Cheese and Spinach) Asian Cheese Stuffed Tortellini Salad w/ Orange, Sesame Dressing Candied Nuts Assorted Cookies Punch Iced Water and Coffee Cost for the dinner is \$15.00, with students and retired ACS members being half price.

Reservations for the dinner: made by noon on MONDAY October 16, (10 DAYS BEFORE THE MEETING). Contact Maria Puccio, email [mpuccio@ferrum.edu](mailto:mpuccio@ferrum.edu), or NSM Department, Ferrum College, 80 Willey Dr, Ferrum VA 24088.

**Dr. Robert Bodnar**  
**University Distinguished**  
**Professor of GeoSciences**  
**Virginia Tech**



Dr. Bodnar earned his Bachelor of Science degree from the University of Pittsburgh, his master's from the University of Arizona, and his Ph.D. from Pennsylvania State University. He came to Virginia Tech in 1985. He's internationally recognized as a leader in his specialized field of fluid inclusions, which are microscopic droplets that are trapped in minerals when they form beneath Earth's surface. Bodnar uses fluid inclusions to study volcanic eruptions predicting explosiveness of future eruptions.

Dr. Bodnar's work focuses on the formation of and exploration for economically important mineral deposits of copper, gold, lead, zinc, silver, and uranium. He is working to create a scientific framework that will allow Virginians to understand the costs and benefits of uranium mining in the state. In 1999 he discovered liquid water fluid inclusions in a meteorite that fell in Texas. This is the only unambiguous discovery of liquid water in an extraterrestrial sample.

Among his many awards are: Fellow in the American Association for the Advancement of Science; Fellow of the American Geophysical Union (AGU); and the AGU Bowen Award. He is also one of the leading scientists involved in the establishment of a research lab inside an operating limestone mine in Giles County, Va. His innovative work has led to his being named Virginia's Outstanding Scientist 2010 by Gov. Bob McDonnell and the Science Museum of Virginia.

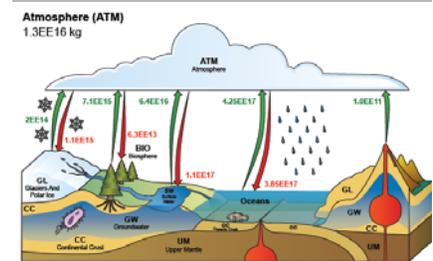
## The Earth is a Complex Chemical System

The planet Earth that we call home consists of an immeasurable number of independent chemical systems that interact in a highly complex manner. Chemical processes within each of these sub-systems, and the interactions between systems, are defined by equilibrium (and sometimes non-equilibrium) thermodynamics.

These many processes and interactions serve to distribute chemical species within the Earth system and define local as well as global environmental conditions. Among the most important chemical substances in the Earth system is water. Without water, life could not have developed, evolved or survived, and water has in the past and continues to play a significant role in the chemical, biological and physical evolution of our planet.

Plate tectonic processes allow materials to be recycled from the Earth's surface to its interior and back again through subduction and volcanism, and these processes could not operate in the absence of water. Moreover, the cycling of many other chemical components through the Earth system is connected directly or indirectly to the water cycle.

In this presentation, the modern water cycle and the evolution of the Earth's water cycle during the past 700 million years will be described, and examples of other chemical cycles that are tied to the water cycle will be presented. These examples highlight the complexity of the chemical system that we call Earth and emphasize the fact that changes in any one sub-system often reverberate throughout the entire Earth system.



### **Poetry Contest: National Chemistry Week 2017 (Oct 22-28)**

The theme of this year's National Chemistry Week is “**Chemistry Rocks**”. The mission of NCW is to reach the public, particularly students, with positive messages about chemistry. The Virginia Blue Ridge section again is participating in the K-12 poetry contest. Participants are encouraged to illustrate their poems related to geochemistry. All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, Blank verse.

Entries are judged based upon relevance to and incorporation of the NCW theme (“Chemistry Rocks”), word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.

All entries must be original works without aid from others. Each poem must be submitted and illustrated on an unlined sheet of paper (of any type) not larger than 11” x 14”. The illustration must be created by hand using crayons, watercolors, other types of paint, colored pencils, or markers. The text of the poem should be easy to read and may be printed with a computer, before the hand-drawn illustration is added, or the poem may be written on lined paper which is cut out and pasted onto the unlined paper with the illustration.

Only one entry per student will be accepted; all entries must include an entry form. All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society. Acceptance of prizes constitutes consent to use winners’ names, likenesses, and entries for editorial, advertising, and publicity purposes.

Please send the entries to Kim Lane, Radford University, 801 East Main St., Radford, Virginia 24142 or bring them to the October meeting. The deadline for receipt of entries is October 23 at 6:02 pm.

### **Elections, Blue Ridge Section, ACS, for 2017**

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. You may also self-nominate.

#### *Elected positions*

Chair: Gary Hollis, Roanoke College

Chair Elect: Jason Crumpton, Lynchburg College

Secretary: Samrat Thapa, Lynchburg College

Councilor: Gary Hollis, Roanoke College

Alternate councilor: Maria Puccio, Ferrum College

Treasurer: Steve Smith, Roanoke Valley Governor’s School

Newsletter Editor: Paul Deck, Virginia Tech

Recorder: Gary Hollis, Roanoke College

#### *Non-elected (appointed) positions*

Awards Chair - Chris Hermann

Webmaster and Public Relations Committee - Chair Jim Tung

Secondary Education Liaison - Steve Smith

Chemistry Olympiad/National Chemistry Week - Maria Puccio

**November meeting at Lynchburg College**

Details to follow.

## 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. Turn right on Ferrum Mountain Road (Route 602), then take the next right to the Saari house parking lot (located on the left). If the Saari house parking is full, you may park in adjacent faculty and commuter parking lot. The map below shows the Saari Faculty House (#5) and the location for the dinner, Garber Hall (#15)

### Map of Ferrum College

