The Blue Ridge Chemist

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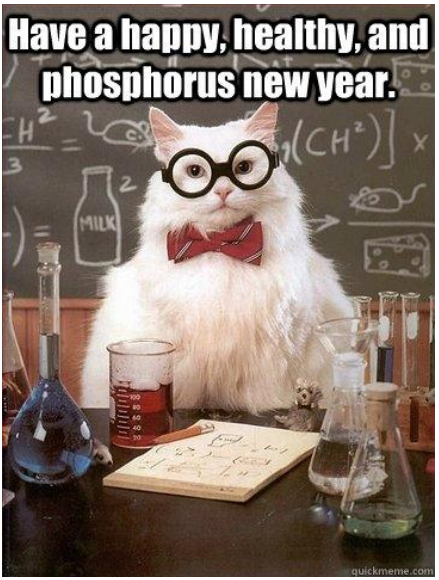

Wishing You a Happy New Year

Hollins University Hosts January Meeting

VIRGINIA BLUE RIDGE SECTION
AMERICAN CHEMICAL SOCIETY

652st SECTION MEETING
Hosted by Hollins University
Wednesday, January 30, 2013

PROGRAM:

5:30-6:00 Social time, Ballator Gallery, Moody Center
6:00-7:00 Dinner, Ballator Gallery, Moody Center
7:00-8:00 Talk, Ballator Gallery, Moody Center

The social time, dinner, and presentation will all take place in the Ballator Gallery in the Moody Center at Hollins University. The speaker will be Harry Dorn speaking on "Symmetry, Buckyballs and NanoMedicine: Reflections, Rotations and Reactions by an Old Observer".

The buffet will consist of chicken Parmesan with linguine noodles and sauce; meat lasagna; vegetable lasagna with carrots, squash, etc.; balsamic roasted vegetables containing squash, zucchini, onions, and other vegetables; tossed salad with ranch or raspberry vinaigrette; garlic bread; mixed berry cobbler; chocolate layer cake with chocolate icing; iced tea; coffee; and hot water with tea packets. The dinner is $14, with students and retired members being half price.

Reservations for the dinner must be made by WEDNESDAY, JANUARY 23, SEVEN DAYS before the meeting, by phoning Daniel Derringer at (540) 362-7433, or by email to dderringer@hollins.edu, or by mail to Daniel Derringer, Hollins University, Department of Chemistry, P.O. Box 9578, Roanoke, VA 24020.

Dr. Harry Dorn

Professor, Virginia Tech Carilion
Research Institute (VTCRI)
Professor of Chemistry,
College of Science Virginia Tech
A.C. Lilly Faculty Fellow of
Nanoscience, Roanoke, Virginia 24016

For nearly 40 years, Dr. Dorn has made pioneering developments in joining high-performance liquid chromatography with nuclear magnetic resonance to form a technique that has since become an important tool in the pharmaceutical and biomedical fields. His laboratory has also initiated a second research area involving electron paramagnetic resonance and dynamic nuclear polarization. This work has led to new approaches for next-generation magnetic resonance imaging instruments. In the early 1990s, the Dorn laboratory began a new area of research involving the synthesis, separation, and functionalization of the newly discovered carbonaceous nanomaterials, nanotubes, fullerenes, and metal-encapsulated fullerenes, or endohedral metallofullerenes. More recently, the Dorn laboratory reported a remotely new class of radiolabeled fullerenes.

Dr. Dorn received his Ph.D. in physical and organic chemistry from the University of California in 1974, at which time he joined the Virginia Tech team. In 1992, he received the IBM Research Division Award and in 2006 he received the Virginia Tech Alumni Award for Research Excellence. He was honored to speak at the Naff Symposium, University of Kentucky in 2008. In 2009, Dr. Dorn presented the Plenary Lecture at the 37th Fullerene-Nanotube General Symposium in Tsukuba, Japan. In 2010, Dr. Dorn was appointed the A.C. Lilly Faculty Fellow of Nanoscience at Virginia Tech. In 2012, Dorn joined the team at the Virginia Tech Carilion Research Institute in Roanoke, VA as a professor and full-time research principal investigator.

Symmetry, Buckyballs and NanoMedicine: Reflections, Rotations and Reactions by an Old Observer

Over 25 years ago a new allotrope of carbon, the fullerene or buckyball (named after Buckminster Fuller of geodesic dome fame) was discovered by R. Smalley, R. Curl, and H. Kroto at Rice University. Since this seminal discovery, a number of other new carbonaceous nanomaterials have been reported including: metallofullerenes, nanotubes, nanohorns, and graphene. In the past two decades, these new carbonaceous nanomaterials have attracted broad interest in different areas of chemistry, material science, and nanomedicine due to their unique properties, reactions, and structures. Recent biomedical applications of these new nanomaterials will be one focus of this presentation. In addition, the high icosahedral symmetry of the buckyball, C_{60} represents a unique example of self-assembly at the nanoscale level for both fullerenes and the new class of trimetallic nitride templated metallofullerenes discovered in our laboratory at Virginia Tech.[2] The overriding focus of this presentation is the importance of symmetry inside and outside of chemistry at both the macro and nano level.

1. Kroto, H. W.; Heath, J. R.; Obrien, S. C.; Curl, R. F.; Smalley, R. E.: C_{60}- buckministerfullerene. *Nature* **1985**, *318*, 162-163.

2. Stevenson, S.; Rice, G.; Glass, T.; Harich, K.; Cromer, F.; Jordan, M. R.; Craft, J.; Hadju, E.; Bible, R.; Olmstead, M. M.; Maitra, K.; Fisher, A. J.; Balch, A. L.; Dorn, H. C.: Small-bandgap endohedral metallofullerenes in high yield and purity. *Nature* **1999**, *401*, 55-57.

Congratulations to the 2013 VBRS Officers

Chair: Ben Huddle
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huddle@roanoke.edu

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Roanoke College, Retired
huddle@roanoke.edu

Alternate councilor: Gwen Sibert
Roanoke Valley Governor's School, Retired
gwen@siberts.net

The Virginia Blue Ridge Section of the American Chemical Society is sponsoring the twenty-first Annual Undergraduate/High School Poster Session as a part of the April 10, 2013 meeting at Radford University. Poster boards will be provided.

If you have a student or students, who will be participating, submit the following information by email to Chris Hermann (chermann@radford.edu) by April 1, 2013. **This is a firm deadline. No poster submissions will be accepted after this time.** All students and faculty will get email confirmation. If you did 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:

_____

_____

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

_____ poster board with tripod on table

_____ table needed

Directions to Hollins University

From I-81, take the Hollins exit (146) south to Peters Creek Road and turn left. The entrance to Hollins University is a little more than half a mile and is on the left. The meeting is in the Ballator Gallery of the Moody Center (Building #22)

Map of Hollins University

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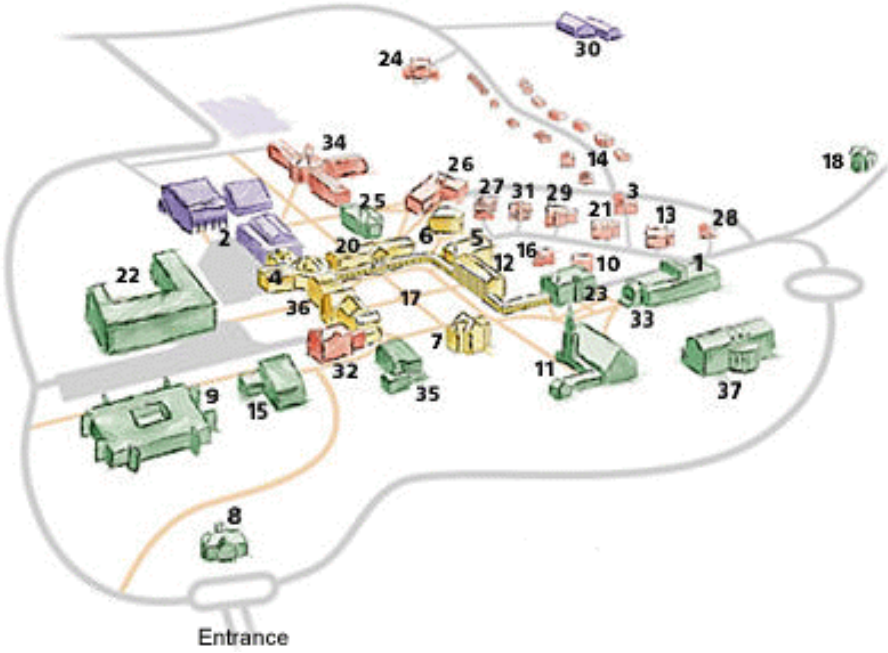

Vernon Miller, Nancy Richardson Co-Editors
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Return Service Requested

The February meeting will be at Roanoke College; Gary Hollis is contact person. The details of the February meeting will be in the next Blue Ridge Chemist.