

Chesapeake chemist

*Maryland Section
American Chemical
Society*

March 30, 2005
McDaniel College

The "Flip" Side of Fireworks

Joseph
Domanico



Student Awardees, pages 4-5

March Dinner Meeting

Wednesday, March 30, 2005, McDaniel College

6:00-6:50 PM	Social and Registration, Eaton Lobby
7:00-8:00 PM	Dinner, Forum
8:00-9:00 PM	Student Awards and Keynote Speaker Decker Auditorium

Cost for the dinner is \$20.00 for members; \$15.00 for spouses, retired chemists and guests, and \$10.00 for students. For reservations please contact Shirish Shah at 410-323-0803(H) or by email at dr.shah@juno.com.

Directions to McDaniel College. Travel north on Route 140 to Westminster. Proceed around Westminster on Route 140 through six traffic lights until the divided highway reverts to a two-lane road. Turn left on to Route 31. At the first traffic light turn left on to Route 32 (Main Street). Turn right into the Harrison House parking lot.

The “Flip” Side of Fireworks

Just saying the word *fireworks* invokes different images in the minds of different people. Your childhood experiences (and perhaps those later in life) with fireworks will determine whether you see images of large brightly colored shells bursting in the sky followed by the applause of the spectators, small firecrackers bursting on the ground to the laughter of children, or images of Dennis the Menace blowing up garbage cans and mailboxes with illegal M-80s. There are several facets of fireworks well beyond the typical fireworks shows seen on New Year's Eve or the Fourth of July. Fireworks enthusiasts scour the ancient texts in search of old designs and take great pains to reproduce them. To do this legally, they form regional fireworks clubs and pool their resources to be able to conduct “regional shoots” where they may safely practice their unique hobby. They may even practice at a regional club shoot to prepare for competition in the annual “National Shoot.” We will begin a journey with the typical fireworks shells made by China for use during national celebrations in the United States, pass through the Class C type fireworks found on store shelves throughout the United States, and peer into the unusual world of the fireworks hobbyist, looking over his shoulder during some club shoots and competitions. We will see special fireworks made by hobbyists for hobbyists and shot at locations not open to the general public. Perhaps it will intrigue you to join such a club!

About the speaker:

Joseph Domanico received his BS in chemistry from the University of Scranton in 1974. In 1977, after 3 years of active duty in the United States Army, he was offered a position as a Department of the Army civilian at the Edgewood Arsenal, in the research and development facility for pyrotechnics. He quickly rose to the position of branch chief, Pyrotechnics Branch for the Chemical Systems Laboratory and is currently chief, Pyrotechnics Team for the Edgewood Chemical Biological Center. Despite an explosive injury one week after his honeymoon, he has raced to work each day for the past 30 years.

Continued on page 6

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Student



*Michael Tanakloe
Baltimore City Community College*



*Amanda McEarchern
Villa Julie College*



*Mikal Nelson
United States Naval Academy*



*Zachary Gurard-Levin
The Johns Hopkins University*



*Brittany Gleason
Goucher College*



*Kerry Begley
Loyola College*

Not Pictured

*Kanini Njugna
Coppin State College*

*Kristin Koenig
Washington College*

*Hassan Faridi.
Mount Saint Mary's University*

*Gretchen White
St. Mary's College*

*Stanley Tabugbo
Howard Community College*



*Ying-Lung "Steve" Tse
Towson University*

Awardees



*Tiffany Russell
College of Notre Dame of Maryland*



*Christelle Gellineau
Morgan State University*



*Steven Stone
University of Maryland
Baltimore County*



*Emily Vance
McDaniel College*



*Michael Morris
Anne Arundel Community College*



*Amy Horsley
Community College of
Baltimore County, Catonsville*



*Megan James
Hood College*

Awardee Gifts

Award Certificates

Beaker Mug

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The Johns Hopkins University 2005 Spring Chemistry Colloquium Schedule

- March 8 Professor Amnon Kohen, University of Iowa, "H-tunneling and Enzyme Dynamics: Studies of Dihydrofolate Reductase and Thymidylate Synthesis"
- March 22 Professor Michael Marletta, University of California, Berkeley, "Nitric Oxide and Dioxygen Discrimination in Heme Sensor Proteins"
- March 29 Professor Paul Champion, Northeastern University, "Experimental Studies of Structure, Function, and Coherent Oscillations in Biomolecules"
- April 5 Professor Jeanne E. Pemberton, University of Arizona, "Characterization of Solid-Liquid Interfaces using Emersion: Toward a Molecular Description of Surface Wetting"
- April 12 Professor Donald Kurtz, University of Georgia, "Non-heme Iron Enzyme Scavengers of Superoxide, Hydrogen Peroxide and Nitric Oxide"
- April 19 Professor JoAnne Stubbs, Massachusetts Institute of Technology, "Use of Unnatural Amino Acids to Study Radical Initiation in Ribonucleotide Reductases"
- April 26 Professor Gilbert M. Nathanson, University of Wisconsin-Madison, "Molecular Beam Studies of Interfacial Reactions in Pure and Salty Glycerol"

All lectures are held at Remsen Hall, room 233, Tuesdays at 4:15 pm. For more information contact Rosalie Elder, 410-516-7432.

Domanico continued.

His love of pyrotechnics has resulted in several appointments to include director, International Fireworks Society; chairman, Pyrotechnics and Explosives Application Section, National Defense Industrial Association, technical member, National Fire Protection Agency Committee for Fireworks, and vice president for Publications, Crackerjacks, Inc., one of the largest regional fireworks clubs in the U.S. He is a member of many other fireworks related organizations and maintains an active schedule for work and play.

Mr. Domanico has been sought by federal agencies to act as an expert witness in criminal court cases. He advised the Rhode Island Attorney General's Office during its investigation of the Stationhouse Nightclub fire. His involvement has mostly been with the prosecution, but he has also supported the defense of hobbyists in legal battles.

Mr. Domanico is a "hands on" type of individual. He has designed and constructed model aircraft, several kit cars, a 22' sailboat, and several home additions as directed by his wife. His love of cars led him to become the founder (and newsletter editor) of the Sebring/Cimbria Kit Car Club. This national car club was very active with over 150 members nationwide during the 1980s and 1990s. Remarriage and new children have kept him occupied for the past 10 years. His love of designing and building things is now focused on fireworks, and his unique application of fireworks and structures has led to the creation of devices affectionately known as "Chaos Machines." His devices and designs have won several competition awards (mostly second place) with the Crackerjacks, Inc. His other awards include the Commander's Award for Civilian Service for his participation on the design team for the first rounds downrange of Desert Storm and the Maryland Distinguished Service Cross for his 28 years of military service.

March Historical Events in Chemistry

by Leopold May, The Catholic University of America, Washington, D.C.

- March 1, 1862 Birthdate of Edward Franklin, a researcher in the chemistry of nitrogen system of compounds.
- March 6, 1939 The first report on headspace analysis was received as an abstract by R. N. Harger, E. G. Bridwell, and B. B. Raney (J. Biol. Chem. 1939, 128, xxxviii).
- March 9, 1912 Birthdate of Stanley G. Thompson, who codiscovered fermium and mendelevium fifty years ago. He was also the codiscoverer of berkelium and californium in 1950 and einsteinium in 1952.
- March 9, 1930 Birthdate of F. Albert Cotton, a researcher in inorganic and structural chemistry.
- March 12, 1838 Birthdate of William H. Perkin, who discovered the first aniline dye, mauve, in 1856. He discovered the Perkin reaction for the condensation of unsaturated aromatic acids and synthesized tartaric acid in 1861 with Duppa.
- March 14, 1879 This has been designated as the World Year of Physics by the International Union of Pure and Applied Physics in celebration of Albert Einstein, who received the Nobel Prize for physics in 1921 for his services to theoretical physics and especially for his discovery of the law of the photoelectric effect.
- March 23, 1881 Birthdate of Hermann Staudinger, who did research in polymer chemistry. He received the Nobel Prize in 1953 for his discoveries in the field of macromolecular chemistry.
- March 24, 1884 Birthdate of Peter Joseph William Debye, a researcher in dipole moments and powder method of x-ray diffraction. He received the Nobel Prize in 1936 for his contributions to our knowledge of molecular structure through his investigations on dipole moments and the diffraction of x-rays and electrons in gases.
- March 27, 1824 Birthdate of Johann W. Hittorf, who was a researcher in electrolysis of salt solutions, transport numbers, ion migrations, and electrical discharges in gases.
- March 29, 1855 Birthdate of Konrad J. Brecht, who described the first correct structure of camphor and devised the Bredt's Rule for bicyclics.

Upcoming meetings and events

- April 2, 2005, Earth Day Clean Up Event, Herring Run Park, Baltimore City. For more information, including directions, map, and details visit <http://mdchem.org>.
- April 7, 2005, Chemagination at Towson University.
- April 16, 2005, Chemistry Olympics at Towson University.
- April 17, 2005, 9:30-11:30 AM, Earth Day Bowling & Trivia Event, AMF Towson Bowling Center. For directions, map, and details visit <http://mdchem.org>.
- May 27, 2005, 50-Year Luncheon at Belmont.
- June 9, 2005, Remsen Award, The Johns Hopkins University.
- July 10, 2005, Section Picnic, Patapsco State Park, McKeldin Area, Pavilion 501. For more information, including directions, map, and details visit <http://mdchem.org>.

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Maryland Section has new website

Bookmark the section's updated website at www.mdchem.org for all the latest information on the section's activities, planned events, and contact information for officers and committee members. Information on section activities, etc., is also available at Dr. Shah's webpage: www.towson.edu/~sshah.

Also, don't forget, that the Chesapeake Chemist is available on the web as well as by email. For faster delivery, provide the editor with your email address at cakvt@hotmail.com.



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