



Newsletter of the  
Northeast  
Georgia  
Section of the  
American  
Chemical Society



**ACS**  
Chemistry for Life®

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[Monthly Meeting: Tuesday, March 29, 2016](#)

(Location: Buffalo's Café)

### Laboratory IR spectra of Interstellar Cations

Michael A. Duncan  
Franklin and Regents' Professor  
Department of Chemistry  
University of Georgia

Dinner & Social start at 6:00 PM

Each NEGS ACS member and chemistry or chemistry related college student will receive a \$5.00 credit for his/her meal.

### Buffalo's Café

Beechwood Shopping Center  
196 Alps Road - Suite 49  
Athens, GA 30606

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## TALK SYNOPSIS

Astronomers have analyzed starlight with spectrometers for many years, looking for familiar patterns that correspond to molecules known on earth. Many atoms and molecules known on earth have been detected in space, revealing the composition and conditions in interstellar environments. However, there are many examples of molecular signals detected in space that have unknown origin, because the same patterns have never been detected and assigned to molecules in the lab. One area of interest involves small organic cations. These species are believed to be present in space, and are well-known in mass spectrometry, but their optical spectra are difficult to measure. The conditions used to ionize molecules also heats them, and this makes spectroscopy difficult, if not impossible, because hot molecules have broad spectra with many overlapping lines. We have developed new techniques to make small organic cations and to cool them down to the temperatures in space (50-100 K). We use mass spectrometers to identify and select the ions of interest and infrared lasers to measure their spectroscopy, in many cases for the first time. Comparisons are then possible with interstellar spectra.

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### Speakers Biographical Sketch

B.S. Chemistry, 1976, Furman University (w/ Prof. Lon B. Knight)

Ph.D. Physical Chemistry, 1982, Rice University (w/ Prof. Richard Smalley)

NRC Postdoctoral Fellow, 1981-1983, JILA, National Bureau of Standards & University of Colorado (w/ Prof. Stephen Leone)

University of Georgia Faculty Member, 1983 - Present

### AWARDS

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Fellow, American Physical Society, 2001

Fellow, American Association for the Advancement of Science, 2004

National Science Foundation Creativity Award, 2006

Alexander von Humboldt Fellow, Fritz Haber Institute, Berlin, 2007-present

American Chemical Society, Physical Division, Award for Experimental Physical Chemistry, 2011

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## NEW POSTER IN UGA CHEMISTRY BUILDING LOBBY ON “HISTORY OF CHEMISTRY THROUGH POSTAGE STAMPS”

Maurice Snook has prepared a two panel poster as a follow-up to his presentation several years ago at a Northeast Georgia Section meeting on the “History of Chemistry through Postage Stamps” and it is now on display in the display case in the lobby of the Chemistry Building. Maurice used as a reference: “A Philatelic Ramble Through Chemistry” by E. Heilbronner and F.A. Miller (1998). Over 250 postage stamps trace the evolution of the science of chemistry from its beginning of pure elements found in nature (gold, copper, silver, etc.) through its Alchemy period (Chinese, Arabic, European) to the discovery of the property of matter, the discovery of new elements and nature of atoms and compounds to how they react with one another. Also featured are the Curies and discovery of trans-uranium elements. Last, the poster contains covers and sheets of the two stamps released by the U.S. Postal Service commemorating the 75<sup>th</sup> and 100<sup>th</sup> anniversary of the





## OUTREACH OPPORTUNITIES

There are several outreach opportunities available to local section members as described below:

**Friday, April 1, 2016**—Judges need for the Georgia Science & Engineering Fair, The Classic Center, 300 N Thomas Street, downtown Athens, GA. Visit their website at [gsef@georgiacenter.uga.edu](mailto:gsef@georgiacenter.uga.edu) and click on judges forms.

Want to help elementary students make “Slime”? Help needed for the following elementary school’s Science Nights:

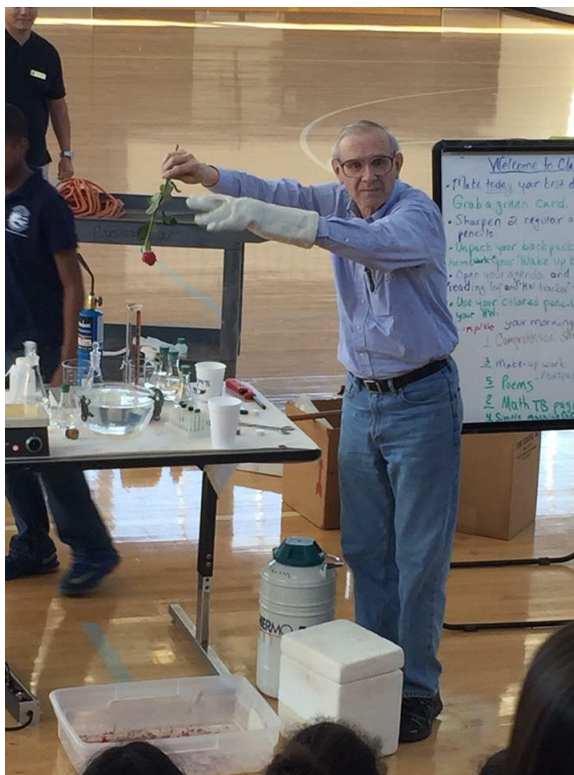
Tuesday, Mar. 29, 2016—Whitehead Rd. Elementary, 5:30-7:00 PM).

Tuesday, April 5, 2016—Fowler Drive Elementary, (5:30-7:00 PM).

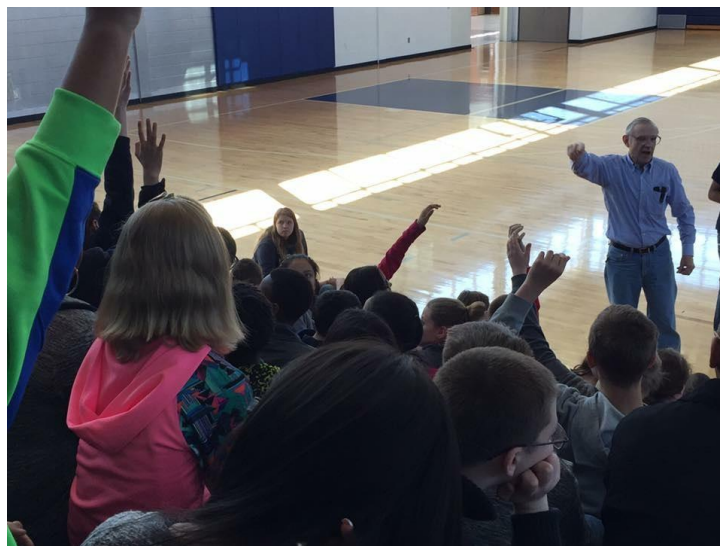
Contact: [Maurice\\_Snook@yahoo.com](mailto:Maurice_Snook@yahoo.com)

Maurice Snook presented his chemistry show to over 350 students and teachers of military families living on base at Freedom Park School, Fort Gordon, Richmond Co., Augusta, GA. Maurice also presented talks/activities for 5 elementary classes on polymers in their everyday life and let them make slime. Maurice’s wife, Caren, and his former technician from the Russell Research Center, Patsy Mason, also spoke to first graders on the three states of matter and let them also make slime.





Crushing a liquid nitrogen frozen flower is always a crowd pleaser.



Many hands go up to answer a chemistry related question.



Caren Snook (left) and Patsy Mason showing the students examples of a solid, liquid and gas in preparation to make slime.

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### Future Meetings

The **Chemistry Alumni Lecture** will be given at 4:00 pm on Friday April 29 in Chemistry Room 400 by Prof. Mildred Dresselhaus, from MIT. The title is not yet available, but the topic will be fullerene and carbon nanotube materials.

The **Chemistry Alumni Lecture and Banquet, combined with the NE Georgia ACS Section Awards Banquet**, will be on Friday April 29 at the UGA Tate Center Reception Hall. Drinks at 6:00; dinner at 7:00; awards after.

The Chemistry Golf Scramble will be at the UGA Course on Saturday April 30, with a 1:00 shotgun start. NEG-ACS people are welcome! Contact Mike Duncan to sign up ([maduncan@uga.edu](mailto:maduncan@uga.edu)).

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### NORTHEAST GEORGIA LOCAL SECTION OFFICERS

#### Executive Committee

Chair: Gary Douberly, UGA, [douberly@uga.edu](mailto:douberly@uga.edu), 706-542-3857

Chair-elect: Richard Morrison, UGA, [rwm@uga.edu](mailto:rwm@uga.edu), 706-542-5892

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Alternate Councilor: Maurice Snook, USDA-ARS (retired), [maurice\\_snook@yahoo.com](mailto:maurice_snook@yahoo.com), 706-546-3405

## Committee Chairs

Awards: David Himmelsbach, Light Light Solutions, 706-540-9131, [dshimmels@charter.net](mailto:dshimmels@charter.net)

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Program: Richard Morrison, UGA, [rwm@uga.edu](mailto:rwm@uga.edu), 706-542-5892

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