

# THE OCTAGON



Volume 94, No. 3, March 2011

Lehigh Valley Section of the American Chemical Society

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## *824<sup>th</sup> Meeting of the LVACS*

*Tuesday, April 26*

*Moravian College*

*Undergraduate Poster Session\**

*Student Awards Night*

*Students are Encouraged to Attend!*

**Location:** Moravian College – North Campus

**Reception and Poster Session:** 5:00 – 6:15 pm,  
Lobby Collier Hall of Science

**Dinner:** 6:15 pm – UBC Room, Hauptert Union  
Building

**Menu:** Buffet featuring Baked Chicken Breast with  
Pineapple/Orange Sauce and Pasta Primavera (for  
Vegetarians)

**Meeting, Talk and Student Awards Presentation:**  
7:30 pm Dana Lecture Hall, Collier Hall of Science

**Cost:** members \$20, students & retirees \$10

**Contact:** LouAnn Vlahovic by Noon, Tuesday, April  
19th. Please include your name, affiliation, and for  
students whether they are an awardee, poster  
presenter or both. Registration can be made by phone  
(610-861-1425) or by email melnv01@moravian.edu  
(the last two digits are numbers). Please put LVACS  
Registration in the subject line. (Note: email  
registrations will be confirmed by a return email.)

\* See pg 6 of this issue for abstract submission  
information

### **Directions:**

<http://www.moravian.edu/default.aspx?pageid=17>

### **Campus map:**

<http://www.moravian.edu/default.aspx?pageid=19>

**Parking:** Suggested parking is in Lots M, N, & O,  
along Locust Street.

Moravian College encourages persons with  
disabilities to participate in its programs and  
activities. If you anticipate needing any type of  
accommodation, have any questions regarding  
physical accessibility or would like more information,  
contact Al Martin, 610-861-1433.

**Speaker:** Joseph S. Francisco, Ph.D.

Department of Chemistry and Department of Earth  
and Atmospheric Sciences Purdue University

### **Biography:**

Joseph S. Francisco completed his undergraduate  
studies in Chemistry at the University of Texas at  
Austin with honors, and he received his Ph.D. in  
Chemical Physics at the Massachusetts Institute of  
Technology in 1983. Francisco spent 1983-1985 as a  
Research Fellow at Cambridge University in England,  
and following that he returned to MIT as a Provost  
Postdoctoral Fellow. In 1986 he was appointed  
Assistant Professor at Wayne State University. In 1991  
he was a Visiting Associate in Planetary Science at  
California Institute of Technology. He accepted an  
appointment as Professor of Chemistry and Earth &

Atmospheric Sciences at Purdue University in January, 1995, and in 2006 was appointed as the William E. Moore Distinguished Professor of Earth and Atmospheric Science and Chemistry at Purdue University. He served as President for the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) from 2005-2007. In 2008 he was elected to the Presidential succession of the American Chemical Society. He served as President-Elect in 2009, President in 2010, and Immediate Past President in 2011.

He has published over 400 peer-reviewed publications in the fields of atmospheric chemistry, chemical kinetics, quantum chemistry, laser photochemistry and spectroscopy. He was appointed by the Secretary of the Navy to be member of the Naval Research Advisory Committee for the Department of Navy (1994-1996). He has served as a member of the Editorial Advisory Boards of *Spectrochimica Acta* (Part A); *Advances in Environmental Research*; *Journal of Molecular Structure Theochem*; and the *Journal of Physical Chemistry*. He is a co-author of the textbook *Chemical Kinetics and Dynamics*, published by Prentice-Hall.

Professor Francisco has received numerous national and international honors for his academic accomplishments. He was recently awarded an Alexander von Humboldt U.S. Senior Scientist Award by the German government, as well as being appointed a Senior Visiting Fellow at the Institute of Advanced Studies at the University of Bologna, Italy. He has been appointed to and served on committees for the National Research Council, National Science Foundation, American Chemical Society, and the National Aeronautics and Space Administration.

**Topic:** *From Earth's Atmosphere to Planetary Engineering of Mars: An Adventure in Chemistry*

**Abstract:**

The chemistry in our atmosphere governs phenomena such as ozonedepletion, acid rain, and climate change. Having a firm understanding of all chemical processes at the molecular level in the atmosphere allows for the

development of accurate global climate models. The talk will describe the chemistry of Earth's ozone destruction by chlorofluorocarbons and the Francisco group's research into the design of environmentally benign materials to replace these harmful chemical compounds. On Earth, greenhouse gases contribute to atmospheric global warming, but on Mars the gases could make it possible to engineer the atmosphere so it is capable of supporting life. Dr. Francisco also will discuss planetary engineering and new chemistry exploration on Mars.

***Mark your Calendars!***

**Upcoming Meetings and Events  
Winter-Spring 2011**

**Event:** Science Café - Barnes & Nobel,  
April 6, Allentown, Pa, Speaker TBA

**Meeting** - April 26, Moravian University  
*Student Awards  
and Research Poster Session*  
Speaker: Dr. Joe Francisco "From Earth's  
Atmosphere to Planetary Engineering of Mars:  
An Adventure in Chemistry"

**Meeting** -May TBA -  
*Night Out at Weyerbacher Brewery*

**Event**-Summer 2011 TBA-  
*LVACS at the Iron Pigs*

***Meeting Minutes***

February ACS Meeting Notes

- Thanks given to Muhlenberg and Faculty for meeting

- Business points

- Recognition to good work of section including gifts of appreciation:

Phil- 2010 Secretary, Bill- 2010 Chair and work on Science Café and events

- Upcoming Events

- April 6- Science Café
- April 26- Moravian ACS Meeting
- May- Local Fun Night- To be announced
- Iron Pigs- To be announced
- Open call for interest in volunteers and officers for 2012
- Discussion on Leadership Meeting
- International Year of Chemistry
- Global Water Experiment
- Pass information to teachers, student teachers and those doing outreach
- Look at information from all around the world
  - By Laws- revised to be submitted for National ACS For approval
- Speaker- Dr Sanders
  - Calcium Carbonate
  - Uses/applications
  - Production- top down and bottom up
  - Demonstrations- sweet water- with sugar stolen from the break room
  - optics- dot on paper
  - Structures/ Cloaking

*Respectfully Submitted,*  
*Kelly Caflin, Secretary LVACS,*  
*3/14/2011*



### *Science Café at Barnes & Noble*

The fourth LVACS Science Cafe will be held in April 6, 2011, 7 PM. Professor Diane Husic of the Department of Biological Sciences at Moravian College will lead the discussion.

### *Climate Change is Not a Spectator Sport: Making a Difference both Internationally and in Your Backyard*

As a member of two delegations to the United Nations conferences on climate change, Dr. Diane Husic has first-hand experience in seeing the role that civil society plays on the international stage. Closer to home, citizens can have a significant impact in shaping Pennsylvania's efforts to develop climate change action plans. Dr. Husic will share some perspectives of her experiences at the international and state levels (a.k.a. what happens when science and

politics collide). She will also discuss a new citizen science project aimed at having residents of Eastern Pennsylvania engaged in ecological monitoring known as phenology. This project will greatly assist scientists to better understand how our natural resources are responding to environmental changes and what conservation measures should be put into place. Barnes and Noble - Southmont Center Location (off Rt. 33), Easton, PA



### *Participate in MARM 2011 - May 21-24* **DEADLINE FOR ABTRACTS EXTENDED TO APRIL 11**

The 2011 Middle Atlantic Regional Meeting (MARM) of the American Chemical Society will be held May 21-24, 2011 on the campus of the University of Maryland, College Park, hosted by the Chemical Society of Washington. This meeting will feature national and international leaders in the chemical sciences and will include a broad selection of symposia in BIOCHEMISTRY / ORGANIC CHEMISTRY, INORGANIC / MATERIALS CHEMISTRY, ANALYTICAL / PHYSICAL / THEORETICAL CHEMISTRY, and CAREER/ EDUCATION / PROFESSIONAL areas. Several Workshops are planned, and there will be events that feature career development, funding opportunities, and education.

Visit the website at: <http://www.marmacs.org>  
 <[http://www.marmacs.org/?53400\\_01](http://www.marmacs.org/?53400_01)>

- ! Meet your colleagues
- ! Networking Opportunities
- ! Accelerate your career
- ! Catalyst for success
- ! Renew, Reward, Re-energize
- ! Top speakers
- ! Make sure you attend - Be part of it!

Be part of this special event with speakers from

industry, education and government at a variety of TECHNICAL AND POSTER SESSIONS. Research presentations are open to all, and symposia will include contributed papers selected from those submitted that best represent the symposium topic.

Invited speakers for each symposium will include national and international leaders. Graduate students, postdoctoral associates, and young professionals are encouraged to come to increase their visibility, and undergraduate students will find ample opportunity to learn about employment and graduate school opportunities. There will be activities for senior chemists, who will also be available to advise and inform younger chemists.

Email: [contacts@marmacs.org](mailto:contacts@marmacs.org)

General Chair: Mike Doyle

Program Chair: Phil DeShong

Treasurer: Carl Womack

Exhibits Chair: Dolores Jackson



### ***LVACS Scholarship - Organic Chemistry Competition Announced***

The Lehigh Valley Section of the American Chemical Society will award its annual Scholarship for Organic Chemistry this May. To be eligible, students should be below the junior level, currently enrolled in organic chemistry at an institution in the section, and a chemistry, biochemistry, or chemical engineering major. The competition entails taking the ACS Organic Chemistry Examination (45%), a letter of recommendation from the student's organic chemistry professor (10%), and an essay on a topic in organic chemistry (45%). The value of the scholarship is \$1000. Additionally, the top essay will receive \$100. Details about the exam, letter, and essay follow below. Students should indicate their interest in the scholarship in advance of April 30 to Dr John

Freeman, [jfreeman@po-box.esu.edu](mailto:jfreeman@po-box.esu.edu).

ACS Organic Chemistry Examination: The exam will be administered on Saturday, April 30, 2010, at Moravian College, Bethlehem, PA from 9:00-10:30 AM. Students should report to the entry foyer of Collier Hall of Science. For directions see <http://www.moravian.edu/campusMaps/northBuildings/collier.htm>. Juice and bagels will be available at 8:45 AM.

Letter of Recommendation: Professors writing a letter of recommendation on behalf of a student who is applying for the Lehigh Valley ACS Scholarship should speak to the student's skills in lecture and laboratory in Organic Chemistry I and Organic Chemistry II. Please provide the course grade for Organic Chemistry I and comment on performance on written exams, proficiency in organic lab, and participation in recitations, problem sessions or course-related group work. If possible, address the student's quantitative skills by commenting on her or his performance in quantitative analysis or its local equivalent. The letter of recommendation must be submitted in a sealed plain envelope and signed by the professor over the seal. The student will be required to bring the sealed letter to the ACS Organic Chemistry Exam at Moravian College on April 30.

Essays: The student should choose a molecule, a group of molecules, or a process in organic chemistry to write about. The essay should be written at a level to interest and educate a general chemist who has completed sophomore-level organic chemistry. Synthesis, mechanism and structural elucidation should be covered for the chosen molecule (or representative examples of a chosen group). If a process is chosen, the physical and chemical basis for its success should be explained. Judicious use of structures is expected. The essay should address the impact of the molecule or process on society and the student's personal interest in it. The essay should run from 1600 to no more than 1800 words in Times New Roman 12 point font with one-inch margins on all sides. Each page should have a header with the student's last name, brief essay title and page number. An additional page with references must be included. References should follow the style of The Journal of the American Chemical Society (an article

from a recent issue can serve as a model). The winning essay will be published in the Octagon. The essay will be rated on:

- 40% - Appropriate depth of coverage of the molecule(s) or process.
- 30% - Appropriate depth of coverage on the impact on society and student's interest.
- 20% - Ease of reading, including grammar, spelling, and logical flow of the material.
- 10% - Appropriate use of references.
- 5% - Adherence to the formatting rules provided.

### *Submissions to the Octagon*

LVACS members, we want to know about what you do! Please submit pieces of interest to the chemistry community for publication in the Octagon. Articles about chemistry or science in the Lehigh Valley are always welcome. Let us know about upcoming events, educational opportunities or job openings.

The Octagon is published eight times per academic year, September through May. Each issue generally arrives three weeks before a section meeting. Thus the deadline for submissions is approximately one week earlier. Please email the editor at [lvacs@verizon.net](mailto:lvacs@verizon.net) for specific questions about deadlines for any issue. Email submissions to [lvacs@verizon.net](mailto:lvacs@verizon.net)

#### **A note about formatting:**

Please submit text as simple .txt files, or you may paste the text into an email. If you use later versions of MS word please do not submit documents as .docx files. I cannot always read all content in .docx formatted files. It would be best to use the "save as" option, generally found under the file menu, to save the document as .txt. Also images embedded (pasted) in MS word (particularly later versions) are problematic to extract and put in the newsletter while retaining good image quality. Whenever possible, please submit images in a standard format such as .jpg, .jpeg, .gif, .tiff or .bmp as individual files, rather than embedded within a document. If the placement of images is critical you could submit two versions (one embedded so that I can see where you would like images placed) and the other as separate files so that I may maintain figure resolution.

### *LVACS Officers - 2010*

**Chair:** Nigel Sanders  
Specialty Minerals Inc.  
9 Highland Avenue, Bethlehem, PA 18017  
(610) 861-3457 [nigel.sanders@mineralstech.com](mailto:nigel.sanders@mineralstech.com)

**Immediate Past Chair:** William Miles  
Lafayette College, Easton, PA  
(610) 330-5221 [milesw@lafayette.edu](mailto:milesw@lafayette.edu)

**Chair Elect:** Lorena Tribe  
218 Luerssen Building  
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Tulpehocken Road, P.O. Box 7009  
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Moravian College  
Bethlehem, PA 18018  
[martin@cs.moravian.edu](mailto:martin@cs.moravian.edu)

**Secretary:** Kelly Caflin  
PO Box 7 Portland, PA 18351-0007  
[kelley.caflin@us.army.mil](mailto:kelley.caflin@us.army.mil)

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**Octagon Editor & Webmaster:**  
T. Michelle Jones-Wilson (see above)  
[lvacs@ptd.net](mailto:lvacs@ptd.net)

# Undergraduate Research Poster Session

Sponsored by  
The Lehigh Valley Section of The American Chemical Society

**Thursday April 26, 2011**

**Moravian College**

**5:00-6:15 PM**

Preceding the April meeting of the Lehigh Valley Section of the ACS  
(Meeting details will be published in the April Octagon and at <http://www.lvacs.net/>)

## **Who may participate?**

Undergraduates attending a college or university within the Lehigh Valley section of the ACS. Research may have been done at the student's home institution with a chemistry or chemical engineering faculty member or during a summer research experience elsewhere.

## **To participate**

Students wishing to present their work must *themselves* submit an abstract by **April 18, 2011**, as a Microsoft Word attachment to an email, to [cplibby@cs.moravian.edu](mailto:cplibby@cs.moravian.edu). Please indicate "LVACS Poster Session" in the subject line of your email header. Early submission is encouraged.

## **Abstract format**

Times New Roman font

TITLE (all capitals)

Authors' names, authors' institutions and addresses

Abstract of research, 150 words maximum

## **Travel Award**

One poster session participant will be chosen to receive a \$250 award to support travel to present research at a national or regional ACS or AIChE meeting.

## **Other requirements and information**

- The poster session is held before the dinner meeting and our annual student awards night.
- Poster presenters must provide their own pins and poster board. Easels will be provided for displaying the posters.
- Abstracts will be acknowledged by an email message that will include details about meeting room, set-up time, and the travel award.
- If you do not get a response within two days of abstract submission contact Carol Libby, or have other questions, [cplibby@cs.moravian.edu](mailto:cplibby@cs.moravian.edu), 610-861-1629.
- Moravian College encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation, have any questions regarding physical accessibility or would like more information, contact Carol Libby, 610-861-1629.

# Undergraduate Research



## Travel Award

\$250



Sponsored by  
The Lehigh Valley Section of The American Chemical Society

### **Purpose**

The prize must be used to help defray expenses associated with presentation of undergraduate research at a national or regional meeting.

### **Eligibility**

Student must present research at the Undergraduate Research Poster Session, to be held at the April 26, 2011, meeting of the Lehigh Valley ACS. Undergraduate Research Poster Session details will be available at <http://www.lvacs.net/> and in the March Octagon. The winner will be chosen by lottery.

### **What the award can be used for**

The award must be used between March 13, 2011\* and April 26, 2012 to pay for travel, registration, or accommodations associated with attending a national or regional American Chemical Society or American Institute of Chemical Engineers (AIChE) conference to present *research* carried out as an *undergraduate* (or the summer after you graduate if you receive your degree this spring).

Visit these websites for possible meetings that you might attend. Speak to your advisor soon about the possibility of presenting at a national or regional meeting. Note that abstract submission deadlines are far in advance of the actual meeting, so it's not too soon to begin planning.

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

<http://www.aiche.org/>

\*to include the 241th National Meeting of the ACS, March 27-31, 2011 in Anaheim and the 2011 Spring Meeting of the AIChE, March 13-17, 2011 in Chicago.

**This announcement can be found at**

<http://www.lvacs.net/> and in the *March Octagon* posted there.