



ISOTOPICS

The Cleveland Section of the American Chemical Society

Volume 85

Issue 8

November 2009

On Deck:

To Be Announced

November Meeting Notice

Wednesday, November 18, 2009

Mather Mansion, CSU

4:30 pm	Executive Committee Meeting
5:30 pm	Social Hour
6:30 pm	Dinner
7:30 pm	Presentation

Mathematics and Soap Films

Dr. John Oprea, CSU

Why do one-celled creatures take the shapes they do? Why do red-blood cells have their characteristic shape? More and more, in biology as well as other sciences, the notion of "shape" is becoming important. Mathematicians have ways of measuring shape and of determining shape through optimization. This fits well with Nature's penchant for economy, so it isn't surprising (in retrospect) that soap films, which arise from surface tension's ability to shrink surface area, are a kind of analog computer for the mathematics of minimizing surface area. This talk will consist of three parts: soap film demonstrations (which will set the stage for); a bit of mathematics and; computer experimentation and illustration. Since audience participation is required for soap film experiments, attendees are encouraged not to wear their best attire!

DINNER RESERVATIONS REQUIRED: Please RSVP by contacting David Ball, by phone at 216-687-2456 or by e-mail at d.ball@csuohio.edu by **5 pm** on **Friday, November 13**. (For phone reservations, please clearly spell your last name and leave a return phone number). Cost of the dinner is \$20 for members & guests and \$10 for students/retirees/unemployed. Checks made out to "Cleveland ACS" are greatly appreciated. Dinner will include Chicken Parmesan, Fall Salad: Mixed Greens, Toasted Almonds, Dried Cranberries, Apple Wedge, Feta Cheese and Balsamic Vinaigrette, Moroccan Cous Cous salad, Roasted Vegetable Medley, and Apple Pie.

Special Note: This event will be geared toward a wide audience (beyond our usual ACS members). Attendees are encouraged to bring kids, grandkids (high school age), or anyone else who might enjoy an evening of science fun!

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Cleveland Section Web Site:

http://www.csuohio.edu/sciences/dept/cleveland_acs/

Directions to Mather Mansion

2121 Euclid Ave.
Cleveland, OH 44115



From the South (I-77). Follow I-77 north to the East 22nd/East 14th Street exit (#162B) to East 22nd Street. Turn left onto East 22nd Street; drive several blocks to Euclid Avenue, and turn right. Continue on Euclid and watch for the CSU Visitor Parking Lot on your right.

From the South (I-71). Follow I-71 north to the East 22nd Street exit (#172B). Turn left onto East 22nd Street; drive several blocks to Euclid Avenue, and turn right. Continue on Euclid and watch for the CSU Visitor Parking Lot on your right.

From the East (I-90). Follow I-90 west to the Chester Avenue/CSU exit (#173B). Turn left onto East 24th Street and left at the light onto Chester. Take Chester to East 30th Street, turn right. After one block, turn right onto Euclid Avenue and proceed west across the bridge. Look for the Visitor Parking Lot on your left.

From the West (I-90). Follow I-90 east to the East 22nd Street exit (#172C). Turn left onto East 22nd Street; drive several blocks to Euclid Avenue, and turn right. Continue on Euclid and watch for the CSU Visitor Parking Lot on your right.

Speaker Bio

John Oprea obtained his PhD in Mathematics from Ohio State University in 1982. After a post-doctoral stay at Purdue, he assumed his position at Cleveland State and has been there since. Oprea's research centers around problems on the boundary of topology and geometry and he has published many papers and five books about these subjects. One of his books is titled, *The Mathematics of Soap Films* and epitomizes Oprea's interest in making connections between geometry, topology and science. Another such paper, *Geometry and the Foucault Pendulum*, was awarded the Lester R. Ford Prize by the Mathematical Association of America. Oprea is an associate editor of the *Journal of Geometry and Symmetry in Physics* and belongs to the American Mathematical Society.

ACS Members Helping Other Members: The Career Consultant Program

By Christopher Ciolli

When asked to prepare an article describing an ACS benefit of particular value to younger chemists, I immediately thought of the ACS Career Consultant who helped me through my transition from graduate school to industrial employment. My Career Consultant provided insightful recommendations for my résumé as well as direction throughout the job search process. My ACS Career Consultant also provided valuable guidance as I negotiated my eventual employment agreement.

The ACS Career Consultant Program (CCP) offers free and confidential mentoring from experienced chemical professionals to younger and early career chemists. The CCP aims to provide guidance to chemical professionals at all stages of their careers. This guidance includes job searching strategies, various résumé and curriculum vitae (CV) formats, and résumé/CV reviews, as well as career management and planning throughout a chemist's entire career.

A Career Consultants must be either a chemist or a professional in the chemical sciences with an accredited degree and pertinent work experience.

This includes experience in personal job searches or helping others. Career Consultants also have experience with career changes such as hiring, promotions, layoffs, or downsizing. Remaining current on trends in chemical employment and the workforce is also required for volunteer Career Consultants. All consultations are conducted via e-mail and/or telephone.

Along with providing ongoing one-on-one mentoring, Career Consultants participate in career assistance programming at ACS National, Regional, and other ACS Meetings. They also work with local sections to provide career development workshops, one-on-one career assistance, and other resources to local section ACS members.

I have benefited greatly from the career services available free to ACS members. Among these services are publications describing job search strategies, résumé preparation, and interviewing skills. I utilized each of these services in preparing to enter the job market; however, I found that the personalized guidance provided by my ACS Career Consultant to be the most beneficial service during my transition from graduate school to industrial employment.

The ACS Committee on Economic and Professional Affairs (CEPA) administers the CCP. To learn more about the CCP and to find a Career Consultant, please visit the ACS website: <http://portal.acs.org/portal/Navigate?nodeid=1781>

Attention Chemist Musicians!

We have quite a large section and I am sure there are plenty of musicians out there. Anyone interested in forming the ACS Concert Band? We have a potential gig for you - the opening act at the social hour of any upcoming ACS meeting. Anyone interested, please contact Ken Street at: kenenth.w.street@nasa.gov or 216-433-5032.

Call for Nomination: The Morley Medal

By Kenneth Street

The Cleveland Section annually sponsors a regional award, which consists of the Morley

Medal and an honorarium of \$2,000. The next presentation of the Morley Medal will take place at the meeting of the Cleveland Section ACS in May 2010. The award is presented at a banquet, at which time the recipient will deliver the Edward W. Morley Lecture for that year. Travel expenses for the medalist and spouse will be provided.

The purpose of the award is to recognize significant contributions to chemistry through achievements in research, teaching, engineering, research administration and public service, outstanding service to humanity, or to industrial progress.

The area of eligibility includes those parts of the United States and Canada within about 250 miles of Cleveland. The contributions for which the award is given should have been made by the awardee when a resident of this area, or if a major contribution was made elsewhere, the nominee should have continued to make contributions while a resident of this area. Nominations may be made by any member of the American Chemical Society, The Chemical Society or the Chemical Institute of Canada.

Nominations for the Morley Medal should include a letter of nomination and curriculum vitae including the candidate's education, professional experience & activities, awards & honors, offices held and specifics on significant contributions. The letter of nomination should highlight these significant contributions. A representative list of references to the candidate's more important contributions, an evaluation of the significance of these achievements, and a listing of the nominee's most significant publications and patents are also appropriate. Strong seconding letters are suggested. The specific reference for every publication or patent is neither required nor encouraged. Electronic submissions are preferred.

Deadline for receipt of nominations is **December 4, 2009**. Send nomination and supporting material to:

Dr. Kenneth Street
Chair, Cleveland Section Awards Committee
NASA-GRC
MS 23-2

21000 Brookpark Road
Cleveland, OH 44135

Ph: 216-433-5032

E-mail: kenneth.w.street@nasa.gov

Mentors (Champions) Wanted for Heller Award Nominations:

By Kenneth Street

In the past we have had a number of great Heller award nominations that needed help! Some of these great high school teachers took several years to win due to the packages being submitted either underrating them, being incomplete, confusing, or a host of other reasons. In the past we have recommended that all nominations have a champion from the local section. The job of "champion" more or less involves assisting (mentoring) the nominators to present the best possible case for their nominee. I would like to establish a list of individuals willing to serve as champions on future nominations. If interested, please contact Ken Street at:

kenneth.w.street@nasa.gov or 216-433-5032.

More information about the Irene C. Heller

Award can be found at our web site:

http://www.csuohio.edu/sciences/dept/cleveland_acs/Heller.htm

National Chemistry Week Program a Great Success!

By David Ball

The hand's-on demonstration program that the Cleveland Section does every year was a great success during National Chemistry Week - again!

Several thousand (you read right!) students participated in the library programs, with other associated events going on throughout NCW.

More details on our great programs and contests as information comes in.

The entire Section expresses its thanks to the organizing committee that oversaw this year's program: Bob Fowler and Kat Wollyung, NCW co-chairs, and committee members Betty Dabrowski, Natalie Karsti, Lois Kuhns, Vince Opaskar, Margaret Pafford, Marcia Schiele, Shermila Singham, Barbara Verone, and Mark Waner. Committee members received some Applebee's gift cards as a thank you, and Mark Waner got a gift certificate to Grovewood Tavern for being the host several times at John Carroll University. The Martha Holden Jennings Foundation granted the Section \$3000 to help support the programs, for which everyone is grateful. Thank you to everyone on the committee and all of our other volunteers who made NCW a smashing success!

(Now get started planning next year's program.....)

November Historical Events in Chemistry

By Leopold May

The Catholic University of America, Washington, DC

- November 1, 1909 One hundred years ago, Hooker Electro Chemical Company was founded on this date.
- November 5, 1854 Paul Sabatier, researcher in catalysis in organic chemistry; discovered process for hydrogenation of oils to solid fats with Jean B. Senderens, was born on this date. In 1912, he shared the Nobel Prize in Chemistry for his method of hydrogenating organic compounds in the presence of finely disintegrated metals whereby the progress of organic chemistry has been greatly advanced in recent years with F. Victor Grignard for the discovery of the so-called Grignard reagent, which in recent years has greatly advanced the progress of organic chemistry.
- November 11, 1884 One hundred and twenty-five years ago on this date, Jean-Baptiste A. Dumas died. He was a researcher on organic compounds, and isolated methanol in 1834 and anthracene with Peligot from coal tar in 1831. Also, he did research on the composition of water, vapor density and made accurate measurement of nitrogen in compounds (Dumas Method). He was born on July 14, 1800.
- November 24, 1859 One hundred and fifty years ago on this date, *The Origin of Species* by Charles Darwin was published by Oxford University Press

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Isotopics is looking to highlight local chemistry professionals, companies, teachers, research groups, students, events, and more. If you have an idea for an *Isotopics* article, please contact the editor. *Isotopics* is also looking for local members to join our staff. Time commitments for staff members are minimal (a few hours a year!) and your contributions will be invaluable to our local section. If you are interested in joining *Isotopics*, please contact the editor.