



ISOTOPICS

The Cleveland Section of the American Chemical Society

Volume 91 Issue 2

February 2015

On Deck:

March 18, 2015

Notre Dame College

Meeting-in-Miniature

February Meeting Notice

Wednesday, February 18, 2015

356 Nord Hall, Case Western Reserve University

| | |
|---------|-----------------------------|
| 4:30 pm | Executive Committee Meeting |
| 5:30 pm | Social/Networking |
| 6:00 pm | Dinner |
| 7:00 pm | Presentation |

Active Learning in Chemistry at CWRU: Flipping the chemistry classroom

Geneviève Sauvé, Department of Chemistry

Michael Kenney, Information Systems Technology

Flipping the classroom is not as simple as just providing content for students outside of class and doing homework in class. It requires effort, planning, commitment and a willingness to adapt on the fly. We will discuss the Active Learning Fellows program at CWRU and use our experiences in flipping both a large Introductory Course and the first term Physical Chemistry course as fodder for discussion, monologue, dialogue and active engagement. Come prepared to participate.

DINNER RESERVATIONS REQUIRED:

Please RSVP to Theresa Nawalaniec by email at t.nawalaniec@csuohio.edu by 5:00 p.m. on Wednesday, Feb 11 with your name, total number of guests in your party, and a phone number.

Dinner will be Ribs, Pulled Chicken, Pulled Pork and Black Bean Burger for Vegetarian (order in advance) with Mac & Cheese, Caesar Salad, Vegetarian Baked Beans and Baked Beans. Dessert will be Cheese Cake with choice of cherry or blueberry topping.

We now can take credit card payments, checks made out to "Cleveland ACS," or cash. \$20 for members and guests, \$10 for retirees or unemployed, \$5 for students.

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Isotopics

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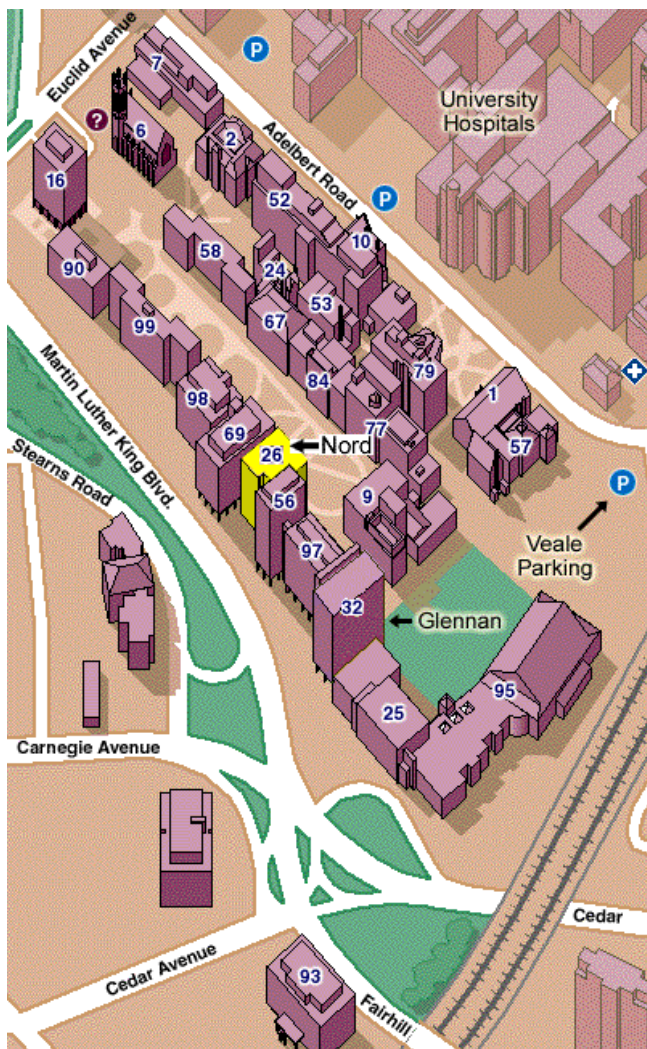
Cleveland Section Web Site:

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

Directions to Case Western Reserve University

Attendees should park in the garage located on Adelbert Road near the wind turbine (Veale parking garage, 2158 Adelbert Rd, Cleveland, OH 44106). They should bring their parking ticket to the meeting for validation. There will be no charge for parking.

The Nord Building is in Case Quad, shown below. The meeting will be in room 356.



National Chemistry Week Volunteers Needed

Volunteers from the Cleveland Section have been sponsoring a National Chemistry Week program designed to help interest grade-school aged

children in chemistry and science since 1989. The same core group of volunteers has been creating our program for many years now, and the simple truth is that several key members of our NCW Planning Committee are retiring or becoming burned out.

If the program is to continue, we need your help. If you've ever considered volunteering for NCW, now's the time. The time commitment is typically no more than 2-3 hours per month between April and September. The only other typical commitment for Planning Committee members is in assisting with the preparation of "kits" of program materials on one Saturday in September.

We are in particular need of experienced chemists and/or chemistry teachers who can help us design interesting, educational and fun experiments for children consistent with National's annual theme. For 2015 this theme is "Chemistry Colors Our World".

We're also in need of other skills including people familiar with creating publicity for programs like this one and anyone interested in Outreach Programs to area children.

If you might be interested in volunteering, please call Bob Fowler at 216-403-9448 or email me at jrfowler@cox.net. I'll be happy to explain the program further.

Call for Nomination: Irene C. Heller Award Presented to an Outstanding High School Chemistry Teacher

Annually, the Cleveland Section of the American Chemical Society sponsors an award to recognize an outstanding high school chemistry teacher in the Cleveland Section. The award consists of an honorarium of \$1,000 and a framed certificate; and is named for Irene Heller of North Olmsted High School in recognition of her contributions as an outstanding high school chemistry teacher and her service to the Cleveland Section.

The nomination package should include (1) a letter of nomination and (2) a detailed curriculum vita. The letter of nomination should highlight these significant contributions. The nominations should

consist of information on the candidate's education, professional experience and activities, awards and honors, offices held and specifics on significant contributions.

All nominees must be sponsored by at least one member of the Cleveland Section. If you do not know a local section ACS member willing to serve as Champion for your candidate, contact Jeff Mathys who will provide one for you. The Cleveland Section is geographically defined by the counties of Cuyahoga, Geauga, Lorain, Medina, Huron, and Erie. Electronic nominations using Word or PDF Files should be mailed to jamathys.family@gmail.com.

The award will be presented at the April, 2015 meeting of the Cleveland Section.

MIM Call for Abstracts

This year's Meeting-in-Miniature of the Cleveland Section will be held Wed. March 11 at Notre Dame College in South Euclid, with talks beginning at 3pm.

A highlight of the MIM is the 10-15 minute talks across all areas of chemistry. This year's awards for the best undergraduate and graduate student talks will be higher than ever before, with \$400 awards given at the graduate level and \$350 awards at the undergraduate level. Although awards are given to encourage participation by students, we welcome talks by all practicing chemists at the MIM.

Please limit the abstract to 250 words and include names and affiliations of all authors with the presenting author's name underlined. Abstracts should be submitted as Word files to Dr. John Moran (jmoran@ndc.edu), by Wednesday, March 4th. Please indicate if the presenter is a graduate or undergraduate student, or regular by noting "MIM undergrad", "MIM grad" or "MIM regular" in the subject line to insure that they are tracked properly.

Meet your Councilors – Part 1

Greetings, members of the Cleveland Section ACS! We are your Councilors for the Cleveland Section, and we thought it a good idea to tell you a little bit about ourselves so that you know what we do on behalf of the Cleveland Section and the ACS.

The Council is the national deliberative body of the American Chemical Society – think of it as the equivalent of Congress, just more effective! It's composed of the national elected officers, representatives of the local sections and technical divisions, and other people deemed necessary (for example, representatives of other chemical societies). The Council has certain statutory duties, including approving changes to the national by-laws, participating in the selection of presidential candidates, and certain aspects of ACS policy. There are about 40 Committees composed of Councilors and sometimes non-Councilors that perform some of the work of the Council. Councilors are apportioned to sections based on the number of members in that section. Currently, the Cleveland Section has two Councilors, who are elected to staggered three-year terms. Although most of their duties occur at the two annual National Meetings, there is also work throughout the year, perhaps even at other formal meetings sponsored by ACS or other organizations.

Next month learn more about our serving councilors, David Ball and Dwight Chaser.

What's in the grime tarnishing the Taj Mahal?

Environmental Science & Technology

Every several years, workers apply a clay mask to India's iconic but yellowing Taj Mahal to remove layers of grime and reveal the white marble underneath. Now scientists are getting to the bottom of what kinds of pollutants are discoloring one of the world's celebrated wonders. Their findings, published in the ACS journal *Environmental Science & Technology*, could help

inform efforts to protect the mausoleum and other surfaces from pollution.

Mike H. Bergin, Sachchida Nand Tripathi and colleagues note that Indian officials have tried to reduce the effects of pollution on the Taj Mahal by restricting nearby traffic and limiting local industrial emissions. But despite regulations and an occasional deep clean, the domes and minarets continue to accrue a layer of soot. So far, no published studies have looked closely at what specific compounds are causing it to appear yellow. Bergin's and Tripathi's teams wanted to find out.

The researchers analyzed particles in the air and on marble samples near the main dome over several months. Using a novel method they developed, the team estimated how these specks reflect light and therefore affect the color of the building. They conclude that black carbon and brown carbon from the burning of trash, fuels and other materials are among the primary pollutants tarnishing the Taj Mahal. In the future, their approach could be used to craft strategies to address the chronic yellowing and improve air quality, they say.

The authors acknowledge funding from the Indo-U.S. Science and Technology Forum, the Environmental Protection Agency, and the National Science Foundation.

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.