

TUESDAY, JULY 26 MICHIGAN LECTURES

Tue-11:45-MichLect-4, Bernhard Center, Room 157-60..... Michigan Lecture

Tue 11:45 AM-12:45 PM

Developments in Plastics and Polymers

Erik Lokensgard, Professor, School of Engineering and Technology, Eastern Michigan University, elokensga@emich.edu

Discussion of recent developments in plastics materials/processes and polymer compounding/chemistry. Particular attention to nano composites and biomedical applications.

Tue-11:45-MichLect-5, Bernhard Center, Room 208-10..... Michigan Lecture

Tue 11:45 AM-12:45 PM

Integration of Research and Education in the Macatawa Watershed Project

Graham Peaslee, Chemistry Professor, Hope College, peaslee@hope.edu, and Jen Soukhome, science teacher, Zeeland West High School

Over the past five years we have been engaged in a collaborative research project to study Lake Macatawa and its watershed. This hypereutrophic lake suffers from excessive sedimentation and high phosphate levels that result from non-point sources. While this type of pollution is common in the mid-western US, it is a complex research problem that has involved lots of basic science in chemistry, biology and earth science together with land use policy and interactions with local governmental and non-governmental organizations. College students and some high-school students have been involved in research projects centered on the Macatawa watershed for years, and while this is an exciting way to educate students in basic field and laboratory research skills, we have recently developed an inquiry-based curriculum that brings portions of the research project into the high-school classroom. We have also co-authored a textbook on the laboratory experiments associated with this high-school curriculum. This integration of research and formal secondary education brings interesting and locally-relevant science into the classroom which serves both to increase student interest in science and awareness of their environment. A summary of our approach will be presented with particular attention to those activities that could be adapted to any watershed.

Tue-04:00-MichLect-6, Chemistry Building, Room 1260..... Michigan Lecture

Tue 4:00-5:00 PM

Sulfites and Winemaking

Doug Welsch, Owner and Winemaker, Fenn Valley Winery dww@fennvalley.com

Sulfur dioxide has had a role in winemaking dating back some 3000 years. This discussion will focus on the current use of Sulfur dioxide in winemaking, why and how it is added, and will include a detailed look at the chemistry involved. The means of assessing the amount of Sulfur dioxide in a wine and determining what additions are appropriate will be reviewed. Finally, the myths surrounding the use

of Sulfur dioxide will be revealed and we will conclude with a discussion of possible alternatives to Sulfur dioxide.

Tue-04:00-MichLect-7, Chemistry Building, Room 1720..... Michigan Lecture

Tue 4:00-5:00 PM

Beer Soaked Science

John Mallett, Production Manager, Bell's Brewer, jmallett@bellsbeer.com

Beer and Brewing presents a fantastic opportunity to describe real-world application of fundamental scientific principals. Come learn about how bucket chemistry and approximate engineering intersect to make a wide range of beers.