



Green Mountain Local Section of the ACS

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Green Mountain Section website:
<http://membership.acs.org/g/greenmt/index.html>

Officers 2005

Chair..... Beth Medeiros
Chair-Elect..... Fiona Case
Secretary Michele Johnson
Treasurer Beth Medeiros
Councilor..... Willem Leenstra
Alternate Councilor Martin Case

Committee Chairs

Awards..... Michele Johnson
PR/Web Master Fiona Case
NCW Coordinator open
Newsletter Editor.. Willem Leenstra

Announcement & Events:

April 9, 2005 - 42nd Annual Vermont State Science and Mathematics Fair – Norwich University, Northfield, VT

April 21, 2005 - Dr. Lauren Bartlett Heine from GreenBlue, Inc. of Charlottesville, VA will talk on “Green Chemistry: Challenges and Opportunities for All Chemistry in the Twenty-First Century”

May 2005 – Ingrid Applequist from Unilever (date TBD)



ACS website: www.Chemistry.org

New Year 2005

Earth Day celebrated at our April meeting

Date: April 21, 2005
Time: 5:30 p.m.
Speaker: Dr. Lauren Bartlett Heine
Title: “Green Chemistry Challenges and Opportunities for All Chemistry in the Twenty-First Century”

Location: UVM Kalkin 002

For directions to Kalkin use this link: <http://www.uvm.edu/map/>. Zoom in on the details by clicking on "Main Campus". Parking is allowed after 6:00 p.m. in the parking lot surrounded by Perkins-Torrey-Mansfield which has an entrance off Colchester Ave. Come early to increase your chance of finding a parking spot.

Dinner after: 7:00 p.m. at NECI on Church Street in Burlington. RSVP Willem Leenstra at 656-0273 or via e-mail by April 20 to willem.leenstra@uvm.edu

Congratulations Martha!



Martha McBride was the recipient of the “2004 Emerald Award” plaque and \$200.

This is a new biannual local section award to recognize outstanding volunteer members. Martha is being recognized for her many years of service as Green Mountain Section Secretary and her efforts to elevate the public appreciation of the Chemical Sciences and Technologies through her time and effort spent each year organizing and running the Vermont Science Fair.

We, your associates and fellow section members, salute you!

November 18th Meeting at Saint Michael's College



Fiona Case presenting her talk to an attentive audience.

“Chemistry in Your Bathroom – Computer Modeling of Nanostructured Fluids: Liquid Soaps and Detergents” given by Fiona Case

Bar soap was originally made from animal fat (there is a fine example of an early soap kettle outside the Ethan Allen homestead in Burlington). Some of the earliest commercial products in the US were William Colgate's Cashmere Bouquet in 1872, William Procter and James Gamble's Ivory soap in 1879, Palmolive soap (which was made from palm oil and olive oil rather than animal fat), and Lifeboy, which was brought over from Europe by the Lever brothers in 1895. These products are still available, and indeed there have not been many fundamental changes in bar soap since the early days.

The major advances in detergents have been made on the liquid detergent side. The behavior of liquid soap and detergents depends on nanometer- to micro-sized structures (micelles) formed by the self-assembly of surfactant molecules. Indeed the study of soaps is sometimes called “soft

nanotechnology” (particularly by chemists who want to get funding in this area!). The differences between hand and dish soap were explained. Hand soap is more viscous than dish soap, even though it contains considerably less surfactant. This is because it contains long rod-like micelles that entangle. Dish liquid has a much higher concentration of surfactant – which makes it a more effective grease remover – but it flows easily because it is designed with spherical micelles, which do not entangle. Bubbles are not an indicator of whether the soap is working or not (although many consumers believe the “creaminess” of the lather is a sign of quality). Your automatic dish liquid doesn't produce many bubbles – nor do the new high-efficiency detergents for front-loading clothes washers (never put your hand dish liquid in your automatic machine, or detergents designed for top-loaders into your front-loading washing machine – the bubbles get everywhere!). Several people asked about the antibacterial agents in hand soap. In fact, all soap is antibacterial if you wash your hands properly – a good hint for flu season is to wash your hands for the length of time it takes to sing Happy Birthday to yourself twice.

Fiona showed us some computer modeling software that predicts the behavior of surfactants and detergents. It was interesting to see the micelles form and the different shapes they would take.

We thank you again, Fiona, for an interesting and informative talk.

The Holiday Party at the Swift House Inn, Middlebury

It was a great success. Several members from Middlebury College came out and shared their new exciting suggestions for possible programs in 2005. Our members were talking, laughing and having so much fun to where passersby wanted to know what organization we belonged. When we told them they said they wished they were chemists too.



Willem Leenstra, on behalf of the local section, presented Beth Medeiros with an “Award of Appreciation” plaque “For years of dedication, enthusiasm, cooperation and hard work”.

New Members

A hearty welcome to our new members:

Patrick Hakey
James Hildebran
Hailong Lu
Karen Murphy
Sathish Rangarajan
Christopher Ringenbach

Tania Day
Dr. David Mead
Dr. Da Wang
Dr. David Lansky
John C. Chapin

Earth Day

April 22nd is Earth Day, and the ACS is celebrating the event. This year's theme is "Air – here, there everywhere!". There are articles and hands-on activities suitable for all ages at the Earth Day section of the ACS web site (and linked from our local section web pages). The ACS Legislative Action Group is also asking for your support for The Green Chemistry Research and Development Act of 2004 – they have provided a simple-to-use e-form with which to contact Patrick Leahy and James Jeffords if you support this bill (information at our website). In conjunction with Earth Day, our April meeting, on the 21st, will feature a talk by Dr. Lauren Bartlett Heine from GreenBlue of Charlottesville, on "Green Chemistry: Challenges & Opportunities for All Chemistry in the Twenty-first Century"

Open Brainstorming Meeting at the Koto Japanese Steak House on April 5, 2005 at 6:00 pm

Your Executive Committee members invite you to join us for an open meeting to discuss Local Section activities for 2005/2006 at the Ice House in Burlington, about 6:00 p.m. If you are interested in taking a more

active role in your local section, or have ideas to suggest for the group, or are new to the area and want to find out what we do, please join us! Please RSVP to Beth at greenmtacs@yahoo.com by April 1 (no foolin').

Women's Chemistry Group

A number of recent studies have indicated a problem with retaining women chemists, particularly in academic positions. Plenty of women study chemistry at the undergraduate level, and women are well represented at graduate school, but women hold only 12% of the chemistry faculty positions at the nation's top research universities and some schools have no female chemistry faculty at all. The situation is better in industry, but companies still struggle to hire as many women as they would like to create a diverse workforce. One issue may be that female graduate students may meet very few women chemists. Many women I have met have mentioned older women chemists who inspired them to continue in their studies, or convinced them that there was a place for women in chemistry. I recall the woman who was in charge of the quality-control laboratory I worked in at Schwarzkopf as a summer job when I was 15 years old, as well as a guest lecture by Professor Julia Higgins (now Dame Julia Higgins) who convinced me that polymer phase behavior was interesting. The ACS Women's Chemistry Committee recommends setting up local groups in which female graduate students can meet women chemists and talk to them about their experiences. This may encourage the students to remain in chemistry careers. It will certainly provide them with more information and examples on which to base their career decisions. We have set up such a group at UVM. Our guest at our first meeting in November was Dr. Wendy Cornell, a group leader at Merck & Co., and program chair for the ACS COMP division. At our second meeting in January we met a successful local chemist: Professor Kathleen Mondanaro from Saint Michael's College who shared her experiences in the academic world. We would love to hear from any other local women chemists who would be willing to join us for a lunchtime or teatime meeting to share their experiences with the women at UVM.

UVM Womens Chemistry group:

http://membership.acs.org/g/greenmt/UVM_chemistry_women.html

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