



## Green Mountain Local Section of the American Chemical Society

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

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### Upcoming Talks

**September 24** – Humphrey  
Symposium at UVM

**October 4** – Lecture by ACS  
President Nancy Jackson at UVM

**October 16** – Lecture by George  
Preti at SMC and Norwich

**November 16** – GMLS talk by  
Frank Settle on the nuclear fuel  
cycle, at Middlebury College



# GMLS September Newsletter

## “Chemistry of Art”

**Date:** Friday, September 30, 2011  
**Time:** Talk at 5:30 PM -- Dinner to follow



**Speaker:** Prof. Ariel Fenster  
McGill University  
Montreal, Quebec  
[biography can be found on the next page]

**Title:** “Science and Art – Facts and Fakes”  
[synopsis can be found on the next page]

**Location:** Fleming 101  
Fleming Museum  
University of Vermont  
Burlington, Vermont

For directions to the talk's venue, use the UVM link: [www.uvm.edu](http://www.uvm.edu).  
Once at the homepage, click on A-Z, and look for Maps. Free parking  
is available in the lot right next to the Museum.

**Dinner:** G's Restaurant  
Sheraton Hotel  
3 Main Street  
South Burlington, Vermont

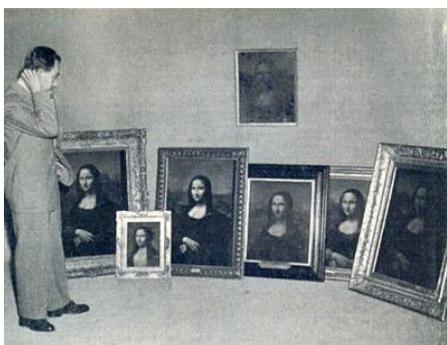
If you wish to join us for dinner after the talk, please RSVP Willem  
Leenstra at 802-656-2503, or via e-mail to [willem.leenstra@uvm.edu](mailto:willem.leenstra@uvm.edu)  
as soon as possible for an approximate headcount, but by noon,  
Thursday, September 29 at the latest.

## Biography of Dr. Ariel Fenster



Ariel Fenster is well known as an outstanding communicator and an exceptional promoter of science whose experience spans nearly three decades. He teaches chemistry at McGill University, where he is also a founding member of the Office for Science and Society, an organization dedicated to disseminating up-to-date information in the areas of health, environment and technology. Dr. Fenster has given more than 600 invited lectures in English and in French on a variety of topics from "The ABC of Vitamins" to "The Chemistry of Wine" and "Science and Art." In addition, he has been instrumental in the development of a number of science shows and exhibitions. One of these, "La Chimie en Fête" in Montreal, attracted more than 370,000 visitors over 5 months. Ariel Fenster appears regularly on TV and radio to discuss health, environmental and technology issues, and has presented numerous science segments on children's television programs such as "Science Friction." Recently, he was seen in French on Radio-Canada's popular daily health show "37,5" and in English on the "Discovery" science show "What's That All About?" His contributions to teaching, and to the popularization of science, have been recognized by numerous awards. Among them are the "Award for Excellence in Chemistry Teaching" by the U.S. Chemical Manufacturers Association and the "McNeil Medal for the Public Awareness of Science" from the Royal Society of Canada (inaugural award). Ariel Fenster, who is a native of the wine-growing region of Bergerac, France, holds a Master's degree from the University of Paris and a Ph.D. from McGill University.

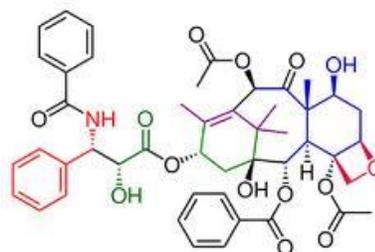
## Synopsis of This Month's Talk



Science is essential to the analysis of works of art. Modern tools, from macro-photography to X-rays can be

used to reveal not only the techniques employed by the artist but also the condition and story of any resulting masterpieces. In this lecture the relationship that exists between science and art is examined through a variety of works from Vermeer to Van Gogh. The presentation also looks at the history and science of the various pigments used by the great masters such as Titian, Rembrandt and Monet. It reveals the unusual origin of Indian Yellow and the secret of Ultramarine. It also explains the reasons for the widespread popularity of Lead White and the versatility of cadmium paints. Finally, the lecture highlights the role of science in determining the authenticity of various works by examining famous cases of forgery ranging from the Shroud of Turin to the notorious Van Meegeren affair.

## 30<sup>th</sup> Annual Humphrey Symposium at UVM



Saturday, September 24, three eminent chemists will take part in the UVM Chemistry Department's annual fall symposium. Peter Wipf (U. Pittsburgh), Viresh Rawal (U. Chicago), and Amos Smith (U. Pennsylvania) will present talks in the general topic of "Organic Methods Development to Address Challenges in Total Synthesis".



Registration and continental breakfast are free and start at 8:30 a.m. The formal proceedings start at 9:10 a.m. and conclude with a complimentary lunch at 12:30 p.m. The location of the symposium is the Sugar Maple Ballroom (room 400) in the Davis Student Center at the University of Vermont.

## Lecture by ACS President Nancy Jackson



On Monday, October 4 at 5:00 p.m., the Vermont Academy of Science and Engineering (Chris Allen, Board President) is hosting a special talk by ACS President Nancy Jackson. [Please note new time.]

Location of this event is the Davis Auditorium in the Medical Education Building at the University of Vermont. For directions, see the UVM map pointed to on the first page of this newsletter. Note that this venue is not the Davis Center, and that the start time has been moved.

Dr. Jackson is manager of the International Chemical Threat Reduction Department in the Global Security Center at Sandia National Laboratories, which assists the U.S. Department of State and other federal agencies in solving problems related to international chemical security.

Her presentation is titled "The State of Chemistry in the International Year of Chemistry" (The year 2011 has been officially declared the International Year of Chemistry (IYC) by the United Nations, which has led to many celebrations and wonderful activities.) This talk will address the international trends in chemical and scientific R&D, and the impact and opportunities globalization brings to the US scientific enterprise. Discussion of how the American Chemical Society should respond and support their members regarding the changing global landscape of science and technology will also be included.

## George Preti to Give Two Talks in Vermont



Noted expert in the chemistry of odors, Dr. George Preti, will present two lectures next month under the title of "Human Axillary Chemistry and Human Pheromones:

Sniffing around Human Odors". The specifics of the events are: Wednesday, October 12 at 4:00 p.m. at Norwich University, and Thursday, October 13 at 4:15 p.m. in Room 111 of the Cheray Science Building at St. Michael's College. [Location of the talk at Norwich was TBD at time of publication. If interested, please email to [dblank@norwich.edu](mailto:dblank@norwich.edu).]



**MONELL CENTER**

ADVANCING DISCOVERY IN TASTE AND SMELL

Dr. Preti has been a Member of the Monell Chemical Senses Center since 1971. The Center, located in Philadelphia, was started in 1968 to advance the understanding of the science of smells and tastes. He earned world-wide acclaim when he published the identity of the active components of underarm sweat which are responsible for the characteristic sweat odor. This discovery led to the development of a new field in biological research, cross-adaptation: the ability to mask an unpleasant odor by introduction of a specific pleasant odor. This has led to many patents and publications; numerous products have been developed from this primary research.

Research in the Preti laboratory focuses upon the nature and origin of human odors, particularly those from the underarm (axillae) and the oral cavity. Preti's team of scientists has identified the structures of many human axillary odorants, demonstrated the presence of human primer and modulator pheromones in axillary secretions, and have used knowledge of body chemistry developed at Monell to diagnose disease and the time of optimum fertility in females. The research team is pursuing the identity of the structures of the active pheromone constituents via a bioassay-guided isolation procedure as well as employing gas chromatography-mass spectrometry (GC/MS) to generate metabolic profiles ("metabolomics") of human urine, skin and axillary secretions to identify biomarkers of disease, individual identity and stress. In addition the group studies the amelioration of malodors from humans with the odor-producing metabolic disease, trimethylaminuria, as well as from agricultural and environmental activities via cross-adaptation, odor absorption and anti-microbial agents.

## Open House at Omya's Marble Quarry



The 11<sup>th</sup> annual Middlebury Marble Quarry Open House will be held on Saturday October 15, 10:00 a.m. to 3:00 p.m., rain or shine! Guided 30-minute bus tours into the

quarry will visit areas for rock and mineral collecting, drilling and blasting, and the history and operation of the quarry. Kids will especially enjoy seeing the large trucks and loaders, and the opportunity to win a prize in a scavenger hunt. Refreshments will also be offered.



To get to the site, if southbound on Route 7, look for the turnoff to Quarry Road 2.5 miles south of the Middlebury Inn. If northbound, look for that same turnoff 1 mile north of the junction of Routes 125 and 116. The turnoff to Quarry Road is on the east side of US7 just north of *Foster Motors and Cady Road*. Further directions to Quarry Road will be prominently marked with balloons and a large sign on the day of the event. Continue straight at the first stop sign on this road. The second stop sign is at the quarry. Please park where instructed. More information can be found at [omyainvermont.org](http://omyainvermont.org), or contact Jerilynn Valente at 802-770-7217.



### **Report from our Councilor, Willem Leenstra**

As your representative, I attended the Council meeting at the Fall ACS National Meeting, held in Denver, Colorado, August 28-31, 2011. Attendance was somewhat lower at just over 10,000 registrants. Totals in select categories were as follows: regular attendees 6,088; students 2,376; guests 218; exhibit-only 394; and exhibitors 1,000. Denver was recently re-qualified as a national-meeting venue by the Meetings and Expositions Committee under my Chairmanship. While the venue was widely lauded by attendees as a manageably compact meeting site, its experimental status (as well as Hurricane Irene) may have kept registration numbers lower than average. It is hoped



### **2011 President-Elect Candidates**

By electronic ballot, the Council selected Dennis Chamot (National Research Council of the National Academy of Sciences, Washington, DC) and Marinda Wu (retired from Dow Chemical, California) as candidates for 2012 President-Elect. These two candidates will be voted on

by the entire ACS membership in the fall national election. This year the candidates hail from "industry" (slate alternates between academia, and non-academia candidates).

### **Special Discussion Item**

A special discussion item was put on the Council agenda for this meeting. ACS President Nancy Jackson presented and moderated a discussion on how ACS can best cultivate a culture of safety in US universities and colleges. At the 2011 ACS national meeting in Anaheim, the Committee on Chemical Safety launched an effort to identify ways to assist academia in strengthening and building strong safety cultures. Devastating incidents in academic laboratories, and observations by many that graduates do not have strong safety skills, have elevated concerns about the safety culture in academia. Following Dr. Jackson's presentation, Councilors engaged in robust discussion on this very timely topic, with numerous suggestions by 42 different Councilors.

### **Issues Deliberated at Council**

The Council voted to approve the Petition on Position Statements, which allows for clear and consistent position development for the Society. The petition assures that the Board of Directors has sole authority in issuing position statements that establish policy for the full Society; and that Society bodies other than the Board may issue statements on issues that fall solely in their jurisdiction so long as they do not impair other Society bodies' ability to do the same.

The number of technical divisions of the ACS did not change after actions involving three divisions. The Council voted to grant full division status to the previously probationary Division of Catalysis Science and Technology. After a lively discussion, the Council voted 53% - 47% to dissolve the Division of Petroleum Chemistry and to combine its assets and members with those of the Division of Fuel Chemistry under the new name of the Division of Energy and Fuels, effective December 31, 2011. The merger of the latter two divisions had been anticipated as a positive outcome by both. The discussion centered only on the new name. Councilors from a number of technical divisions objected to the chosen name, arguing that doing so would imply that this new division had preeminence on matters of "energy".

### **Board of Directors Actions**

On the recommendation of the Committee on Budget and Finance (B&F), the Board VOTED to approve an advance member registration fee of \$360 for national meetings held in 2012. For further details, please go to the web at [www.acs.org](http://www.acs.org).



## Report from the Government Affairs Committee

The Government Affairs Committee (GAC) is gearing up for visits to our congressional delegation in September or early October. These will be important meetings as we try to persuade our congressmen to heed the importance of science and education funding to our economy.



This Committee has recently lost a valuable member when Ralph Stuart took a position at Cornell University (thanks for your contributions, Ralph). If you are interested in helping Deb Gaynor and Sarah Locknar spread the word about chemistry-relevant issues to the political establishment, please consider joining the GAC. Just send an email to [slocknar@greentechvt.com](mailto:slocknar@greentechvt.com). The Committee generally has a flurry of 3-4 short meetings (1/2 hour) clustered over a week or two every year, having to do with national issues and congressional visits. The overriding topic last year was K-12 education. Thanks to a lot of diligent phone-calling, Deb has secured a spot in the statehouse card room for next April (2012). This will be GAC's first foray into the statehouse, and with help from additional volunteers, it is hoped that such efforts can be increased in the future.

## Neighbor Local Section to Celebrate 100 Years

The Connecticut Valley Local Section (CVS) of the American Chemical Society is celebrating its 100th anniversary. As its name suggests, the CVS covers a geographic region defined by the Connecticut River Valley; the section serves an area of about 3,600 square miles from western Massachusetts to eastern Connecticut. Membership in the section, numbering nearly 2,000 in 2011, comes from academic, industrial, and governmental institutions. The CVS began in 1911 when it split from the Northeast Section of the ACS, based in Boston. The original constitution and bylaws of the CVS defined Hartford as headquarters, with ACS members within a 30 mile radius being CVS members. It is worth noting that two CVS members have served as ACS presidents: Max Tischler from Wesleyan University in 1972 and Anna J. Harrison from Mt. Holyoke in 1978. The CVS has a robust tradition of service to its membership and the general public. Programs continue to engage the public on technical subjects and enhance the professional stature of its members. Annually the

section recognizes excellence through awards to high school and undergraduate college students, and the Burlew Award to industrial or faculty members in the section.

Their 100th anniversary celebration is set for October 1, 2011 on the campus of Trinity College in Hartford, Connecticut, and starts at 10:00 a.m. with registration and refreshments preceding it at 9:00 a.m. The program features lectures by Prof. Dan Nocera of MIT, and by 2011 ACS President-Elect Basam Shakhashiri of the University of Wisconsin. Prof. Shakhashiri will also be doing chemical demonstrations as part of the celebration. Lunch, complete with birthday cake to mark the special occasion, will be served.

Directions and further details for the event are found at: <http://cvs-acv.sites.acs.org/100thanniversary.htm>

