



# ALI "QUOTES"

Volume 12, Issue 3

THE NEWSLETTER OF THE PRINCETON ACS

## Chairman's Corner

Marcel Nooijen  
Princeton University

As some of you may have noticed, over the past months there has been a persistent effort to guile you into thinking "*theory is everything*". You may have wondered: "what precisely is the goal of all this theory? It surely appears a great way to increase complexity (or it is wrong). It usually leads to more puzzles than we thought we had, ('theory deepens our understanding'). Does it actually solve problems?". Well, this final question of yours shows there are still some great misconceptions regarding the role of theory. I was taught by one of my professors that we should try to phrase the issues as sharply as possible. That is the best we can do. Answers are illusions. I have always taken this lesson from my philosophy professor to heart. Of course, this state of Nirvana is hard to reach and it may be good to take a sidetrack and venture into the common pursuit of creating and solving real world problems.

One broad issue that comes to mind is our dealing with the environment. The enormous worldwide use of fossil fuels has created a number of problems that are hard to address or even acknowledge. One aspect, that is less in the news now than it used to be, is the mere transport of oil, and its hazards. Accidents occur, with potential damage to a pristine environment. The final cleanup of disaster areas often relies

*continued on page 2*

## INSIDE THIS ISSUE

- 1 Chairman's Corner
- 1 May Meeting/Reservation Information
- 2 Report to ACS Council/ Local Section Activities
- 3 June Meeting/Calendar of events
- 4 NCW 2002/Benefits of ACS Membership

VISIT OUR WEBSITE: <http://www.princeton.edu/~pacs>

## May Meeting


Speaker: Roger C. Prince  
Exxon Mobil Research and Engineering Co.  
Annandale, NJ 08801

Topic: **Bioremediation of Marine Oil Spills**


Date: Tuesday, May 28th  
Lecture at 5:30 PM  
Room 324, Frick Laboratory  
Princeton University

Dinner at 6:45 PM  
Prospect House  
Princeton University

The number of major oil spills in the sea has declined over the last decade, but tools are still needed to respond when accidents occur. Physical collection remains the preferred option, but any oil that is not collected will remain in the environment until it is removed by combustion, photo oxidation or biodegradation. Biodegradation is by far the most important of these, and stimulating it with bioremediation protocols is an important part of response technology.

This talk will discuss how oil-dispersants and fertilizers are used as part of an environmentally appropriate response to oil spilled at sea, drawing on experiences from laboratory studies, field experiments and real incidents. 

## Dinner Reservations

Lectures are free and open to the public. The cost of dinner is \$20 per person, including wine (students and retirees, \$10). Reservations are necessary to attend dinner, but not necessary for the lecture. For dinner reservations, please contact Denise D'Auria at (609) 258-5202, [denised@princeton.edu](mailto:denised@princeton.edu). Dinner reservations must be made by Tuesday, May 21<sup>st</sup> for the May meeting and Wednesday, June 12<sup>th</sup> for the June meeting. Please call to cancel your reservations if you cannot attend. **NO-SHOWS WILL BE BILLED FOR THE COST OF THEIR DINNER.** 

on natural processes, but they can be aided along. On Tuesday May 28<sup>th</sup>, Roger Prince from Exxon Mobile, an expert in the field, will speak to us on "Bioremediation of Marine Oil Spills".

The June ACS meeting, the last before our summer recess, will be held on Wednesday, June 19<sup>th</sup>. Nicolas Kuzma for the Princeton Physics department will speak to us on "Novel applications of xenon NMR: Prospects and challenges of hyperpolarized Xe-129". Back towards our path to Nirvana ...

In the next newsletter you will find a preliminary program for the Mid-Atlantic Regional Meeting of the American Chemical Society (MARM 2003). The meeting will be held on June 8 – 10, 2003, at Princeton University. Mark your calendars, and we will keep you posted. ☐

## REPORT TO ACS COUNCIL

Report to Council  
Committee on Local Section Activities  
Orlando, FL  
April 10, 2002

Mr. President and Fellow Councilors:

The Local Section Activities Committee (LSAC) would like to recognize the eight local sections celebrating anniversaries in 2002 by asking their Councilors to stand. Please hold your applause until all sections have been recognized.

Celebrating their 25th anniversary: Rock River. Celebrating 50 years: Idaho, Inland Northwest, and the North Alabama local sections. Celebrating their 75th anniversary: Kanawha Valley, Princeton and South Carolina. Celebrating 100 years: the Cornell local section. Please join me in applauding these sections and their Councilors.

LSAC hosts Leadership Conferences to provide training and support for incoming local section officers. Last fall LSAC hosted a pilot, two-day follow-up conference in Nashville for 57 new chairs to provide these officers with additional strategies and techniques.

The conference was videotaped and an E-seminar was launched in March and is now available on chemistry.org. (chemistry.org/localsections/eseminar.html; user name: localsection, password: eseminar) The seminar consists of 10 sessions delivered at the Nashville conference. Each session is presented in text format, along with video clips of speakers and links with related resources. This seminar is intended to serve as an introductory as well as refresher course for leaders and potential leaders of local sections.

An external consulting firm was hired to collect and analyze conference impact data. The Nashville conference attendees rated the conference a 4.63 on a 5.0 scale. Because the conference was an overwhelming success, LSAC will host both spring and fall conferences annually, beginning in

2003.

The Speaker Service seeks new tour speakers, especially women and industrial members. Contact the Office of Local Section Activities for information.

LSAC currently has four working subcommittees.

The Subcommittee on Future Local Sections and Leaders is focusing on local section/division collaboration. Additionally, the subcommittee supports local sections via the Local Section Officers Listserve and is enhancing the "Top Program Ideas" web page.

The Awards and Recognition Subcommittee reviewed nominations and selected winners for four LSAC awards to be given in Boston. The subcommittee reviewed survey results in an effort to better understand the extent of recognition activities by local sections.

Eighty-seven percent of the local section annual reports received to date were submitted through SOLAR, the Submit On-line Annual Reports system. The Subcommittee on Technology, Tools and 6 this year, the annual report review process will be online as well.

Also new this year, local sections were invited to file an EZ report form, provided they did not want to be considered for a Local Section Outstanding Performance Award. Of the annual reports received to date, approximately 50% of the local sections filed the EZ form.

The Local Section Assistance & Development Subcommittee provides assistance and support to local sections. LSAC members contact local sections through the peer communication program to offer support and discuss key issues.

The National Chemistry Week Task Force announces the theme for NCW-2002 as "Chemistry Keeps Us Clean" for the week of Oct. 20-26th. Activities and publications on the chemistry of soaps, detergents and other cleaning products will be available at the Boston national meeting. The theme for 2003 will be based on the chemistry of the atmosphere.

LSAC and DAC met jointly to discuss the "Petition for Local Section and Division Support". LSAC voted to support the petition, provided petitioners amend the petition to include placing a limit on the range of distribution of moneys.

I now invite your attention to pages 82 and 83 of the Council agenda book and the petition for change in section territory. LSAC recommends approval of the petition for change in the Minnesota Local Section territory. CPC concurs, and I so move.

Mr. President and Members of Council, this completes my report.

Yorke E. Rhodes,  
Chair Local Section Activities Committee  
(Submitted for newsletter by Barbara Lences) ☐

## June Meeting

**Speaker:** Dr. Nicholas Kuzma  
Department of Physics  
Princeton University  
P O Box 708  
Princeton, NJ 08544-0708 USA  
Phone: 609-258-4372 ext. 2  
Email: kuzma@princeton.edu

**Topic:** Novel Applications of Xenon NMR:  
Prospects and challenges of  
Hyperpolarized  $^{129}\text{Xe}$

**Date:** Wednesday, June 19th  
Lecture at 5:30 PM  
Room 324, Frick Laboratory  
Princeton University  
  
Dinner at 6:45 PM  
Prospect House  
Princeton University

### Abstract:

A brief overview of the past 40 years of Xenon NMR measurements (relaxation and chemical shift) will be followed by several examples of recent applications in which hyperpolarized xenon is used for lung imaging, surface studies, material science, and to enhance NMR signals of other nuclear species. Details of optical pumping and cryogenic separation techniques will be outlined, as well as some current challenges faced by the researchers in the field. Our most recent studies focused on the mechanisms of  $^{129}\text{Xe}$  polarization losses during the cryogenic separation, namely on measuring longitudinal relaxation times  $T_1$  in pure xenon ice of both natural abundance and in isotopically-enriched samples. At temperatures below 120K and fields above 500 Gauss, the relaxation rate  $1/T_1$  is field- and abundance-independent, consistent with the model of  $^{129}\text{Xe}$  spin-flip Raman scattering of phonons [1]. Above 120K, modulation of the dipole-dipole interaction by vacancy diffusion begins to dominate the relaxation. As a result,  $T_1$  of solid  $^{129}\text{Xe}$  near the melting point depends strongly on the magnetic field and on the isotopic abundance of both  $^{129}\text{Xe}$  and  $^{131}\text{Xe}$ . The relaxation times can be as short as several seconds, leading to potential difficulties in cryogenic applications of hyperpolarized  $^{129}\text{Xe}$ . Over the temperature range from 50K to 161K, the experimental data are in excellent agreement with theoretical predictions (no adjustable parameters) of the combined effects of Raman scattering of phonons [1] and vacancy diffusion [2].

[1] R. J. Fitzgerald *et al.*, Phys. Rev. B **59**, 8795 (1999).

[2] C. A. Sholl, J. Phys. C **21**, 319 (1988). ■

## BENEFITS OF MEMBERSHIP IN ACS

### CAREER WORKSHOP

**PLACE:** RIDER UNIVERSITY

**TIME:** THURSDAY, JUNE 13 AT 5 PM

All are welcome and encouraged to attend.

The Trenton ACS under Director Donna Baseline is hosting for the 1<sup>st</sup> time, at a cost to the Section, professionals from the national ACS for one night only, Thurs., June 13<sup>th</sup> at 5 pm in the Fireside Lounge of the Rider Student Center. There's a career workshop for the chance to review a few resumes'.

Please promote this event thoroughly to your students and colleagues. Being in science is helpful, but friends, family and others looking for a new position will not be turned away. Just \$10 at the door, or \$5 if you pre-register as an ACS member (of any Section) or are a student (donna@dbkonline.com). Admission includes pizza!

### VACATION SEASON IS COMING...

#### National Car Rental

Your membership in the American Chemical Society allows you to receive up to 15 percent OFF of your next auto rental with National Car Rental. Present your membership card and/or a program discount coupon and mention discount #523021 to receive this reduced rate. Feel free to utilize this benefit whether for business or pleasure. For reservations, call National Car Rental at 1-800-227-7368 (U.S), or 1-800-227-3876 (Non-US).

#### NEW NEW NEW Benefit for You!!

The American Chemical Society announces its newest benefit for you the member. We are excited that we can offer you discounts on your next stay at any of the following hotels; Ameri-Host, Days Inn, Knights Inn, Ramada Inn, Travelodge, Villager and Wingate Hotels. Take a minute and call 1-877-670-7088 to make your reservation, or call the hotel directly, mention the Society's discount #62871 and receive up to 20 percent off your next visit at any of the previously mentioned hotels.

NATIONAL CHEMISTRY WEEK  
2002

KITTY WAGNER

Please mark your calendars for National Chemistry Week, October 20-26, 2002. This year's theme is "**Chemistry Keeps Us Clean.**" We are planning to have an open house at Princeton, with hands-on activities for community children and their parents, on the evening of Friday, October 25. Our NCW open houses in 2000 and 2001 were fun for everyone, thanks to the efforts of our wonderful volunteers. If you can help on October 25, or if you have a favorite activity to suggest, please contact Kitty Wagner, kmwagner@princeton.edu, or by phone 609-258-2937.



Princeton Section ACS

Department of Chemistry  
Princeton University  
Princeton, NJ 08544-1009

ADDRESS CORRECTION REQUESTED

2002 OFFICERS / COMMITTEE CHAIRS

**Chair:**

Marcel Nooijen  
Princeton University  
(609) 258-3168  
nooijen@princeton.edu

**Secretary / Treasurer:**

Istvan Pelczer  
Princeton University  
(609) 258-2342  
ipelczer@princeton.edu

**Chair-Elect:**

Michael E. Condon  
Woodbridge & Associates, P. C  
(609) 924-3773 x218  
mcondon@njiplaw.com

**Councilor:**

Barbara Lences  
Wyeth-Ayerst Research  
(732) 274-4678  
lencesb@war.wyeth.com

**Councilor:**

Rob L'Esperance  
Princeton University  
(609) 258-1307  
rpl@princeton.edu

**Alt. Councilor:**

Sharon Sibilia  
(609) 520-1288  
sibilia@erols.com

**Alt. Councilor:**

Kathryn Wagner  
Princeton University  
(609) 258-2937  
kmwagner@princeton.edu

**Newsletter Ed.:**

Danielle Crammer  
Firmenich, Inc.  
(609) 452-1000 ext. 1531  
danielle.crammer@firmenich.com

**Webmaster:**

Jonathan Chun  
FMC Corp.  
(609) 951-3145  
jonathan\_chun@fmc.com

**Education:**

Andrew Bocarsly  
Princeton University  
(609) 258-3888  
bocarsly@princeton.edu

US POSTAGE