



## Dinner Meeting, MMI Course Feature Dr. James E. Mark



*Dr. James E. Mark, 2001 Turner Alfrey Visiting Professor, will speak at an SPE/ACS/AIChE dinner meeting and offer a course in May on "Rubberlike Elasticity," pages 3-5.*

# THE MIDLAND CHEMIST

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*Chair Column*

## Dinner with Camp Successful, Informative

**E**ighteen people were in attendance for the dinner with, and talk by, U.S. Representative Dave Camp on February 21 at the Valley Plaza Convention Center. It was a most enjoyable evening. My most sincere congratulations to Walt Rupperecht (Chair, Government Affairs Committee) and Pat Cannady (Program Chair) for developing a great program. Those of you out there who could have gone, but didn't, should feel pangs of regret for missing the event.



George Eastland, Chair  
ACS Midland Section

And, speaking of Dave Camp...this news will be old news by the time the *Midland Chemist* hits your desk, but some of you may have missed it, so...Dave Camp has been named a recipient of the *NAM Award for Manufacturing Legislative Excellence*. The award acknowledges Rep. Camp's solid support for NAM's pro-manufacturing, pro-growth agenda. (Those last two sentences taken from the announcement of the award, sent by Arnold Allemang, Executive Vice President, The Dow Chemical Company, and Gary Anderson, President and CEO, Dow Corning Corporation.) The Dow Chemical Company had a reception on Monday, March 12, at the 47 Building Cafeteria, to honor Rep. Camp's efforts. I'd like to take this opportunity to offer my (belated) congratulations to Rep. Camp for his award. It is, I'm sure, very well deserved. We are fortunate to have individuals such as Rep. Camp represent us in Congress.

Did you know that ACS has a site called the "Virtual Campus"? Just go to <http://www.acs.org/>. Under "Build Your Career" click on "continuing education" and then "internet courses." From there you can enroll in the Virtual Campus. They list six courses currently available. Each charges a fee. The courses are as follows:

1. **Basic Statistical Analysis of Laboratory Data.** This course consists of four parts, with a total of fifteen modules. The total charge is \$395 (for ACS members), and each part costs \$115.
2. **Chemistry for the Non-Chemist.** This one is specifically designed for people who work in the chemical industry but who are not chemists. There are two parts—the first addressing atoms and molecules, and the second addressing organic and polymer chemistry. Each part costs \$95.
3. **Chemistry Laboratory Calculations.** This course has six parts, at \$25 per section. The first two parts consider elementary math/science con-

cepts. The next three examine equilibrium concepts, and the last thermochemistry and electrochemistry.

4. **Computer Desktop Applications.** For \$95 apiece, you will get tutorials in Access 97, Excel 97, Powerpoint 97, and/or Word 97.
5. **Introduction to Gas Chromatography.** The cost is \$395. This course makes use of animation and interactive exercises and includes on-line testing.
6. **Laboratory and Industrial Safety.** The cost here is \$95 per section, and there are a number of sections, including Fire Prevention and Safety, OSHA Fire Prevention Release 2, OSHA Flammable and Combustible Liquids, and others.

Take a look—you might well find something that will be very useful to you. They seem to me, anyway, to be reasonably priced. You can work at your own speed, and you don't have to put up with nasty, grumpy profs like me.

Finally, for the academic chemist, I note that ACS runs "Chemistry in Context" workshops. The 2001 workshop is June 17–19, at the University of Oregon. The workshop provides an overview of the chemistry content, sample activities, laboratory experiments, and suggested assessment techniques in support of the philosophy that the CiC textbook employs. Here at SVSU we have, in the past, used the CiC book for our Natural Science (Chemistry) course.



	<ul style="list-style-type: none"><li>• <b>Failure Analysis</b></li><li>• <b>Competitive Product Analysis</b></li><li>• <b>Additive Analysis</b></li><li>• <b>Color Body Identification</b></li><li>• <b>Taste &amp; Odor Analysis</b></li><li>• <b>Consulting Services</b></li></ul> <p>1910 W. St. Andrews Rd., Midland MI 48640 Phone: 517-832-5555 Fax: 517-832-5560 info@impactanalytical.com www.impactanalytical.com</p>
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## Prof. Mark Discusses Technology of Elasticity

*By Steve Keinath*

**D**r. James E. Mark, University of Cincinnati, will be featured at a technical society dinner meeting sponsored by SPE, ACS, and AIChE on May 1. Dr. Mark will be presenting "The Importance and Technical Status of Rubberlike Elasticity." A social hour and dinner will precede the presentation.

**Abstract:** The phenomenon of rubberlike elasticity is significant to the development of new elastomers and thermoplastic olefin (TPO) materials. The performance of products as diverse as rubbers, adhesives, and even molded parts owe their critical behavior to this important characteristic. Topics to be discussed in this presentation include simplified routes to thermoplastic elastomers, strain-induced crystallization, novel fillers, gel collapse, biomimicry, the biosynthesis of natural rubber, and stress-strain isotherms measured on single polymer chains. Historical high points, current status, and future directions in this field will be discussed with regard to materials, experimental techniques, and theory and simulations. In addition, some unsolved materials problems will be discussed along with projections about future directions and applications.

**Presenter:** Professor James E. Mark, Distinguished Research Professor, Department of Chemistry and Polymer Research Center, University of Cincinnati, and 2001 MMI Turner Alfrey Visiting Professor.

**Date:** Tuesday, May 1, 2001

**Time:** Social 6:00 p.m.

Dinner 6:30 p.m.

Program 7:30 p.m.

**Location:** NADA Center, Northwood University, 4000 Whiting Drive, Midland, MI 48640 517-835-7755

**Cost:** \$23.00 for SPE, ACS, and AIChE members with reservations

\$13.00 for SPE, ACS, and AIChE student members with reservations

\$15.00 for other students with reservations

\$25.00 for others or SPE, ACS, and AIChE members without reservations

**Reservations:** Reservations can be made via phone, fax, or e-mail to Randi Merrington at MMI. They must be received no later than Monday, April 23, 2001.

Phone: 517-832-5555, ext. 555

Fax: 517-832-5560

E-mail: [merringtonr@mmi.org](mailto:merringtonr@mmi.org)

## Alfrey Visiting Professor/Course Announced

By Steve Keinath

Professor James E. Mark of the University of Cincinnati is the 2001 Turner Alfrey Visiting Professor at Michigan Molecular Institute. Professor Mark will offer a course that surveys elastomers and the elastomeric behavior they exhibit. Specific topics will include:

- General concepts
- Cross-linking techniques
- Elasticity of a single chain
- Simplest statistical theories
- Refinements to the simplest theories
- Thermodynamics of elastic deformations
- Typical experimental techniques
- Comparisons between theory and experiment
- Ultimate properties
- Non-Gaussian theory
- Swelling and swelling equilibrium
- Network extraction studies
- Filled elastomers



Emphasis will be on important physical concepts and interpretations (strengthened by analogies with more familiar systems whenever possible), rather than rigorous derivations and mathematical complexity. Also included will be worked problems, discussion of major unsolved issues, and an extensive bibliography to this area of polymer science.

### Course 1028: Rubberlike Elasticity

**Lecturer:** Professor James E. Mark, Distinguished Research Professor, Department of Chemistry, University of Cincinnati

**Location:** Lecture Hall (Room 101), Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, MI 48640

**Time:** Formal lectures: Monday–Friday, May 7–11, 2001, 3:00–6:00 p.m.

**Fee:** There is no fee for auditors if they belong to organizations participating in the Turner Alfrey Visiting Professorship Program: Dow Chemical, Dow Corning, Saginaw Valley State University, Central Michigan University, Michigan State University, and the Mid-Michigan Chapter of the SPE. For all others, a course fee of \$250 will be required at registration. *All participants, however, must register.*

**Registration:** Pre-registration is required one week in advance with the registrar in writing or by calling (517) 832-5555, ext. 555.

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## Professor James E. Mark

Professor Mark joined the University of Cincinnati in 1977 as Professor of Chemistry and was named the first Distinguished Research Professor of the university in 1987. He also held positions as Director or Co-Director of the Polymer Research Center (1977-1993) and Chairman of the Physical Chemistry Division (1977-1984) at the University of Cincinnati. He began his academic career at the Polytechnic Institute of Brooklyn as Assistant Professor of Chemistry (1964-1967). He then joined the University of Michigan where he rose through the ranks from Assistant Professor to Professor of Chemistry (1967-1977).

His educational background includes a B.S. degree in chemistry from Wilkes College in 1957, a Ph.D. degree in physical chemistry from the University of Pennsylvania (Philadelphia) in 1962, and postdoctoral experience with P.J. Flory at Stanford University over the period 1962-1964.

Professor Mark has been the recipient of numerous honors and awards. Among these are the George Stafford Whitby Award from the ACS Rubber Division (1991), ACS Award in Applied Polymer Science (1994), Charles Goodyear Medal from the ACS Rubber Division (1999), and the Paul J. Flory Polymer Education Award from the ACS Division of Polymer Chemistry (2000). He also has received a number of distinguished teaching, research, and faculty scholarship awards during his tenure at the University of Cincinnati.

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## Call for 2002 Officer Candidates

**H**ere's your chance to become more involved in your local ACS Section! We need candidates to run for the following positions for 2002.

### One-Year Terms

Chair-Elect  
Secretary  
Treasurer  
Chair, Nominations & Elections

### Three-Year Terms

Councilor  
Alternate Councilor  
Directors (3 positions open)

If you are interested in running for any of these positions or know someone who might be interested, please contact Steve Keinath at 517-832-5555, ext. 588, or via e-mail at [skeinath@mmi.org](mailto:skeinath@mmi.org). If you have any questions regarding these positions, you can contact the current officers. They are listed along with their phone numbers, e-mail addresses, etc., on the Midland Section ACS website at <http://membership.acs.org/M/Midl/Leaders.htm>. You can also look up the job descriptions for these positions on the Midland Section ACS Website at <http://membership.acs.org/M/Midl/JobDes.htm>.

## What's Happening with MMTG

By Phyllis Anderson

**H**ello again from the Mid-Michigan Technician Group (MMTG). I just wanted to take the opportunity to keep you informed about what we are doing and what we have planned for the next few weeks. We have written a brochure describing MMTG and the benefits associated with belonging to a national technologist's group. It is ready to go to the printer and will be ready for distribution at our local and national meetings. We are also having a "contest" for a lapel pin design. The winner will be chosen at the April MMTG meeting. We will then have the design made into lapel pins for distribution at national and local events.

We held our first social event on March 12, 2001, at the planetarium in Bay City. On May 30, John Fortman, an ACS tour speaker, will give his presentation on the "Serious and Delirious Use of Chemistry in the Movies." The meeting will be held during lunch time at a Dow Chemical facility. We have heard this is an excellent presentation and are looking forward to learning a new application of chemistry. For more information on any of these programs, please contact Phyllis Anderson by phone at 517-638-6006 or by e-mail at [pkanderson@dow.com](mailto:pkanderson@dow.com).

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# Tenth Annual Spring Science Education Recognition Dinner

## Salute to Excellence—Places of Chemistry

Wednesday, April 25, 2001

6:00 p.m. to 9:00 p.m.

Hall of Ideas, Midland Center for the Arts

1801 West St. Andrews

Midland, Michigan

Program:

6:00 p.m.	Reception
7:00 p.m.	Buffet Dinner
8:00 p.m.	Awards Presentations

**T**eachers and students will be honored for outstanding achievements in

science education at the 2001 Recognition Dinner. The Midland Section's Science Literacy Committee will recognize important places in chemistry as part of ACS's Salute to Excellence. Attendees can tour the Hall of Ideas museum and Center for the Arts exhibits prior to dinner.

The cost of the dinner is \$15.00 per person and includes appetizers, dinner, dessert, and beverage.

Please respond by mail using the form below. Your dinner reservation request must be received by April 11, 2001. You may also register by fax (517-774-3883) or e-mail (p.squatrito@cmich.edu) and pay at the door. The Center for the Arts is located off of Eastman Avenue between M-20 and Saginaw Road. This event is co-sponsored by the Midland Section of the American Chemical Society (underwritten by grants from The Dow Chemical Company and Dow Corning Corporation) and the Hall of Ideas. For further information, contact Phil Squatrito at 517-774-4407.

*To reserve your place, return this form with payment by **April 11, 2001** to Phil Squatrito, Department of Chemistry, Central Michigan University, Mt. Pleasant, MI 48859.*

Name(s): \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

Phone/Email: \_\_\_\_\_ ACS member? Y N

Enclose payment of \$15.00 per person. Checks should be payable to

“Midland Section ACS”

### Call for Nominations

## Salutes to Excellence Program Recognizes Positive Impacts of Chemistry

By Karol Childs

The Salutes to Excellence program is sponsored by the American Chemical Society. It provides an opportunity to recognize the contribution of Places of Chemistry, People of Chemistry, and Products of Chemistry within the five-county area of the Midland Section (Isabella, Midland, Bay, Saginaw, and Gratiot). There will be three events to honor the recipients of the Salutes awards.

We invite you to nominate places, people, and products for this recognition. Please include in your nomination:

- Your name, phone number, e-mail, and postal addresses
- Place/person/product's address and phone number
- Particular achievement being recognized

The deadlines for remaining nominations are as follows:

- Practitioners of Chemistry    June 1
- Products of Chemistry        September 1

Send nominations to Karol Childs at [childs@mcfta.org](mailto:childs@mcfta.org), 517-631-5930 X1215, or Gretchen Kohl at [gretchen.kohl@dowcorning.com](mailto:gretchen.kohl@dowcorning.com), 517-496-8200.

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## New ACS Publication Now Available

The ACS publication *Nano Letters* reports on fundamental research in all branches of the theory and practice of nanoscience and nanotechnology. It will provide rapid disclosure of the key elements of a study, publishing preliminary, experimental, and theoretical results on the physical, chemical, and biological phenomena, processes, and applications of structures within the nanoscale range.

Areas of interest include:

- Synthesis and processing of organic, inorganic, and hybrid nanosized materials by physical, chemical, and biological methods
- Modeling and simulation of synthetic, assembly, and interaction processes
- Characterization of unique size properties
- Realization and application of novel nanostructures and nanodevices

Web access to *Nano Letters* is free through June 30, 2001 (<http://pubs.acs.org/journals/nalefd/index.html>).

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## The Next Big Thing is Small

*By Phyllis Sabin*

**K**hakis that stay dry in the rain! Chemically synthesize a computer! Use DNA to power a primitive robot to track down and destroy cancer cells! Suddenly the subject of “nano” has catapulted into the public limelight. What once seemed like science fiction is now looking more and more like science. Dr. James R. Heath, Professor, Department of Chemistry and Biochemistry at UCLA transforms “nanotech” from sci-fi fantasy into a real world understanding of promise and potential.

MATRIX:MIDLAND Festival presents “Nanoscience, Nanotechnology, and Molecular Electronics” on Thursday, May 31, 2001 at 7:30 p.m. in the Midland Center for the Arts Little Theatre.

Tickets will go on sale at the Midland Center for the Arts Box Office for Dr. Heath’s presentation of “Nanoscience, Nanotechnology, and Molecular Electronics” on April 5, 2001. Admission is \$15 for adults and \$10 for students. Group discounts are available for groups of 10 or more. For additional information and to purchase tickets, contact the MCFTA Box Office at (517) 631-8250 or (800) 523-7649.



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## Important Dates on the ACS Midland Section Calendar

- April 9 Midland Section board meeting, Delta College, Midland, Room 12, 7:00 p.m.
- April 11 Deadline for registration for Spring Science Education Recognition Dinner (Phil Squatrito, 517-774-4407)
- April 23 Rep. Sandra Caul, "Funding for Higher Education in Michigan," sponsored by Midland Section ACS and Central Michigan University, Dow 175, 4:00 p.m., reception preceding in Dow 264 (Bob Howell, 517-774-3582)
- April 23 Deadline for reservations for SPE/ACS/AIChE dinner meeting on May 1 (Randi Merrington, 517-832-5555, ext. 555)
- April 25 Spring Science Education Recognition Dinner, Hall of Ideas, Midland Center for the Arts, 6:00 p.m.-9:00 p.m. (Phil Squatrito, 517-774-4407)
- May 1 Dr. James E. Mark, "The Importance and Technical Status of Rubberlike Elasticity," NADA Center, Northwood University, 6:00 p.m. (Randi Merrington, 517-832-5555, ext. 555)
- May 7 Midland Section board meeting, Delta College, University Center, D135, 7:00 p.m.
- May 7 Deadline for June issue of *The Midland Chemist*
- May 7-11 Dr. James E. Mark, "Rubberlike Elasticity," Michigan Molecular Institute (517-832-5555, ext. 555)
- May 30 John Fortman, "Serious and Delirious Use of Chemistry in the Movies," MMTG (Phyllis Anderson, 517-638-6006)
- May 31 Dr. James R. Heath, "Nanoscience, Nanotechnology, and Molecular Electronics," Midland Center for the Arts, 7:30 p.m. (MCF TA Box Office, 517-631-8250)

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### AMERICAN CHEMICAL SOCIETY

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