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ACS MARYLAND SECTION



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Unfortunately, no one can hold back the course of time. While November 1997 may seem like a long way off, now is the time to submit your abstracts for papers to be presented in 1997

**Call for Papers
Deadline: April 15, 1997**

The 1997 EAS will be held November 16 - 21, 1997 at the Garden State Convention Center and the DoubleTree Hotel in Somerset, New Jersey. In 1997, we hope to maintain the increased number of contributed papers submitted in 1996.

You can be part of the 1997 EAS. We solicit your contributions for consideration by the Program Committee. Papers in all areas of the analytical and allied sciences are welcome. If you have attended EAS in the past, you are aware of the wide range of papers which are welcome at EAS. If you have never attended EAS, but work in the general area of analytical chemistry and the allied sciences, we welcome you to come aboard. You will be surprised to see how many of your colleagues attend EAS every year.

Please submit a 200 to 250 word abstract of the proposed paper, indicating your preference for either oral or poster format to: Program Committee, P.O. Box 633, Montchanin, DE, 19710-0633 U.S.A. If the paper is accepted, the title and author(s) will be considered final. The deadline for receipt of preliminary abstracts is April 15, 1997. We do not require a special form for submission of the preliminary abstract, but please type your submission.

While you may not still have a typewriter, you are probably connected to the electronic superhighway.

You may FAX your abstract to the EAS FAXLINE (302-738-5275), or submit it as an electronic file in any major word processing format via our Bulletin Board (302-738-5968) or our Web site; please include the name of the word processor in the file description when downloading to our BBS. In May 1997, authors of proposed papers will be notified regarding the acceptance of their paper.



EAS FACTS IN BRIEF: EAS is a non-profit [501(c)(3)] scientific organization run totally by volunteer scientists. EAS is proudly sponsored by the Analytical Division and the North Jersey and New York Sections of the American Chemical Society; the American Microchemical Society; the Chromatography Forum of the Delaware Valley; the New York Microscopical Society; and the Delaware Valley, New England, and New York Sections of the Society for Applied Spectroscopy. The 1996 EAS attracted 5000 attendees and included over 640 Technical Papers, 14 CONFERENCES-IN-MINIATURE, 23 EAS Short Courses, 24 EAS Exhibitor Workshops, 9 Seminars, 9 Tutorials, and 318 exhibit booths. In 1997, we expect the advance Registration fee to remain at a low \$65. For more information, call the EAS HOTLINE (302-738-6218), send a FAX to the EAS FAXLINE (302-738-5275), send e-mail to EASINFO@AOL.COM, or write to EAS, P.O. Box 633, Montchanin, DE 19710-0633. EAS also maintains a Home Page on the Internet at the URL: "http://www.eas.org/~easweb/".

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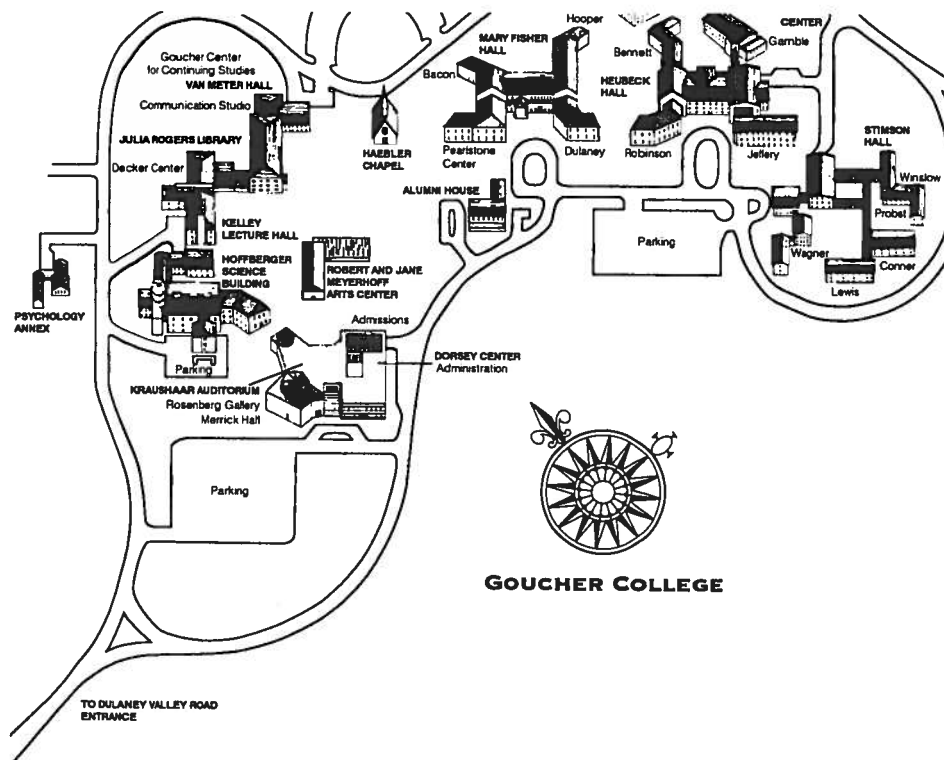


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GOUCHER COLLEGE

Over the course of its 111-year history, Goucher College has crafted a strong reputation in the sciences. Founded as the Woman's College of Baltimore City, Goucher established the first department of physiology and hygiene in any women's college in the country and saw its graduates enroll in the first classes of the Johns Hopkins Medical School. Today, faculty-student research projects, laboratories furnished with state-of-the-art equipment, such as a new Nuclear Magnetic Resonance spectrometer, and the large proportion of graduates who pursue advanced and professional degrees in the sciences all attest to Goucher's continuing commitment to science education.

Goucher is now home to approximately 1,000 undergraduate and 300 graduate male and female students. Located in Towson, MD, just eight miles north of downtown Baltimore and about an hour's drive from Washington, DC, the college offers majors in 18 departments and five interdisciplinary areas; master's degrees are awarded in education, teaching, creative non-fiction and historic preservation. All students receive a solid liberal arts background, which demands writing and computer proficiency as well as critical thinking skills.

Learning outside the classroom is a hallmark of a Goucher education. Whatever their course of study, all students must complete an off-campus experience -- either in the form of an internship, study abroad program or independent study. For science students, especially, this requirement affords them the chance to conduct independent research and present papers. Students also have opportunities to do internships in industry, thus gaining valuable work experience. Goucher's chemistry department has an ACS-certified program and each faculty member combines teaching with research, routinely involving students in that research.



Pictured with Esther Gibbs, professor of chemistry at Goucher College (far right), are her students and research assistants Oskar Vafek '98 and Tammy Keesey '97

- photo by McAllen Photography

MICHAEL F. SUMMERS

Michael F. Summers received his Ph.D. degree in 1984 from Emory University and was a postdoctoral fellow at the NIH from 1984-1987.

He joined the faculty at the University of Maryland Baltimore County as an Assistant Professor in 1987, and was promoted to Associate Professor in 1991 and to Professor in 1996. In 1994 he was appointed an Associate Investigator with the Howard Hughes Medical Institute. He has received several awards for his work regarding the structural biology of the AIDS virus, including the Protein Society (DuPont-Merck) Young Investigator Award (1996), the Maryland Distinguished Young Scientist Award (1996, 1994), the Eastern Analytical Symposium Presentation Award for Advances in NMR (1994), and the University of West Florida Distinguished Alumnus Award (1994). He served regularly as a member of the NIH Reviewers Reserve from 1990-1995, and is currently a regular member of NIH Study Section BBCA. He is also a member of the editorial advisory boards of Protein Science (beginning in 1997) and the Journal of Biological Inorganic Chemistry, and is Chair of the Advisory Council for the National Magnetic Resonance Facility at Madison. He is well-known for his involvement of minority undergraduate students in his research, and his recent papers describing the structures of the HIV-1 matrix (J. Mol. Biol., 1994) and capsid (Science, 1996) proteins included African-American undergraduate students as co-authors.

Dr. Summers has made major contributions to the understanding of the three-dimensional structures and functions of HIV-1 proteins and to the development of potential new therapeutic approaches for the treatment of AIDS. Of the six viral proteins that have been structurally characterized to date, three were solved in Dr. Summers' laboratory. His group was the first to determine the 3D structure of the HIV-1 nucleocapsid (NC) protein, the first to report the correct 3D structures of the HIV-1 and HTLV-II matrix (MA) proteins, and the first to provide 3D structural information for the HIV-1 capsid (CA) protein. All of these studies were conducted using nuclear magnetic resonance methods that he is helping to develop. He also provided key information to crystallographers at Purdue and helped solve the structure of the HIV-1 CA protein by X-ray crystallography.

WORKSHOPS

A group of parallel workshops on analytical techniques, especially instrument techniques, is planned. Some of the scheduled speakers and subjects are:

Linda Kidder of NIH's Laboratory of Chemical Physics on "Raman Spectroscopy Techniques"

Elizabeth M. Calvey of FDA's Center for Food Safety and Applied Nutrition on "Pressurized Fluid Extractions"

Agnes Holmes of Guilford Pharmaceuticals on "NMR Techniques for Structural Analysis"

Please contact Mike Zapf to register for these workshops or to obtain more information (by phone, e-mail or fax):

Phone (410) 771-7471
E-mail mike_zapf.mccormick.ex_comm@notes.compuserve.com

Our February meeting at Goucher College has been dovetailed with Goucher's introduction of its new NMR instrument and a program appropriate to Goucher and to the occasion has been planned.

FEBRUARY MEETING

DATE & PLACE:

Tuesday, February 25, 1997
Goucher College
Dulaney Valley Road, Towson, MD
(0.2 mile inside beltway exit 27)

SCHEDULE:

4:30 Hoffberger Science Building
Ribbon cutting ceremony
"Introduction of the New 400 MHz Bruker Nuclear Magnetic Resonance Instrument"
Dr. Kristine Miller, Goucher

5:00 Kelley Hall
Dr. Michael F. Summers
Univ. of Md., Baltimore County
"NMR Studies of the HIV-1 Structural Proteins: Defining New Targets for Antiviral Strategies"

6:00 Hoffberger Science Building
Chemistry Department
Instrumentation/Techniques Workshops

7:15 Dinner: International Buffet

Dinner price is \$20.00 per person, but spouses and retired chemists may attend for \$18.00; Students may attend for \$10.00.

It is not necessary to be a member of the American Chemical Society to attend. You may attend the meeting without attending the dinner.

Dinner reservations should be made by mailing checks, payable to Maryland Section of ACS, to

Dr. Shirish Shah
College of Notre Dame
4701 North Charles Street
Baltimore, MD 21210

by February 18. Late reservations may be made by calling

(410) 532-5712

by February 20. Answering machine is available at this number.



DR. MICHAEL F. SUMMERS

NOTES FROM THE CHAIR

Four of our members participated in the national workshops. They are as follows: Alice Zeiger-Public Relations; Shirish Shah-Government Relations; Charles Rowell-Minority Affairs and Linh T. Cheong-Career Planning.

The training of Volunteers for Chemistry for Kids attracted 20 participants, and nine children. The volunteers carried out activities in four counties and Baltimore City, in the elementary schools, and at the Md. Science Center. We have several requests for 1997 from the schools and community groups.

TV Channel 13 aired ninety seconds featuring our National Chemistry Week activities at the Maryland Science Center.

NATIONAL CHEMISTRY WEEK 1996

The Maryland Section celebrated National Chemistry Week 1996 the week of November 11, 1996. Diversity and experimentation marked this year's celebration that saw outreach activities in area schools and libraries and the Maryland Science Center. Three of the activities summarized below have been submitted to the ACS for the Phoenix Award competition!

Issues in Gateway Chemistry Courses: A Symposium. Held at UMBC on Friday, November 8, this symposium kicked off our celebration of National Chemistry Week in Maryland. Nearly 150 educators (high school, community college and university) and chemical professionals dedicated a day to explore issues and opportunities in gateway chemistry courses. Representatives from NSF, ACS, and academe identified issues and emerging local and national trends in chemical education. That session concluded with two presentations detailing NSF sponsored reform projects in General Chemistry, emphasizing the *adopt and adapt* opportunity associated with these and four other NSF sponsored reform projects. Following a buffet luncheon and poster session, the afternoon session featured four parallel sessions where works aimed at reform and revitalization were described. It was a day of tremendous animation...it was clear that additional symposia of this type are needed to work these issues and opportunities! *Issues in Gateway Chemistry Courses* was nominated for a Phoenix Award.

Chemical Bonding Day. The objectives of *Chemical Bonding Day* are to expose teachers to the applied aspect of chemistry and to build a long lasting teacher-practitioner partnership to improve student learning of chemistry in the classroom. Toward those objectives, twenty-seven high school chemistry teachers from seven counties spent a day at one of nine area chemical companies. Teachers' experiences were diverse, including shadowing chemists through a typical day, touring a manufacturing plant and participating in informational sessions in many departments in a plant or technical center. One teacher accompanied a salesperson through a day of calls! To pursue the second program objective, a "reversible" *Chemical Bonding Day* is targeted for Spring, 1997 when the host and participating chemical practitioners will be invited to spend a day with the teachers to learn more about student learning of science and chemistry. Another highly valued and rated event...also nominated for a Phoenix Award.

Kids and Chemistry in Area Schools. Some 500 grade 4-6 children in elementary schools in Baltimore City and five county schools were visited by section members to practice hands-on, minds-on chemistry with *Kids and Chemistry* activities developed by ACS. Armed with supplies (and student laboratory notebooks!) chemists guided the students through an exploration of acids and bases in addition to their own innovations! Requests for more *Kids and Chemistry* visits at these and additional schools (word spreads fast) will keep the *Kids and Chemistry* team looking for and training more volunteers. Interested...contact Dr. Shirish Shah at the College of Notre Dame, 410-532-5712.

Chemical Demonstrations in Libraries. Seven branch libraries in Howard and Anne Arundel counties agreed to sponsor shows of chemical demonstrations in Celebration of National Chemistry Week. Patrons were treated to some fizz, boom and splash by our demonstrators; one group practiced developing food flavors by mixing spices!

Chemistry Day at the Maryland Science Center. The Maryland Science Center was the focal point to close the celebration of National Chemistry Week 1996 in Maryland. All of the resources of the Center, augmented by the Section's *Kids and Chemistry* team, contributed to a fun day described by one parent as the "best thing I've seen here in years...and I've been coming here for many years!" The Demonstration Stage featured $\frac{1}{2}$ hour chemical and science demonstrations throughout the day: liquid nitrogen, chemical reactions, the

chemistry of special effects...etc. Explainers roamed the Center with *Curiosity Carts* with hands-on exercises exploring the properties of water. Two major shows of *What's the Matter* chemical demonstrations highlighted the afternoon. All of the Center staff proudly wore the National Chemistry Week baseball caps and began their presentations by announcing the celebration of National Chemistry Week. Three tables of *Kids and Chemistry* activities were busy all afternoon. By day's end all supplies were exhausted. Children delighted in receiving stickers, key chains, pencils and beaker buddies as remembrances of *Kids and Chemistry* and National Chemistry Week! Of particular importance were the opportunities for many teachers and parents to see *Kids and Chemistry* in action and then ask if we could come to their school! *Chemistry Day at the Maryland Science Center* was our third nominee for a Phoenix Award.

Mark S. Greenberg

Local Sections on the World Wide Web

Fourteen local sections are now linked to the American Chemical Society's main site located at <http://www.acs.org>. They post information ranging from section officers and employment positions open in their communities, to the contents of their lending libraries, and section histories. As activity on the World Wide Web increases these chemical communities are offering an expanding variety of information in the area of chemical sciences.

Local sections provide the text of their newsletters as well. With universities and companies donating server space, many find this a cost effective way to reach section members. Meeting calendars only need to be published once, and members can check dates and locations at any time. By posting an active web site, sections not only inform their membership, but they provide resources for ACS members nationally as members from other sections visit their location.

To reach local sections through the main ACS web page press the "ACS at a Glance" icon, then from the main "ACS at a Glance" page you can select local sections.

The Office of Local Section Activities offers a web page template to interested sections. If you are willing to initiate a web page for the section, please contact a member of the Executive Committee.

Local Section Home Pages

Cincinnati Local Section - <http://www.che.uc.edu/~nauss/acs/cinacs.html>

Idaho Local Section - <http://www.srv.net/~acsid/ACS-ID/acs-id.html>

Louisiana Local Section <http://nola.src.usda.gov:8088>

Michigan State University Local Section - <http://slater.cem.msu.edu:80/~msuacs/>

Nashville Local Section - <http://www.tntech.edu/www/life/orgs/acs/index.html>

Northeast Oklahoma Local Section - <http://www.galstar.com/~dwhaus/neoacs.html>

Ole Miss Local Section - http://sunset.backbone.olemiss.edu/orgs/acs_local/

Red River Valley Local Section - <http://vax1.bemidji.msus.edu/~sorbent/redriver.html>

Savannah River Local Section - http://www.csr.net/acs_sr

Sierra Nevada Local Section - <http://www.chem.unr.edu/acs/index.html>

South Central Missouri Local Section - <http://www.chem.ums.edu/scms.acs.html>

Syracuse Local Section - http://www-chem.esf.edu/info/acs_indx.html

Virginia Blue Ridge Local Section - <http://www.chem.vt.edu/VBRS-ACS/VBRS-home.html>

University of New Mexico Local Section - <http://www.arc.unm.edu/~aroberts/art.html>

KNOW YOUR MARYLAND CHEMISTRY INSTITUTIONS

UMBC DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

The youngest of the campuses in the University of Maryland System, UMBC is celebrating its 30th anniversary in 1996-97. The campus occupies 500 wooded acres in Baltimore County and offers easy access to the numerous educational, cultural and scientific resources of Baltimore and Washington. More than 10,000 students are enrolled in undergraduate, graduate and post-doctoral studies. In fiscal 1996 the University awarded 63 Ph.D. and 318 Masters degrees, and competed successfully for \$36.5 million in external funding to support research. The University's programmatic emphasis is within selected areas of the sciences and engineering, mathematics, information and computer sciences and public policy. Undergraduates as well as graduate students are active participants in our research programs.

GRADUATE PROGRAMS - Graduate students in the Department of Chemistry and Biochemistry have the benefit of an active cross disciplinary research environment, where faculty members are readily accessible for guidance and advice. Our distinguished faculty trains students for the M.S. and Ph.D. in Chemistry, the M.S. and Ph.D. in Biochemistry, and the Ph.D. in Molecular and Cell Biology, in Toxicology, and in Marine and Estuarine Environmental Science. Research Fellowships and Teaching Assistantships are available to students admitted to these programs. The typical 12 month stipend is \$16,000 plus benefits and tuition remission. An NIH graduate training program supports under-represented students and an NSF graduate training program trains analytical students in an industry-university partnership. We take pride in supporting each graduate's transition to the workplace.

FACILITIES FOR RESEARCH AND INSTRUCTION - The Department houses state-of-the-art tools with which to carry out modern chemical and biochemical research. The wide range of specialized research equipment includes six nuclear magnetic resonance spectrometers (800, two 600, 500 and two 300 MHz);

five mass spectrometers (four-sector tandem, Fourier-transform, laser desorption time-of-flight, electrospray quadrupole and GC-MS); instrumentation of nanosecond and picosecond time-resolved laser spectroscopy; electron spin resonance, circular dichroism, and stopped-flow kinetic instruments; a radioactivity facility and cell culture facilities. The Center for Computational Chemistry is equipped for molecular modeling (Silicon Graphics platforms) and other computation-intensive studies, and all research groups have computers linked to the campus Computer Center and the Internet to serve their own needs. Animal facilities, glassblowing, machining and electrical shops are available on campus.

The Department is host to a laboratory of the Howard Hughes Medical Institute (Mike Summers) in which multidimensional NMR is used to study three-dimensional structures of proteins and metalloproteins, especially those from HIV; the Center for Structural Biochemistry (Catherine Fenselau), which supports interdisciplinary research into the structures of proteins and macromolecular complexes, especially those implicated in acquired drug resistance; the Laboratory for Chemical Dynamics (Ralph Pollack), the Laboratory for Analysis of Drugs and Metabolites (Bill LaCourse), and the Laboratory for Carbohydrate Structure (Allen Bush). Faculty are members of the UM Cancer Center, the Center on Marine Biotechnology and the Center for Advanced Research in Biopolymers. Students have access to the Imaging Research Center, the Center for Earth Systems Technology, the Center for Photonics Technology, and the Transgenic Plant Facility at UMBC.

The Department of Chemistry and Biochemistry, like UMBC as a whole, is committed to partnerships with business and industry, in UMBC's Start-Up Incubator, our Technology Center (formerly headquarters for Martin Marietta) and across the state and region. Ground will be broken for the UMBC Science Park in 1997.

FOR MORE INFORMATION - Inquiries concerning the Department of Chemistry and Biochemistry's undergraduate and graduate programs, admissions requirements, ongoing research, publications, presentations, seminars and plans for the future are welcome. Interested parties may contact the Department offices at (410) 455-2491 by telephone, or (410) 455-2608 by FAX. The Department also maintains a presence on the Internet's World Wide Web at www.umbc.edu/biochem/.

Submitted by C. Fenselau



Some of the graduates of Maryland institutions studying for Ph.D.s at UMBC: Joy Rogers (inorganic) Frostburg State; Mark Han (biochemistry) Johns Hopkins; Amanda Jenkins (physical) Salisbury State; George Owens (analytical) Johns Hopkins; Karla Somerville (organic) Morgan State.

1997 PROGRAM

As part of the Maryland Section's 1997 Program, we are seeking speakers who can make presentations to small groups of chemists about a popular chemical topic or technique. Please call Mike Zapf at (410) 771-7471.

E-MAIL ADDRESSES

Members who wish to be included on the Section e-mail address list to receive notification about events and Society matters should send their e-mail addresses to Diane Schmit at DMS@VM.CFSAN.FDA.GOV. Put "ACS e-mail list" in the subject line.

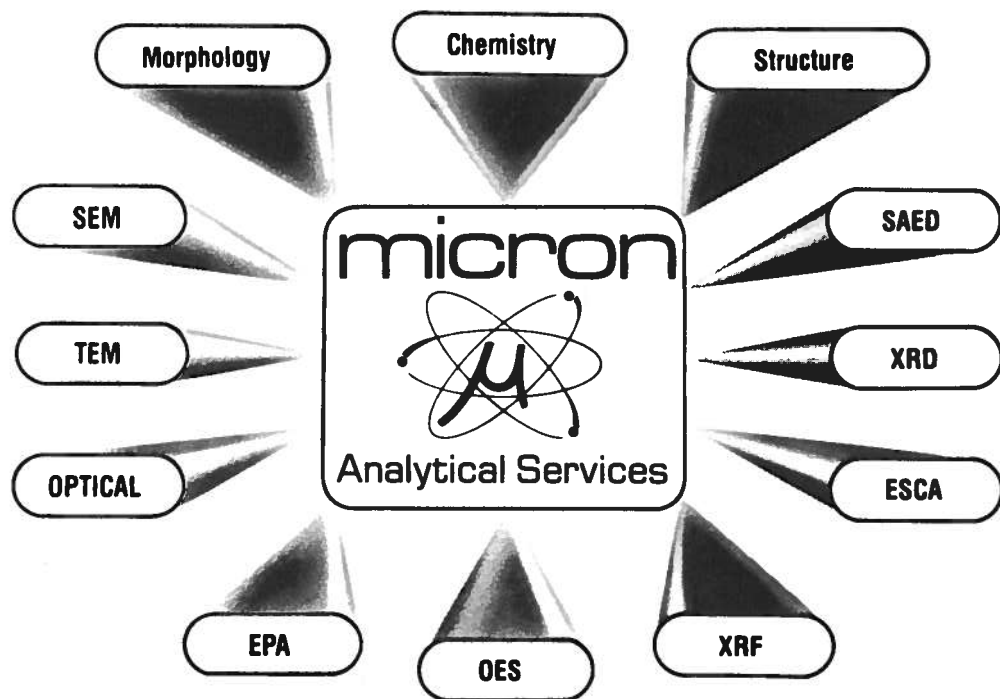
HELP WANTED

The Baltimore Science Fair at Towson State University and the Morgan State Science and Engineering Fair will both be held in March of 1997. We will need several judges for these fairs and we can use additional support for these and other high school projects in the spring. Please call Mike Zapf for information at (410) 771-7471.

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FROM THE EDITOR

With this first issue of the year we wish one and all a happy and prosperous 1997.

Some changes are obvious. We now picture five officers on our front cover. (How would you arrange five photographs on a page?)

We now have a vice-chair, and last year's chairman returns as this year's chair. (The more things change the more they stay the same?)

We have the ACS Council to thank for converting chairmen to chairs. We trust they will not behave as inanimate objects.

We do note that Mike Zapf's programs have an innovative appearance.