

The Pathway

A NEWSLETTER FOR UNDERGRADUATE CHEMISTRY MAJORS
AT THE UNIVERSITY OF MASSACHUSETTS AT AMHERST

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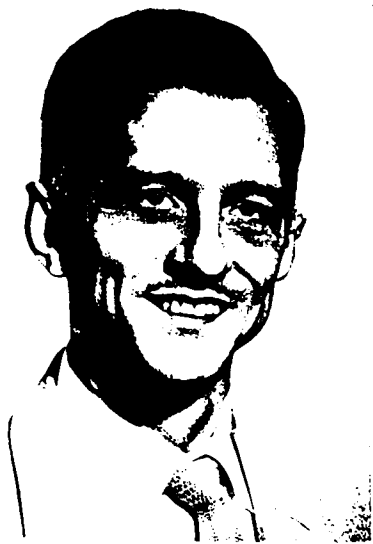
May 16, 1989

POST-COMMENCEMENT RECEPTION SET

A Chemistry Department reception for its graduating seniors will be held in the Lederle Graduate Research Center immediately following the undergraduate student Commencement on Sunday, May 28. This informal reception will include a complimentary buffet lunch. To date, 13 seniors, Mahasti Alavi, Cheryl Arena, Sean Daley, Mike DeRosa, Don Donovan, David Hynds, Christine Marganian, Mike Morytko, Jim Mouser, Karen Pratt, Mike Thimblin, Paul West, and Marilyn Whitmarsh, have indicated that they will attend. The Department has sent invitations to 68 of their expected Commencement guests. Additional graduates may still sign up to participate in this reception. To do so, students are asked to report their intention to attend and the names of their Commencement guests to Ms. Kristina Schmid, Goessmann 150, by Monday, May 22.

HUNSBERGER AWARD HONORS FORMER DEPARTMENT HEAD AND DEAN

The Hunsberger Award in Chemistry, a one time only cash gift of \$1,000, will be presented to Sean Daley at the May 28 Commencement ceremonies. The award is supported by gifts made in memory of the late Dean I. Moyer Hunsberger.



Dean I. Moyer Hunsberger
(file photo)

Prof. Hunsberger came to UMass as Chemistry Department Head in 1960, when the building which the old-timers still call "new Goessmann" was actually new. In 1961, he became Dean of the College of Arts and Sciences until 1969. During his eight year tenure as Dean, prior to the division of the College into three Faculties, the University student body grew from 7,000 to 18,000 (44% of its 126 year growth). The Chemistry Department, alone, grew from 19 to 38 faculty members and from 25 to more than 100 graduate students. Responsible for recruiting most of the professors and department heads added to the College, Dean Hunsberger played a substantial role in the formation of UMass as we know it.

Born on August 3, 1921, in Quakertown, Pennsylvania, Hunsberger earned B.S., M.S., and Ph.D. degrees in chemistry at Lehigh University. He taught at Antioch College and Fordham University before joining the UMass faculty.

In 1969, Hunsberger left UMass for a two year tour as program adviser for the Ford Foundation in Pakistan. Subsequently, he served as Dean of Arts and Sciences at the State University of New York at Albany and as Provost at the University of Oklahoma at Norman. In 1980, he became Vice President for Academic Affairs at the American University of Cairo, Egypt, the position he held at his death on February 1, 1987.

SENIOR AWARD WINNERS ANNOUNCED

The winners of the four traditional Chemistry Department senior awards for excellence in scholarship have been announced.

AWARD OF THE CONNECTICUT VALLEY SECTION OF
THE AMERICAN CHEMICAL SOCIETY

Sean Daley is the recipient of the 1989 CVS/ACS Award. A 1985 graduate of Westfield, Mass., High School, Sean plans graduate study in physical chemistry at the Massachusetts Institute of Technology. As a junior, Sean received an Alumni Scholarship, a high honor. Each year, only six Alumni Scholars are selected from the entire nine undergraduate departments in the Faculty of Natural Sciences and Mathematics. Sean has done undergraduate research with both Prof. Lillya and Prof. Weis.

The CVS/ACS Award includes (1) an engrossed certificate, (2) a one-year membership in the American Chemical Society, (3) a one-year subscription to the A.C.S. journal of the student's choice, and (4) honored guest status at the annual CVS/ACS Undergraduate Student Symposium (see page 4), at which the award is presented. Every Chemistry, Biochemistry, and Chemical Engineering Department in the Connecticut Valley Section of the American Chemical Society is invited to name a recipient.

AWARD OF THE AMERICAN INSTITUTE OF CHEMISTS

The 1989 Award of the A.I.C. has been presented to Marilyn Whitmarsh. Marilyn, a second undergraduate degree student, is a 1968 graduate of Lee, Mass., High School and holds a B.A. in Sociology from UMass, earned in 1973. For several years, she has been employed as a science tutor in the Pittsfield School Department. Marilyn has accepted a position with the General Electric Corp. in Pittsfield, Mass.

The AIC Award includes (1) an engrossed certificate, (2) a one-year associate membership in the AIC, and (3) honored guest status at a special awards banquet. This year's banquet was held at Boston College on April 27. Marilyn was not able to attend and received her award at a later date.

MERCK INDEX AWARD

The 1989 Merck Index Award has gone to Mike DeRosa. Mike is a 1985 graduate of Westhill High School in Stamford, Conn. He hopes to begin graduate study in Polymer Science and Engineering at UMass, starting in the fall of 1989. However, since Mike was an Air Force R.O.T.C. student, his immediate future depends on an Air Force decision beyond his complete control.

The Merck Index Award includes a copy of the current Merck Index. It is a personalized copy, in that the recipient's name is printed in gold on the front cover.

THE RICHARD W. FESSENDEN AWARD

Mike Morytko is the 1989 Fessenden awardee. Mike graduated in 1985 from West Springfield, Mass., High School. He plans graduate study in chemistry at the University of Rochester. Mike was active in undergraduate research with Prof. Lillya.

The Fessenden Award was established by the Massachusetts Agricultural College Chemistry Class of '08, as well as by other students and colleagues of Richard W. Fessenden, Professor of Chemistry. Prof. Fessenden, who died prematurely in 1956, was highly esteemed for his interest in and dedication to undergraduate students. The Award involves a cash gift of \$100 and the exhibition of the student's name on the Fessenden plaque. The plaque was displayed in Peters Auditorium until 1977, when it was stolen. Later recovered, it is now kept in the Chemistry Department main office.

FOUR STUDENTS RECEIVE FRESHMAN CHEMISTRY AWARDS

Four students have been cited for Freshman Chemistry Awards. They are:

AMY L. CASSELMAN (Chem 112), a Plant Pathology major and a 1988 graduate of Framingham, Massachusetts, North High School

GREGORY S. FINKBEINER (Chem 112M), a Chemistry major and a 1988 graduate of Webster, New York, High School

MICHAEL E. SOLOMON (Chem 112M), a Chemistry major and a 1988 graduate of Nashua, New Hampshire, High School

NICOLETTE J. ZERVAS (Chem 112M), a Biochemistry major and a 1988 graduate of The Frankfurt, Germany, American High School

Each Freshman Chemistry Award includes a complimentary copy of the 70th edition of the CRC Press "Handbook of Chemistry and Physics", which will be published in the summer of 1989 and shipped by CRC Press directly to the student. The award winners were given a commemorative scroll to be attached to the inside front cover of the handbook when the latter is received. CRC Press, Inc., annually sponsors one Freshman Chemistry Award per school; additional awards are sponsored by the Chemistry Department.

All students, regardless of major, who completed Chemistry 112 in the fall of 1988 or who will complete either Chemistry 112 or 112M in the spring of 1989 were eligible. The Chemistry Department Undergraduate Awards and Honors Committee, which made the selections, carefully considered both the students' academic records and recommendations which were solicited from all freshman chemistry teaching assistants. This year's selection process was unusually difficult in that the general chemistry program included an unusually large number of excellent students.

SYMPOSIUM SHOWCASES UNDERGRADUATE RESEARCH

The Tenth Annual Undergraduate Research Symposium sponsored by the Connecticut Valley Section of the American Chemical Society (CVS/ACS) was held at Williams College in Williamstown, Massachusetts, on Saturday, April 29. UMass students Sean Daley '89, Sepideh Khorasanizadeh '89½, and Paul West '89 joined eight students from four other area colleges in presenting twenty minute papers describing their undergraduate research. The symposium was attended by UMass Professors Ronald Archer, Barrie Tan, Robert Weis, and Al Wynne.

The Symposium featured its traditional Awards Luncheon honoring the 1989 winners of the CVS/ACS Award for seniors in chemistry, biochemistry, and chemical engineering as well as 50 year members of the American Chemical Society and high school students of distinguished performance in the CVS portion of the 1989 Chemistry Olympiad. Senior award winners from UMass included Sean Daley (Chemistry), Mike Kowaleski (Biochemistry), and Mohammed Durrani (Chemical Engineering).

The guest speaker at the Awards Luncheon was Professor Natalie Foster of Lehigh University. Prof. Foster's topic was "Strong Poison - Chemistry in the Mysteries of Dorothy L. Sayers." Sayers' mystery novels, some featuring Lord Peter Wimsey, deal with many topics from the realm of medicinal chemistry and are laced with science fact and opinion.

Papers presented at the Undergraduate Symposium were:

FROM UMASS

"The Influence of Cardiolipin on the Shapes of Solid Domains in the Coexistence Region of Dipalmitoylphosphatidylcholine", Sean Daley

"Structural Correlations of Polyenic Carotenes and Xanthophylls to the Fieser-Kuhn Rules", Sepideh Khorasanizadeh

"The Preparation of Poly[Leucinsyo-4-Dithiobis(2,2,6,6-Tetramethyl-3,5,-Heptanedionato)Cobalt(III)]", Paul West

FROM WILLIAMS COLLEGE

"The Design of Organometallic Reagents that Facilitate the Synthesis of Chiral Organic Molecules", Dirk Bergstrom

"Synthesis of Anti-Insectan Sesquiterpenes", Blair Newton

"Toward a Synthesis of a Multisubstrate Inhibitor of GAR Transformylase", Dawn Powers

"Analysis and Removal of Fungal Stains from Paper", Linda Wisniewski

FROM AMHERST COLLEGE

"Linking Flexibility to Drug Binding in Calmodulin", Jonathan Hecht

(continued on page 5)

FROM THE UNITED STATES COAST GUARD ACADEMY

"Lead Concentrations in Drinking Water at the Coast Guard Academy: A Case Study", Gregory Duerstock

FROM TRINITY COLLEGE

"Secondary Structural Studies of Bovine Osteocalcin", Douglas MacDonald

"Synthesis and Characterization of $(Ca_{2-X}Eu_X)RuH_6$ ", Donald Storey

THREE SENIORS NOMINATED TO PHI LAMBDA UPSILON

Three UMass chemistry seniors, Sean Daley, Mike DeRosa, and Mike Morytko, have been nominated for membership-at-large in Phi Lambda Upsilon, a national society which honors both undergraduate and graduate students who achieve excellence in chemistry. Senior status and a high cumulative grade average are required for nomination.

Phi Lambda Upsilon has approximately fifty five local chapters at universities with large numbers of chemistry majors (50 or more per class, for example) and has more than 55,000 members. Its official publication, "The Register", brings to the entire membership reports of chapter and national activities, the triennial congresses, initiations, meetings, and awards. In addition, the magazine presents articles of general interest in all areas of science relating to chemistry.

The University of Massachusetts at Amherst has never qualified for a local chapter; hence, its nominations must be for membership-at large.

CUSA NOTES

On Tuesday, March 14, CUSA sponsored a field trip to Poly-Plating in Chicopee, Mass. Edwin Ondrick (B.S. Chemistry, UMass, '62) is Poly-Plating's founder, President, Director of Research and Development, and chief salesperson. The company, which employs 15 people, produces a proprietary nickel/teflon coating which its 1,500 customers use in molds for commercial products. The commercial products include items such as calculator cases, parts of computer printers, toys, Mr. Coffee filter holders, "Star Wars" swords, golf balls, and many others.

Poly-Plating is particularly proud of its closed circuit water system. This \$250,000 investment not only means that no water, and, hence, no nickel, is released to the environment it also avoids an annual \$8,000 water treatment charge by the City of Chicopee.

On Thursday, April 13, Professor Irving Epstein of Brandeis University was CUSA's guest. Prof. Epstein discussed "Oscillating Chemical Reactions - Patterns in Time and Space". The relatively large audience included several students and faculty members from Smith College which boasts a newly formed chapter of American Chemical Society Student Affiliates.

The election of new officers is planned for the fall.

A Commentary by Prof. David J. Curran:

WHY YOU SHOULD JOIN THE AMERICAN CHEMICAL SOCIETY

More than 137,000 chemists have chosen to join the American Chemical Society which holds a National Charter, enacted by the 75th Congress of the United States in 1937. I quote section 2 of the charter:

"That the objects of the incorporation shall be to encourage in the broadest and most liberal manner the advancement of chemistry in all its branches; the promotion of research in chemical science and industry; the improvement of the qualifications and usefulness of chemists through high standards of professional ethics, education, and attainments; the increase and diffusion of chemical knowledge; and by its meetings, professional contacts, reports, papers, discussions, and publications, to promote scientific interests and inquiry, thereby fostering public welfare and education, aiding the development of our country's industries, and adding to the material prosperity and happiness of our people".

Much of the work of the Society is done by volunteers whose efforts fall into two broad categories - membership affairs and professional matters. For those of you interested in numbers, the Society maintains 22 journals and publications, has 32 divisions concerned with the various subdisciplines of chemistry, offers 41 awards for outstanding achievement in chemistry, and conducts two national meetings every year. In addition, the entire country is divided into local sections which sponsor and organize numerous activities, including local section meetings and regional meetings of local sections. The Society maintains a small permanent staff in Washington, D.C.. and has a large operation for publishing activities in Columbus, OH.

All officers of the Society, local, divisional and national, are elected by the membership. Governance is by a Board of Directors and a Council, both of which are elected by the membership. Our faculty actively participate in ACS affairs. Currently, Prof. Archer and I are members of the Council, representing the Connecticut Valley Section. Profs. McEwen and Rowell, among others, have served on the Council in the past and Prof. McEwen was also a member of the Board of Directors. Many faculty serve as reviewers for journals and some perform editorial tasks. Other faculty, past and present, have been active in divisional activities.

Some of the other aspects of membership in the ACS include continuing education opportunities, employment assistance, health and safety guidelines, career guidance, and financial planning. As young chemists just starting out on careers, the ACS has much to offer and you have much to gain as members. You can provide your talents and services and benefit from the activities and contacts the Society provides. Join and participate!

Application forms are printed often in "Chemical and Engineering News", the weekly Society news magazine and are also available from me. Students receive a 50% reduction in annual dues.

EDITOR'S NOTE: Professor Curran has been and continues to be very active in the American Chemical Society, especially in its Division of Analytical Chemistry and the Connecticut Valley Section. His office is Goessmann 269.