

THE NUCLEUS

November 2000

Vol. LXXIX, No. 3

Monthly Meeting

*Norris Award to
Prof. Billy Joe Evans*

Book Review

*"Instant Pharmacology" by K.
Saeb-Parsy et al.
reviewed by E.J. Caliguri*

Award to NESACS

*Grassroots Award
for government relations*

National Microscale Chemistry Center

and NMCC Workshops

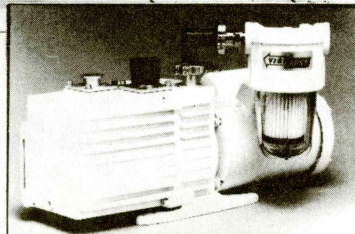


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The teachers' association continues to support yearly efforts on behalf of the Massachusetts Association for Retarded Citizens. Brookline teachers have conducted a special fund raising event each year to assist in providing services for adult retarded citizens who need special care and guidance. Again this year, NESACS members have been urged to join with the teachers.

Entertainment Books is the largest leisure/discount book outlet for organization members. These coupon books are being offered at special 2001 discount price of \$20, the lowest purchase price in the state. *Entertainment Books* are available in two editions: Boston/North and Boston/South. Both editions include Boston, Cambridge, Somerville, Brookline, Wellesley, Natick and Framingham. Order both editions so you can wander north or south, visit places twice or take out friends and family. Proceeds from the sale of books are donated to the Retarded Citizens Association.

Books may be ordered by phone or by sending a check, made payable to the Brookline Educators' Association (B.E.A.), to Dr. Gleekman, P.O. Box 126, Newton, MA 02465. These books also make a great gift for family and friends.

For further information contact: Wallace Gleekman (617-527-1192).◇

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Deadlines: *January 2001 issue: November 13, 2000*

February 2001 issue: December 14, 2000

THE NUCLEUS

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The James Flack Norris Award

for Outstanding Achievement in the Teaching of Chemistry

by M.S. Simon¹

When the will of Anne C. Norris was read, the Northeastern Section was informed that it was a beneficiary, with an outright gift of \$10,000 and the sharing of the residue of her estate in equal parts with the Massachusetts Institute of Technology. The will stated, "It is my wish that the Directors of said Society shall use the money in any way they may see fit to perpetuate the memory of my said husband James F. Norris." Professor Norris had died in July, 1940, and the desire had not been satisfied for a way to honor the man who had made such a mark as teacher, confidential counselor, research scientist and personal friend during his years of teaching and research at Simmons College and MIT. His widow's bequest in 1948 provided the impetus.

A committee under the leadership of Gustavus J. Esselen, the Section's senior adviser, was set up to explore how best to use the money. The expectation was that the income from the bequest would amount to over a thou-

sand dollars a year, a tidy sum, and in the April 1949 *NUCLEUS* Esselen requested suggestions from the Section's members. By June he had received twelve proposals and his committee consisting of Chester M. Alter (Boston University), Theodore C. Browne (Dewey and Almy), Ernest C. Crocker (ADL), Kenneth L. Mark (Simmons), Avery A. Morton (MIT) and John O. Percival (Monsanto) worked the problem for the rest of the year. The decision was announced in January, 1950. The statement read "The James Flack Norris Award shall be made for outstanding achievement in the teaching of chemistry, particularly when demonstrated at college or secondary school levels rather than shown in research" This approach to memorialize Norris recognized the emphasis he placed on teaching, and the Committee's fear that another award for outstanding research would be lost in the crowd.

The announcement which appeared in the *NUCLEUS* for January, 1950 read:

"The first national award for outstanding achievement in the teaching of chemistry is announced by the

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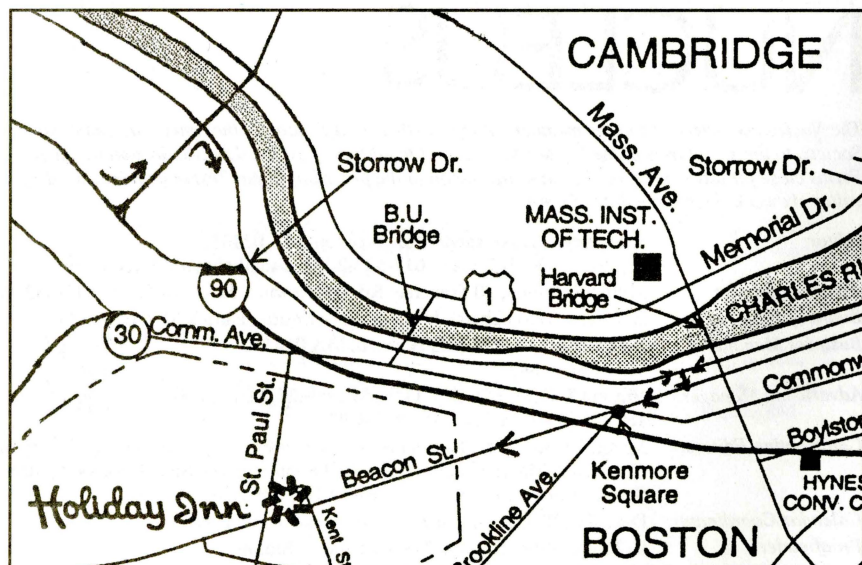
Directions

From the West: Take the Mass. Turnpike (I-90) to Exit 18. Exit left, follow signs to Cambridge. At the second set of lights turn right onto Storrow Drive. Exit at the Kenmore Square Exit. Follow * below.

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By Public Transportation: Take (or change at Park St. to) the Green Line, "C" train. Exit at the St. Paul St. stop (3rd stop after Kenmore) across from the Holiday Inn. ◇



Monthly Meeting

The 819th Meeting of the Northeastern Section of the American Chemical Society

James Flack Norris Award Meeting

Thursday, November 9, 2000

Holiday Inn, 1200 Beacon St., Brookline, MA

5:30 pm Social Hour; a table of Career Services Literature and Aids will be available

6:30 pm Dinner

8:00 pm Award Meeting, Dr. Doris Lewis, Chair, presiding

James Flack Norris by Dr. Myron Simon

Introduction of the Awardee by Drs. Robert Lichter (Dreyfus Foundation) and Suhithi Peiris (Naval Research Laboratory)

Presentation of the Award by Dr. Robert S. Umans, Chair, Norris Award Committee

Norris Award Address by Dr. Billy Joe Evans

What Does it Mean to Teach Chemistry? – A Discussion of Activities and Outcome

Dinner reservations should be made no later than noon, November 2. Please call or fax Marilou Cashman at (800) 872-2054 or e-mail at MCash0953@aol.com. Reservations not cancelled at least 24 hours in advance must be paid. Members, \$25.00; Non-members, \$28.00; Retirees, \$15.00; Students, \$ 8.00.

THE PUBLIC IS INVITED.

Anyone who needs special services or transportation, please call Marilou Cashman a few days in advance so that suitable arrangements can be made.

Free Parking: Enter from westbound Beacon St. Obtain parking voucher at the dinner desk.

Next Meeting: WEDNESDAY, December 13, 2000. Joint meeting with the Medicinal Chemistry Group: Proteomics. Seminar 3:30 p.m., lecture 8:00 p.m. at the M.I.T. Faculty Club, 100 Memorial Drive, Cambridge.

Abstract

Chemistry is sometimes described as the "Gateway" science. Two images are immediately suggested by this description. **Firstly**, there is "Gateway" as used in "Gateway City" or better yet, "Atlantic Gateways", as used in the novel National Geographic map series, *The Making of America*. Few would argue that Chemistry is, indeed, a "gateway" discipline for the *Making of Scientists* in many areas of science and technology. Both of the aforementioned examples invoke visions of a portal to adventure, new experiences, anticipated pleasures, and wonderment. **Secondly**, there is the image of the "Gatekeeper"; some of us believe, often without justification, that every gateway needs a Gatekeeper: A Gatekeeper tending to be more concerned with the artifacts that control ingress than with the exciting things that one finds beyond the gates. Chemistry is the portal to a vast panorama of fertile valleys—to be cultivated—, of majestic peaks—to be climbed to see what lies beyond the horizon—, of forests of towering, majestic trees—to be valued and cared for responsibly in their service to Mankind as materials and sources of energy and for their shaded bowers too. Our teaching of chemistry must be tempered by such images. All of the Material World is our legitimate subject matter—animate and inanimate, natural and man-made. It is imperative that this subject matter, *per se*, be part of the teaching of chemistry. Further, we cannot serve as guides for paths that we have not traveled ourselves. Inasmuch as Change characterizes all that we do, the paths by which one comes to know and do chemistry are continually changing, and those of us who teach chemistry must tread these paths daily. One who does not have his or her own laboratory and who does not love the life of the research laboratory cannot teach chemistry. The chemistry laboratory is not only a place of one's personal pursuits but it is also the place where one shares the Cup of

Biography

Billy Joe Evans is the second eldest of the 8 children (7 boys and 1 girl) of Will Evans (a locomotive fireman) and Mildred Evans (a housewife). Evans' father was formally trained in the art and science of "firing" steam-driven locomotives, and his role as a key operator of some of the largest land machines, which also moved right in the midst of his neighborhood, served to give Evans a sense of place and responsibility in a world larger than his segregated neighborhood; his father's efforts to enable other Black firemen to keep their jobs during the dieselization era were also defining events for his definition of Self. Evans had loving

parents who provided him with all of his emotional needs, most of his physical needs, and mediated all of the important events in his life before college. Evans' father would not allow him to work in the jobs typically available to young "colored" boys in Macon, Georgia. Consequently, Evans worked extensively in maintaining the family household and earned extra money cutting grass and doing household chores for members of his neighborhood who knew him and his parents. His formative years were spent in a neighborhood that was not segregated along socio-economic or educational lines and he interacted with persons of strong character and high purposes from many walks of life. The

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Norris Award

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Northeastern Section of the American Chemical Society, Inc. in memory of the late James F. Norris. Teachers from schools, colleges and universities will be eligible. This is in accordance with the wishes of the late Anne C. Norris of Cambridge who left the Northeastern Section a bequest of \$10,000 plus half of the residue of the estate, to be used to perpetuate the memory of her husband James F. Norris

Believing in the importance of excellence in teaching as a contributing factor in the progress of chemistry, the Board of Directors of the Northeastern Section have selected this form of award as a memorial to Professor Norris, himself a teacher of great repute. The award will consist of a suitably inscribed certificate and a sum of money, and will ordinarily be given biennially, in the years when the Richards Medal for achievement in research is not awarded by the Northeastern Section.

Professor Norris was a student of Ira Remsen, one of chemistry's greatest teachers. (Norris) gained his outstanding reputation as a chemistry teacher at Harvard and Clarke (sic) Universities, as Professor at Vanderbilt University and Simmons College; and at the Massachusetts Institute of Technology where he became Director of the Research Laboratory of organic Chemistry. He was Chairman of the Northeastern Section, was twice President of the American Chemical Society and served on its Board of Directors for eleven years."

The early recipients were chosen by a secret committee, again led by Esselen, who remained active in promoting the memory of Norris for the next couple of years until his death in October, 1952. Open election of the Norris Award Committee did not begin until 1954, when it was realized also that the capital funds were adequate to give the award annually, instead of biennially.

The first presentation was made in May, 1951 at the Harvard Club to

James Flack Norris

James Flack Norris was born in Baltimore, MD in 1871 as one of nine children of Reverend and Mrs. Richard Norris. He went to school in the Washington, D.C. area, then enrolled in Johns Hopkins University in 1889, obtaining the doctorate in chemistry in 1895, having a Fellowship during his last year and also teaching at the University of Maryland and coaching classes in mathematics and science. During the summer of 1896 he and another student, Henry Fay, toured England, France and Germany. He joined the faculty at MIT as an Instructor, giving courses in organic preparations, later, history of chemistry, and organic chemistry. He became acquainted with Arthur Amos Noyes in a laboratory course in organic reactions and preparations. In 1900 he became Assistant Professor of Organic Chemistry. In 1902 he married Anne Bent Chamberlin, a student at the Museum of Fine Arts in Boston, with Henry Fay as best man. Fay and Norris published an analytical paper in the 1896 *American Chemical Journal*, (forerunner of the *Journal of the American Chemical Society*), being Norris' first publication, shortly followed by publication of his thesis work on "The Action of Halogens on the Methylamines" with Ira Remsen as his mentor. During his career he published some seventy publications, also four books: *Principles of Organic Chemistry* (1912), *Experimental Organic Chemistry* (1915), *Inorganic chemistry for Colleges* (1921), *Laboratory Exercises in Inorganic Chemistry* (1922), coauthored with Prof. Kenneth Mark of Simmons College. In 1904 he was appointed Professor of Chemistry at Simmons

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George Shannon Forbes, an old friend of Norris, an outstanding teacher at both Harvard and, in retirement, at Northeastern Universities. ◇

James Flack Norris

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College, where he stayed for 11 years. In 1910 he took a sabbatical leave in Karlsruhe, Germany to study with Prof. Fritz Haber. The experience translated the physical-chemical points of view he acquired to obtaining new insight into organic chemistry. During this time, he and Mrs. Norris, and for the summer also, three of Norris' sisters toured Europe with sojourns in Paris, Holland, England and Scotland.

In 1915 Norris was offered the professorship of chemistry in Vanderbilt University in Nashville, Tenn., but in 1916 he was asked to return to MIT to become Professor of General Chemistry. In 1917 he was given a leave of absence to engage in war work at the Bureau of Mines, and in 1918 he was appointed Lt. Colonel in the Chemical Warfare Service of the U.S. Army, headquartered in London. After the war he returned to MIT, where he stayed until his death in 1940.

He had many graduate students from all over the world. His sunny disposition gave him the nickname "Sunny Jim."

He also was very active in the American Chemical Society: He chaired the Northeastern Section in 1904, in 1925 he was elected President of the ACS and was a Director until 1934. He also served as Vice President of the International Union of Pure and Applied Chemistry 1925-1928 and in 1924 he became chairman of the Section on Chemistry and Technology of the National Research Council in Washington, D.C. while on a leave of absence from MIT.

He was a special lecturer in organic chemistry at Harvard in 1912-1913, where Louis P. Hammett was one of his students, later known as the founder of physical organic chemistry in America. He also lectured at Clark University and at Bowdoin College, Maine.

He loved to spend summers in a summer home which they had built at

North Bridgton in western Maine where he found the leisure to study and write his books every forenoon.

Dr. and Mrs. Norris had an active interest in art.

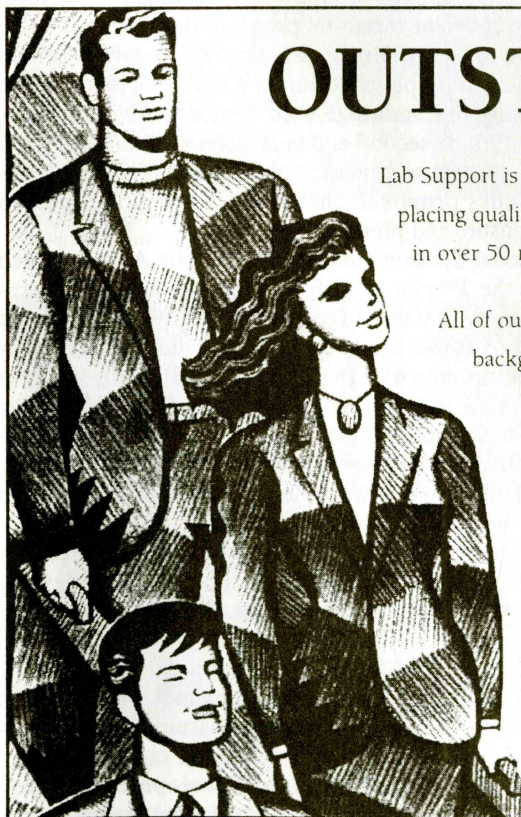
He received many honors and awards both for his teaching and for research.

In the summer of 1940 a cataract was successfully removed from his right eye, but soon thereafter other medical problems arose, culminating in phlebitis which worsened, resulting in his death on August 3. He is buried in Mt. Auburn cemetery.

Abstracted from the longer account by Avery A. Ashdown, The NUCLEUS, 1966 LXXV (3), 4 (reprinted in the November issue, 1999) ◇

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THE 9th ANNUAL ACS NORTHEAST REGIONAL UNDERGRADUATE DAY

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Registration opens 9:00 a.m. Program begins at 9:30 a.m.

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Keynote Address Prof. Bassam Shkhashiri
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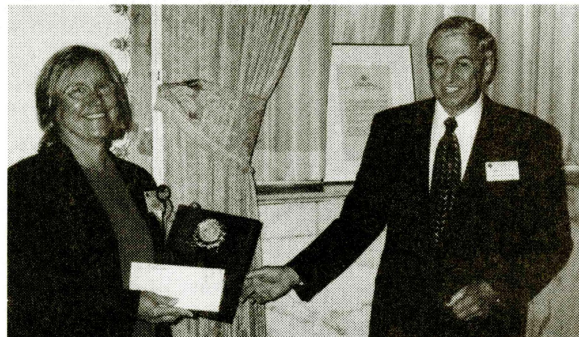
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Boston University) ◇

ACS News

*ACS Honors Sections in Government Affairs
(Adapted from an ACS News Release)*



*Dr. Doris Lewis receives the Grass Roots Achievement Award
and check from Pres. Daryle Bush*

The American Chemical Society has presented its annual “Grassroots Achievement Awards” to the ACS members and local sections that have made special efforts to advance state and federal science policy at a reception during the ACS National Meeting in Washington, DC on August 21.

The ACS President’s Award for Local Section Government Affairs was presented by Society President Daryle Busch to the **Northeastern Local Section** for the highest achievement by a local section in government affairs. Dr. Doris Lewis, Chair, representing NESACS at the Award Ceremony, received the award and a check for \$500 from Pres. Daryle Busch. The section was recognized for its local section government relations program that featured state senator David Magnani and US Representative Michael Capuano, its strong participation in a multi-society Science Town Meeting in Cambridge with Representative Capuano, and for holding its second and very successful State Capitol Day in June. Local section members visited 20 state legislators to discuss proposed changes to state guidelines on teacher licensure and preparation.

The Local Section Government Affairs Award, which recognizes the 2nd place finish by a local section in government affairs, was presented jointly to the **Dallas-Ft. Worth and Heart o’ Texas Local Sections** for their work on science education policy at the state level. Building on their leadership roles in last year’s Texas State Capitol Day, the section co-hosted a joint local section event to honor State Representative Jesse Jones—who is a chemistry professor at Baylor University—with the first Texas Local Section Service Award for Contributions to Science and Education.

Two Science Policy Awards were also presented, to Sharish Shah of the Maryland Local Section and Jeffrey Gaffney of the Chicago Local Section for their outstanding individual achievement in public affairs.

Working with ACS members and local sections, the ACS Office of Legislative and Government Affairs educates state and federal officials on scientific issues. Strong member participation ensures that the voice of chemical scientists and engineers is heard in the development of laws, regulations, and key programs that impact the profession. ◇

YCC Wins Award

The Northeastern Section's Younger Chemists Committee (YCC), represented by its chair, Amy Tapper of Boston University, received the Local Section Younger Chemists Award for an Outstanding Event, at the ChemLuminary Award ceremony at the recent ACS National Meeting in Washington, DC. The event referred to in the award citation, in addition to an active program for the year, was the Northeast Student Chemistry Research Conference in April at M.I.T. which was organized by the YCC. Nice work, Amy and members of the YCC!

New website:

The Northeastern Section Younger Chemists Committee has moved its website to: <http://people.bu.edu/nsycc>

Please visit the new website to learn how to get involved with the YCC and to keep informed about upcoming events. ◇



Cheryl Schnitzer (left) and Amy Tapper at the NESACS Younger Chemists Committee poster prior to the ChemLuminary Awards ceremony
Photos on pages 8-9 by M.Z. Hoffman



NESACS celebrants at the reception for the Grass Roots Achievement Awards: from left (seated): Thomas Gilbert, Esther Hopkins, Doris Lewis, Arno Heyn; (standing): Morton Hoffman, Dorothy Phillips, Timothy Rose

National Chemistry Week 2000

Mix, Measure and Marvel in Shakhshiri's Chemistry Kitchen Museum of Science, Boston

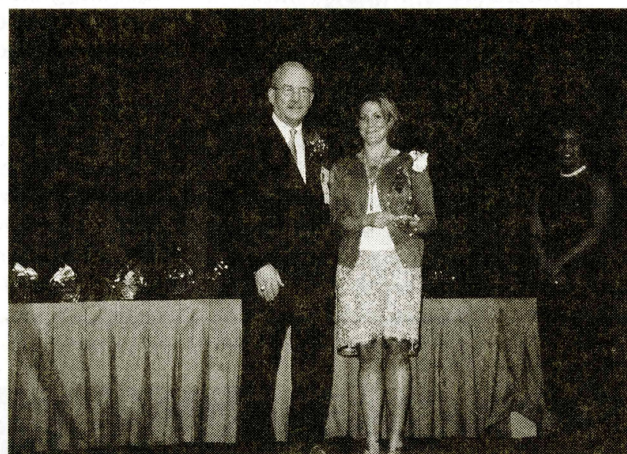
Sunday, November 5, 2000, 3:00-4:30 pm

Come and see why *Science is Fun* for everyone in a day filled with special chemistry programs, demonstrations and highlighted exhibits throughout the Museum.

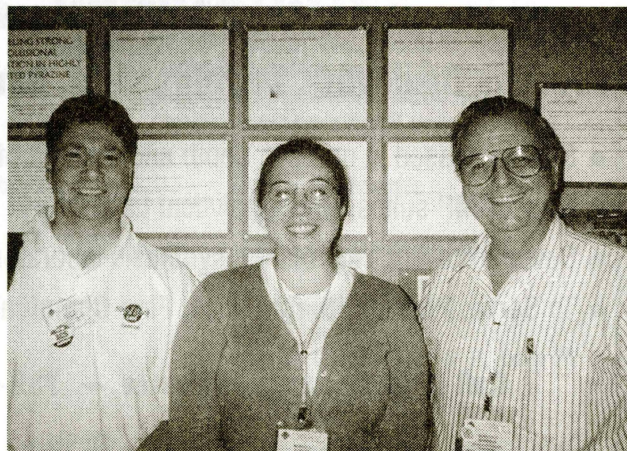
The presentation is free to the public through the generous support of the Lowell Institute.

Seating on a first-come basis. Garage parking available all day.

For more information, call: 617-589-0419 or -0417 (TTY)
Co-sponsored by the Museum of Science and the Northeastern Section. ◇



Amy Tapper receiving the Local Section Younger Chemists Award for an Outstanding Event from Henry Whalen, Chair of the ACS Board of Directors, at the ChemLuminary Awards Ceremony



Rebecca Sansom, NESACS undergraduate Grant-in-Aid awardee from Boston University, at her research poster flanked by her general chemistry instructors: Alan Crosby (L.) and Morton Hoffman.

Book Review

"Instant Pharmacology";

Kouros Saeb-Parsy, Ravi G. Asso-mull, Fakhar Z. Khan, Eamonn P. Kelly, and Kasra Saeb-Parsy (John Wiley and Sons, 1999) 368 pp., ISBN 0-471-97639-3; \$39.99 (paperback)

Reviewed by Edward J. Caliguri
Department of Chemistry,
Boston College

It's the new millennium, and instant is the way things are. Not just instant soup or pudding, but instant paging and messaging. People need to know everything. NOW!

With that said, *Instant Pharmacology* is an appropriate title. It is one of the smartest designed reference texts I have ever used (and not just those that cover pharmacology). It is well laid out and indexed, and gets to the heart of a topic immediately. Need to understand a bit of pharmacokinetics? Turn to the right page, and it's all there - from a review of first order rate equations to drug dosing techniques. Not in

depth mind you - but most likely what you need to know then and there - instantly!

As the authors state in the preface, this book was designed with the student of pharmacology in mind. This would have been extremely useful when I was a Veterinary student! However, make no mistake - this is a great text for any science student, regardless of position - doctor, lawyer, or Indian chief - who needs to communicate his or her ideas with others in a sensible way. All too often, chemists are pigeon-holed, and either unwilling or unable to fully communicate their ideas as they may benefit others in the pharmacology field. It is here that this book is worth its weight in ibuprofen, eliminating much of the translation headaches that come along with the chemistry - medicine dialogue.

The layout of the text is very straightforward - starting with a review of pharmacokinetics/ pharmacodynamics, it then moves directly into Part I: Chemical Transmission, which includes neuropharmacology and hormonal transmission (with a short refresher tutorial in neurophysiology).

This seems to be the strong suit of the text - or at least my background in the field interprets it this way. There is a good, in depth look at the functioning of the most ubiquitous drugs that affect the central nervous system. Nicely categorized by chemical sites of activity (for example all the cholinergic acting drugs are in the neuromuscular - acetylcholine section), the text has the usual format of drug description; administration, activity and side effects, metabolism and elimination. Thankfully, it is not long-winded, and uses numerous tables and graphs for comparison of similar agents. This allows one to compare quickly many types of medications at a glance. The book continues the system approach in a logical fashion, with Part II Systemic Pharmacology covering most medications that act at the level of the heart circulation, and areas outside the central nervous system. Curiously, the sections on anti-psychotics and tranquilizers, along with the (short) section on anesthetics seem misplaced here. The authors would do well incorporating these medications in what could be a separate part of the text where drugs affecting mood, movement and perception could be addressed.

Another nicety, and one that shows the book's true mission as a self-teaching and reference guide, is the inclusion of self-assessment tests and a good (but far from complete) "dictionary" of drugs. The latter is an attempt to succinctly list what the authors seem to consider agents that most people outside the field encounter. For the medications listed, the synopses are adequate. The list is by no means complete - nor should it be for a reference book with the purpose of wide appeal. It's attractive only because you don't have to close the book in your hand and pick up another one, such as a Physician's Desk Reference (PDR).

Be reminded, however, that this is not a full, in depth, no - holds barred, pharmacology text. That distinction would go to a number of other much more long-winded books. However, if you are a chemist who need to learn

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Book Review

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the "basics" of the science, or wish to further your understanding of a field that your discipline dovetails with, this is an outstanding text. I have kept this book close by for the past year - and it's showing definite signs of wear. Yes, it comes in very handy in my day to day dealings with colleagues who are true pharmacologists, and that alone says much. But it also comes in handy when a neighbor wants to know if they should buy the Robitussin with or without dextromethorphan.

Now, if only there were an "Instant Physical Chemistry"! ◇

Biography

continued from page 5

adults in his neighborhood had high expectations of him and strongly encouraged him when he did well, whether in school, performing household chores or in school plays. Domestic workers, common laborers, and college-trained professionals helped him discover and choose the paths that he would follow. Evans had very strong and positive interactions with his 9th grade science and 11th grade chemistry teachers; his social studies (Miss Pitts) and English (Mr. Epsy) teachers, however, played the dominant roles in his being prepared for, going off to, and having a sustained excitement for college.

With the guidance of these two teachers Evans enrolled in Morehouse College under Early Admission to College as a Merrill Scholar. He was shocked by the difficulty in obtaining grades as good as those he had earned in high school but was motivated by Henry C. McBay, E. B. Williams, Claude Dansby and J. H. Lockett to buckle down and, in the end, to achieve a studentship that exceeded that of his high school years. Evans graduated from Morehouse in 1963, *summa cum laude*, as an honorary fellow of the Woodrow Wilson and John Hay Whitney Foundations and a 96 percentile

continued on page 16

Council Meeting

August 23, 2000, Washington, D.C.

Continuation of the report started in the October, 2000 issue, pp.6,10.

There are now 161,000 ACS members. Minority member recruitment has resulted in an increase in minority members. The retention rate of members has increased and the number of unpaid members has decreased. Yet, more remains to be done to increase member retention, especially of new members who joined during or right after college.

The Committee on Divisional Activities reported that about 100,000 ACS members are also members of at least one Division.

The Employment Clearing House (ECH) had postings for 1600 job openings and 600 candidates.

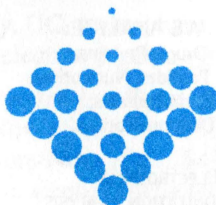
Unemployment among chemists is at a low 2% and the median salary has risen to 70K\$.

Several of the Councilors attended Committee Meetings of their assigned committee: M. Chen: International Activities, Admissions; T. Gilbert chaired Meetings and Expositions and attended Budget and Finance and the Council Policy Committee. M. Hearn attended Chemistry and Public Affairs; A. Heyn visited the Constitution and Bylaws meetings; M. Hoffman attended the Society Committee of Education Task Force on Undergraduate Programming; E. Hopkins attended the Committee on Environmental Improvement and two of its subcommittee meetings.

D. Lewis visited the Committees on Local Section Affairs meeting and the National Chemistry Week Coordinators Workshop. She also represented the Section to receive the Grassroots Award for Legislative Action on the basis of its Statehouse Day Meetings and interaction with Mass. legislators (A plaque and \$500 to support these efforts), also the Chemical Luminary plaque for being nominated as one of the best Large Sections on basis of its activities and public relations. A. and

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Log D (pH7.4), Log P, Log PI
Solubility

• **HPLC**
Method Validation
Method Development

Council Meeting

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T. Light worked at the National Employment Clearing House in the Career Services Department Sunday through Wednesday; D. Phillips attended Membership Affairs as a member. She reports that the Minigrant Program for Retention and Recognition will continue past the 2001 membership campaign.

Tom Gilbert ((Meetings and Expositions) was recognized, together with 10 other Councilors, whose terms as committee chairs terminate at the end of the year Michael Strem was recognized for 15 years of service as a Councilor (Small Chemical Businesses, and *ex-officio* (as Regional Director), and Esther Hopkins was recognized for 30 years of service as Councilor (Northeastern Section).

T. Gilbert was elected to the Committee on Nominations and Elections and D. Phillips was elected to the Committee on Committees.

The next National Meeting will be in San Diego, CA, April 1-5, 2001. ♦

Board of Directors

Notes of Meeting of May 11, 2000

NOTE: Board Meetings are held on the monthly meeting day at 4:30 p.m. Section members are invited to attend.

Officers' Reports:

Chair: D. Lewis congratulated C. Costello on her election to the presidential succession of the Am. Soc. of Mass Spectroscopy (ASMS). D. Lewis also thanked Arthur Obermayer and Betty Solbjor for their efforts of establishing and operating the first NESACS Website. She reported that eight NESACS members were present at the Town Hall Meeting with Congressman Capuano on April 21.

Chair-Elect: The September Meeting will be a joint meeting with the Electrochemical Society, to be at Northeastern University. The December meeting will be jointly with the Medicinal Chemistry Group.

Secretary: The Minutes of the April Board Meeting were ACCEPTED. M. Singer reported that M. Cashman has

agreed to continue as Administrative Secretary for 2000.

Treasurer: The April 2000 report of the Treasurer was ACCEPTED.

Standing Committees:

Bd. Of Publications: J. Billo announced that the new website, NESACS.org was now in operation and plans are underway for redesigning the webpage. He MOVED that the Board of Directors approve the appointments under contracts for the Nucleus Editor, Arno Heyn, the Business Manager Karen Piper and the Advertising Manager Vincent Gale. The Board so VOTED.

Editor: A. Heyn stated that the Summer issue will be out by June 9, 2000. C. Costello has resigned as Calendar Coordinator because of the press of her duties in the ASMS. Donald O. Rickter will be the new Calendar Coordinator.

Public Relations: D. Lewis announced that D. Howell has resigned as chair of the committee and that M. Chorghade will be the new chair.

Chemistry Education: R. Tanner reported that the NESACS Chemical Research Conference went very well, featuring 3 talks by graduate, and 3 talks by undergraduate students. Plans for the October 19, 2000 meeting of High School Teachers are progressing well. The theme will be *Making Connections with Chemists*.

Professional Relations: P. Hamm reported that she had attended and addressed the ACS Local Section Chair Services Meeting to talk about local NESACS activities in professional relations. The national ACS is interested in starting a program aimed towards increased interaction with middle management in industry.

Employment Services:

M. Chorghade reported that that he had presented a Résumé and Cover Letter Workshop for 30 graduate students at Wellesley and Dartmouth Colleges.

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Asymmetric Synthesis

One of the hottest topics to emerge in recent times in the fields of Organic Chemistry, Medicinal Chemistry and Clinical Chemistry is the synthesis of enantiomerically pure organic compounds. In order to enable members of the Northeastern Section to catch up on this new subject, the NESACS Committee on Continuing Education is pleased to sponsor the recently developed National ACS Two-Day Short Course on this topic at a registration fee less than half of that charged at National and Regional ACS Meetings.

ACS Short Course

Designed to improve the skills and marketability of practicing B.S., M.S., and Ph.D. chemists.

DATES and TIME: Thursday, November 30, 2000, 8:00 a.m.-5:00 p.m.

and Friday, December 1, 2000, 8:30 a.m.-5:00 p.m.

PLACE: Snell Library, Northeastern University, 360 Huntington Ave., Boston, MA

Thursday: Room 88 Friday: Room 90

PROGRAM AGENDA: Topics will be selected from the following list, subject to time constraints and interests of

Symmetry and Chirality

Conformational Analysis

Substrate versus Reagent Control

Analytical Procedures

Resolutions

Separation of Diastereomeric Derivatives

Kinetic Resolution

Desymmetrization Processes

Fishing in the Chiral Pool

Reactions of Alkenes

*Oxidations, Epoxidations, Dihydroxylations,
Aminohydroxylations*

Reductions

Reactions of Carbonyl Compounds

Additions to Aldehydes: Aldol; Allylmetal Systems;

Alkylmetal Reagents; Ene Reactions

Reduction of Ketones

Reactions of Chiral Acetals

Conjugate Addition Reactions

Cycloaddition Reactions

[2+2] and [3+2] Additions

Diels-Alder Reactions

Enantioselective Alkylations

Ester and Ketone Enolates

*Carbon-Carbon Bond Formation Using Transition
Metals*

p-Allyl Palladium Intermediates

Heck Reactions

INSTRUCTORS:

Dr. Scott Rychnovsky, Professor of Chemistry, University of California, Irvine is the author of over 50 papers on new synthetic method development and enantioselective synthesis of natural products.

Dr. Keith Woerpel, Asst. Prof. of Chemistry, UC, Irvine, has centered his research interests on the development of new reactions and methods for stereoselective organic synthesis.

PRE-REGISTRATION REQUIRED – Registration Fees:

ACS Members, if received before Nov. 15 \$400.00; after Nov. 15 \$475.00

Non-ACS Members, if received before Nov. 15 \$475.00; after Nov. 15 \$550.00

There will be a limited number of scholarships for unemployed ACS Members on a space-available basis.

Parking Fee \$7.00/day

University cafeterias will be available for lunches.

For further information contact: Prof. Alfred Viola at (617) 373 2809

Registration form for Short Course: Asymmetric Synthesis

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NESACS Committee on Cont. Ed.
Department of Chemistry
Northeastern University
Boston, MA 02115

Board of Directors

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Awards: D. Lewis reported for M. Dube that there will not be a Levins Award in 2000 because of lack of candidates. Efforts will be made to raise public awareness of this award.

Local Arrangements: D. Lewis reported that W. Gleekman has resigned as chair and that M. Burgess has agreed to coordinate these activities, hopefully with increased student involvement.

Constitution and Bylaws: C. Costello pointed out that the NESACS Constitution specifies that the American Academy of Arts and Sciences be the primary recipient of any funds remaining on dissolution of the Section. This provision is not the usual one in ACS Local Sections, which usually provide for the ACS being the recipient of such funds.

Other Committees:

Continuing Education: D. Lewis, for A. Viola thanked the Section for offering to support the May Short Course in case it fell short of the required minimum number of registrants. Actually,

since there were 20 paying attendees this Section support was not needed. There also were 7 unemployed (non-paying) attendees. Two of the regular attendees were from Canada.

Speakers' Bureau: D. Lewis reported for M. Dube that the program appears to be dormant. The question was raised whether the NESACS website could be utilized for recruiting speakers and finding venues for talks.

Summerthing: At The Boston Red Sox game on September 5, with the Oakland Athletics. 50 tickets have been purchased at \$ 15 each to be obtained through M. Cashman. M. Hoffman has arranged for a pre-game reception at Boston University.

Old Business: D. Lewis reported that the "Science is Fun" Lecture by B. Shakhashiri went very well, thanks to the efforts of P. Brauner. This lecture was announced in the *Boston Globe* Calendar Section, on WCRB radio as a 30-second public service announcement on Saturday morning before a children's concert, and by e-mail notices to all high school science teachers. Attendance was about 300. At the event "nanomoles" were given to

children as souvenirs. At the lecture an announcement was made concerning National Chemistry Week and the new NESACS website. A questionnaire was distributed to find out how the attendee had heard about the event. A number of responses mentioned the radio announcement.

Should NESACS do more radio advertising? The Section could pay for having a table at a WCRB-sponsored concert at Hatch Shell.

New Business: D. Lewis announced that she wants to hold a Long-Range Planning meeting in August, with details to be announced.

M. Chorghade indicated the desire of the ACS to have additional National Historic Chemical Landmark designations in our region.

From the minutes of M. Singer. ◇

Abstract

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Life with his or her students. Indeed, the importance of this kind of activity has been alluded to in the "platform" statement of one of the candidates for the ACS Presidency. In my talk, I will discuss how these somewhat allegorical perceptions have been embodied in my efforts to enable all of my students to see the wonderment of chemistry, to have, in the midst of the wonder, a sense of power in dealing with the subject matter of chemistry and to have them come to the believe that disciplined-hard work with a mentor in the chemical sciences can lead to a fulfilling life for one's self and better life for mankind. ◇

Calendar

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Nov 30 continued

Dr. Hans Thomann (Exxon Mobil Research Corp., Annadale, NJ)
"Optically Detected Magnetic Resonance Studies of Metallocenes"
Northeastern University
129 Hurtig Building, 4:00 PM

Notices for the Nucleus Calendar should be sent to:

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- ACS National Meeting in Washington, D.C. August 21-23, 2000
- 26th European Peptide Symp. in Montpellier, France, Sept 9-15, 2000
- XVth Intl. Symposium on Medicinal Chem., Bologna, Italy, Sept. 18-22, 2000

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The generation and handling of chemical wastes are subjects of increasing concern in the United States and around the world. The most direct way of solving this problem is to reduce and/or eliminate the waste. In the laboratory setting, this reduction in scale is known as **MICROSCALE CHEMISTRY**. *Microscale chemistry is an environmentally safe pollution prevention method of performing chemical processes using small quantities of chemicals without compromising the quality of chemical education and industrial standard applications.* Microscale chemistry is performed using (a) drastically reduced amounts of chemicals; (b) safe and easy manipulative techniques; (c) miniature lab-ware and (d) high quality skills. In simple terms, microscale chemistry amounts to a total quality management (TQM) approach to the handling of chemical wastes.

The **National Microscale Chemistry Center**, NMCC, located at Merrimack College, was established in January 1993 to promote the use of microscale chemistry as a means of eliminating chemical waste at the source. Its major goals are to develop alternative methods that reduce chemical waste (Microscale Chemistry, Green Chemistry) and to disseminate the results by offering workshops, seminars and by publishing manuals, papers detailing these techniques and results. The center also offers assistance to other chemists in adopting microscale techniques.

Benefits of Microscale Chemistry Program

Microscale chemistry solves many of the problems associated with operating a modern chemical laboratory. The microscale technique uses drastically reduced amount of chemicals and offers laboratory training without compromising standard laboratory skills. This approach offers many benefits:

- Environmental education and training in waste reduction and pollution prevention methods
- Improved laboratory air quality
- Drastically reduced exposure to potentially toxic materials
- Source reduction in waste generation
- a broad spectrum of innovative experiments
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- Extremely cost effective
- Complements HAZMAT programs
- Accessible to handicapped individuals
- Promotes a psychological change in the attitude of microscale-trained individuals to pollution prevention ◇

NMCC Workshops 2000-2001

The following workshops are offered by the National Microscale Chemistry Center, located at Merrimack College in North Andover, Massachusetts. The workshops include all free materials (including a textbook), free housing and all meals during the workshop period. There is a small registration fee, as indicated below. These award-winning workshops offer hands-on training for science teachers and faculty in microscale laboratory practices, and have received excellent reviews from participants. The offering of these workshops is contingent on the receiving of funding by NMCC from external sources. Early registration is strongly advisable, as the workshops are often filled well in advance.

For Elementary School Teachers (no Science background is assumed)

**Dates: October 19-20, 2000; May 17-18, 2001;
October 18-19, 2001.**

The workshop runs from 8:30 AM on Thursday until 2:00 PM Friday. The registration fee is \$100.

For High School Teachers

**Dates: October 13-15, 2000; March 2-4, 2001;
October 12-14, 2001**

The workshop runs from 5:30 PM on Friday until 2:00 PM on Sunday. The registration fee is \$150.

Advanced Placement High School/College/University/Community College

**Dates: November 10-12, 2000; April 6-8 2001;
November 9-11, 2001.**

The workshop runs from 5:30 PM on Friday until 2:00 PM on Sunday. The registration fee is \$150.

High School/Community College/College/University Workshops

**Dates: Organic Chemistry: June 24-29, 2001
General/Inorganic: July 8-13, 2001
Advanced General/Inorganic/Industrial:
July 22-27, 2001**

These workshops run from 8:30 AM on Monday until 2:00 PM on Friday. The registration fee is \$200. Housing is available for the Sunday preceding the workshop.

For detailed information or registering, please contact Dr. Mono M. Singh, Director, NMCC, National Microscale Chemistry Center, 315 Turnpike St., No. Andover, MA 01845 Tel: 978-837-5137/5393; Fax: 978-837-5017; email: msingh@merrimack.edu ◇

Biography

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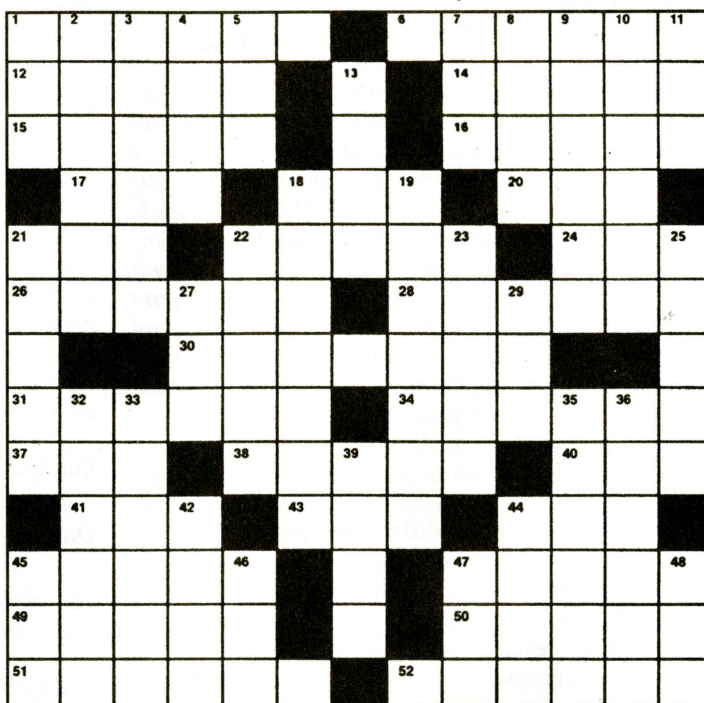
score on the advanced GRE exam in Chemistry.

Billy Joe went off to college with the goal of returning to Macon and helping his brothers and sisters to attend college. His mother's death as a young woman during his sophomore year at Morehouse gave a heightened immediacy to his plans to return home. However, after his experience with Professor McBay at Morehouse, the only path that he could travel was that to a Ph.D. in Chemistry. McBay felt that the University of Chicago was the best school for him; Evans agrees and feels that there he received the best graduate education that he could handle. He is disappointed, nonetheless, that Chicago has never been able to bring itself to have a tenured Professor of Chemistry (who happened to be Black) on its faculty even though it has played such a significant role in fostering the careers of more than three generations of chemists (who happened to be Black) through the work of its chemistry graduates: Kimmel Huggins and (his students) Warren E. Henry and Henry C. McBay. It was because Warren Henry as a guest lecturer in McBay's inorganic chemistry course dared to mention notions of Fermi Energy and Brillouin zones that Evans chose a career in solid state inorganic chemistry.

Evans devotes himself to investigations of the synthesis of and structure/property relationships in magnetic and electronic materials, and to trying to foster the careers of student in imitation of his own teachers. Evans is pleased and humbled by some of the awards for his efforts, for, while he is confident of his talents in the work he has chosen to do (an Alfred P. Sloan Fellowship, a Humboldt Fellowship, CMA Medalist, and the ACS Award for Encouraging Disadvantaged Students . . . , Presidential Award for Excellence in Mentoring . . .), success for him has been rather different from that defined by traditional measures in the chemical sciences. He serves as member of the ACS Committee on Professional Training, the Advisory Committee of the Mathematical and Physical Sciences Directorate of the NSF, and National Conference on Undergraduate Research. His work has always benefited from the enthusiastic interest, counsel and active support of his wife, Adye Bel, his children, William Joseph and Carole Elizabeth, and his siblings. ◇

Puzzle Column

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Across

- Chromatography pioneer
- Chromatography essential
- A Night at the _____
- _____ nickel (catalyst)
- _____ Roberts (P)
- Primitive computer monster
- Where the Nicks play
- _____ Traynor (38)
- Sirius, the _____ star
- The Gilded _____
- Schemes
- Republican power base
- Hat or French play
- Untighten
- Boil and condense
- Flog again
- Movies at home
- A failed amendment
- Allotted
- You _____ my Lucky Star
- Packed house
- Had a footrace
- Jolson, to his mammy
- Curved sword
- Medical plan
- Precious violin
- Residues
- Dry soil shrub
- Columbus passed them

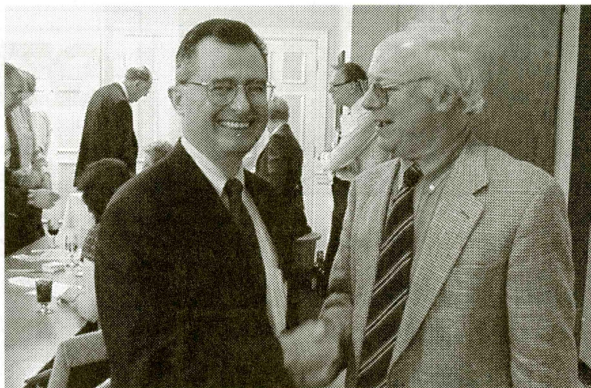
Down

- High _____
- Primitive marine animal
- Like a duck's foot
- Follows Ib or cafet
- What we do to hides
- Mine product
- Photography inventor
- Bane of management
- Quantity challenged
- World capitol
- Melody (It)
- Only from Paris?
- Animate
- Burning
- Hector's dad
- A state of matter
- Licorice plant
- Keats specialty
- _____ fashioned
- Inferior substitute
- Ms. Streisand
- Statue island
- Methyl _____ (indicator)
- Soft mineral related to mica
- Pertaining to the mouth
- A kind of dynamics
- Sends retirement checks
- Follows imp or conc
- Carpenter's tool
- Silly or stupid person

DIRECTORY

From the September Meeting

Michael J. DeVito, Executive Director, Mass. Chemical Technology Advance, and Dr. Michael Strem, ACS Director, Region 1. Mr. DeVito spoke to members about the activities of his organization.



Mark Spittler, Chair of the Local Section of the Electrochemical Society, with the featured speaker, Prof. Daniel Nocera, M.I.T.



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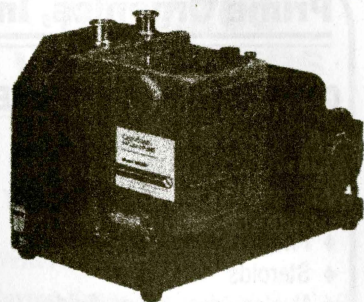
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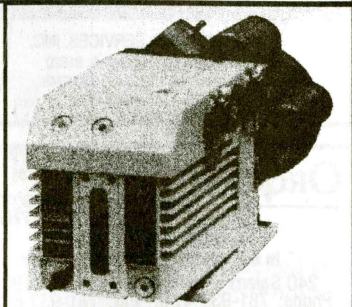
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Check the NESACS Homepage for late additions: <http://www.NESACS.org>

Nov 6

Prof. John Warner (Univ. of Massachusetts, Boston)

"Green Chemistry and Design of environmentally Benign Materials Based on Biological Models"
Tufts Univ., Dept. of Chem. & Biological Engineering,
4 Colby Street, Science & Technology Center,
Room 136, 11:30 a.m.

Prof. Mark Tuckerman (New York Univ.)
"Heavy Atom Molecular Frame Quantization and Proton Tunneling in Intermediate Barrier Hydrogen Bonds"
Boston Univ., Science Center Auditorium, SCI 107, 4 pm

Prof. Dean Wilcox (Dartmouth)
"Coordination Chemistry of Essential and Toxic Metal Ions with Cysteine- and Histidine-Rich Proteins: Studies Relevant to Metal Metabolism and Gene Expression"
Brandeis Univ.,
Room Gerstenzang 122, Building Edison Lecks, 4:00 pm

Nov 7

Prof. Robert Grubbs (California Institute of Technology)
"Mechanisms of Metal Catalyzed Reactions, Polymers Synthesis, Applications of Catalysis in Organic Synthesis"
Third Annual Boston College-Novartis Lecturer
Boston College, Merkert 127, 3:00 pm

Prof. Tim Zwier (Purdue Univ.)
"The Spectroscopy of Single Conformations of Flexible Molecules: The Role of Water Bridges in Dictating Molecular Conformation"
MIT, Rm. 6-120 at 5:30 pm

Prof. Michael Maroney (Univ. of Massachusetts Amherst)
"Structure and Function in Metalloenzymes: A Nickel Tour"
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave., Medford, Room 106, 4:30 pm

Nov 8

Prof. Joanne Yeh (Brown University)
"Crystal Structure of NADH Peroxidase: Insight into Novel Sulfenic Acid Chemistry."
UMass Dartmouth campus, Room 305 of the Science & Engineering Building (Group II), 4:00 pm

Nov 9

Prof. Alan L. Balch (Univ. of Calif., Davis)
"Fullerenes with metals on the outside, the inside and as part of the fullerene framework"
Boston College, Room 127, Merkert Chem. Center, 2609 Beacon St., Chestnut Hill, MA, 4:00 pm

Prof. Mark Johnson (Yale Univ.)
"Ions on the rocks: Cluster studies of the ion-molecule bond"
Harvard Univ., 12 Oxford Street, Cambridge, MA, Mb-23 Pfizer Lecture Hall, 5:00 pm

Nov 13

Dr. Elizabeth Theil (CHORI, Inc.)
"FERRITIN: Catalysis, Mineralization and mRNA Regulation"
Boston Univ., Science Center Auditorium, SCI 107, 4 pm

Prof. Peter Wolczanski (Cornell Univ.)
"Aspects of Modern Coordination Chemistry"
Brandeis Univ.,
Room Gerstenzang 122, Building Edison Lecks, 4:00 pm

Nov 14

Prof. James D. Wuest (Univ. of Montreal)
"Constructing Porous Ordered Materials by the Strategy of Molecular Tectonics"
Boston College, Room 127, Merkert Chem. Center, 2609 Beacon St., Chestnut Hill, MA, 4:00 pm

Prof. Robert Corn (Univ. of Wisconsin Madison)
"DNA Computing at Surfaces"
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave, Medford, Room 106, 4:30 pm

Nov 15

Dr. Peter Tummino (Dept. of Biochemistry, AstraZeneca R&D, Boston)
"Structure-Based Drug Discovery: Nonpeptide Inhibitors of HIV-1 Protease."
UMass Dartmouth campus, Room 305 of the Science & Engineering Building (Group II), 4:00 pm

Nov 16

Prof. Harry A. Frank (Univ. of Connecticut, Storrs)
"Roles of Carotenoids in Photosynthesis: Structure, Spectroscopy, and Photochemistry"
Northeastern University
129 Hurtig Building, 4:00 PM

Dr. Shimon Vega (Weizmann Institute (Israel))
"Three Decades of Multiple Pulse and Cross-polarization Experiments in Solid State NMR Spectroscopy"
MIT, Rm. 6-120 at 5:30 pm

Prof. Tom Seyfried (Boston College)
"Glycolipids and Angiogenesis"
Boston Glycobiology Discussion Group
MIT Faculty Club, 6 PM

Nov 21

Prof. Carolyn R. Bertozzi (Univ. of California, Berkeley)
"Merging Chemistry and Biology on the Surfaces of Cells"
Boston College, Merkert 127, 3:00 pm

Dr. David Casebier (Arqule)
"Combinatorial Chemistry Applied to Lead Optimization: Numbers are Not Enough"
Tufts Univ.,
Pearson Chemistry Building, 62 Talbot Ave., Medford, Room 106, 4:30 pm

Nov 27

Prof. Robert Thompson (Worcester Polytechnic Institute)
"Challenges to Making Zeolite Membranes"
Tufts Univ., Dept. of Chem. & Biological Engineering, 4 Colby Street, Science & Technology Center, Room 136, 11:30 a.m.

Nov 28

Prof. Ricardo Metz (Univ. of Mass Amherst)
"Photofragment Spectroscopy of Reaction Intermediates and Multiply Charged Ions"
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave., Medford, Room 106, 4:30 pm

Prof. Floyd Davis (Cornell Univ.)
Title TBA
MIT, Rm. 6-120 at 5:30 pm

Nov 29

TBA
UMass Dartmouth campus, Room 305 of the Science & Engineering Building (Group II), 4:00 pm

Nov 30

Prof. William B. Tolman (Univ. of Minnesota)
"Using Synthetic Chemistry to Understand How Metalloproteins Work"
Boston College, Merkert 127, 4:00 pm

Prof. Hongjie Dai (Stanford Univ.)
"Chemical Routes to Ordered Nanotube Structures, Physics and Devices"
Harvard Univ., 12 Oxford Street, Cambridge, MA, Mb-23 Pfizer Lecture Hall, 5:00 pm

George Knight, PhD (Foundation for Blood Research, Scarborough, ME)
"Recent Advances in Prenatal Screening for Fetal Down Syndrome"
Am. Assoc. Clinical Chemists, DoubleTree Guest Suites Hotel,
550 Winter Street, Waltham at 128.
6PM social, 7PM dinner, 8PM lecture