



THE DAYTON SECTION

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BULLETIN

September–October 2000

"Chemage: Fun with the Chemical Literature"

Dr. Jack Stocker
Wittenberg University
Tuesday, September 12, 2000



"Buckytubes and Fibers"

Dr. Richard Smalley
Engineers' Club
Thursday, September 21, 2000
(co-sponsored with MMETS)

DATED MATERIAL -- MEETING ANNOUNCEMENT -- DO NOT DELAY

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AMERICAN CHEMICAL SOCIETY
Dayton Section
Eugene W. Kettering Center
140 East Monument Avenue
Dayton, Ohio 45402-1267

Meetings...

September

Date: Tuesday, September 12, 2000

Place: Room 236
Science Building
Wittenberg University

Agenda:

Social: 7:00 PM
Talk: 7:30 PM

Speaker: Dr. Jack H. Stocker
Department of Chemistry
University of New Orleans

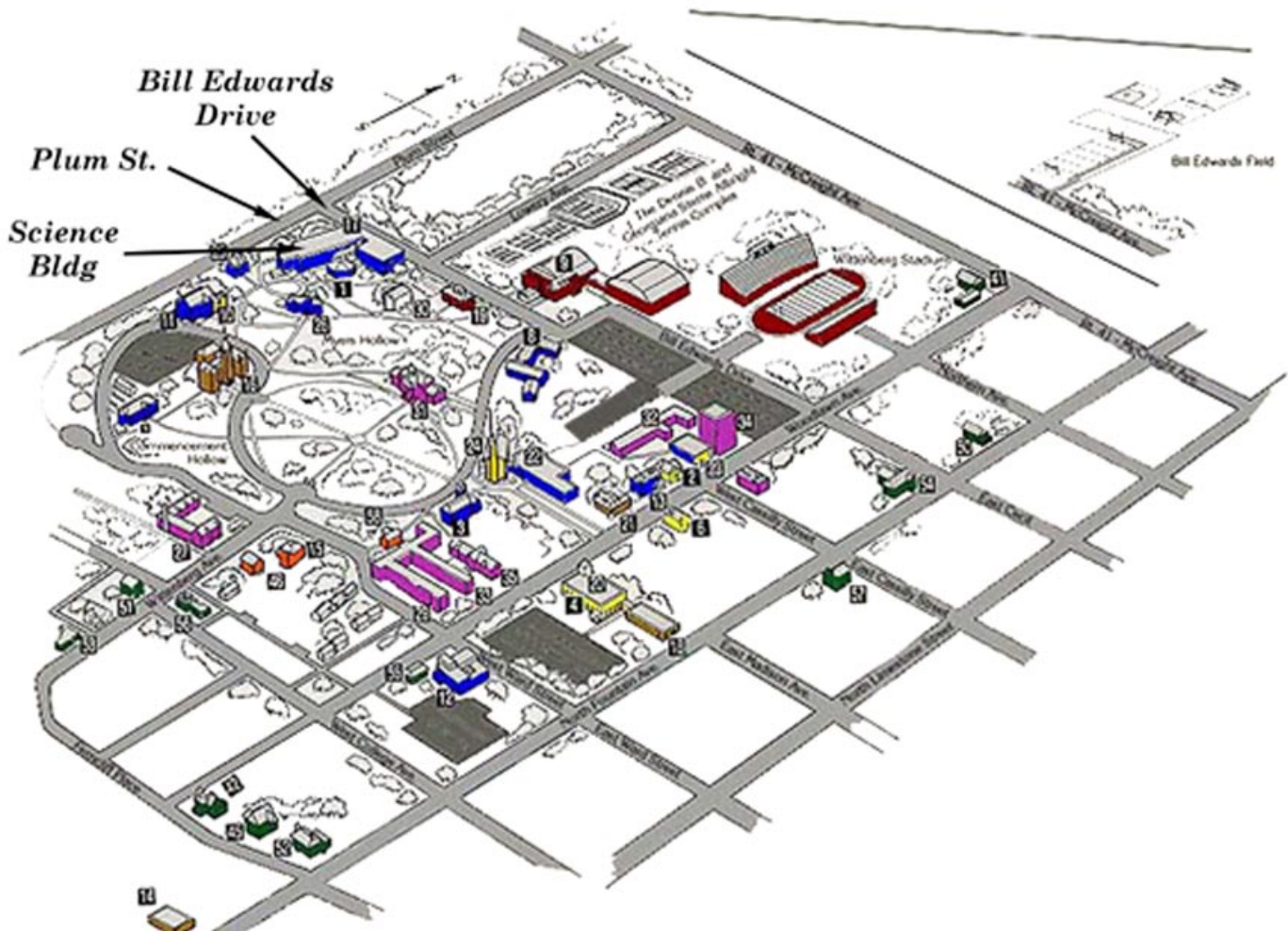
Topic: "Chemage: Fun with the Chemical Literature"

Abstract:

Only a mature discipline, secure in its self-image, can enjoy its trivia publicity. It is the speaker's thesis that such a time has only recently arrived for chemistry, and chemists are now disposed to be amused by or to at least tolerate their colleagues' foibles, deliberate or otherwise, in their antiseptic professional publications. Further, there is a body of in-group humor, passed along by word-of-mouth like old family recipes, to each newly exposed apprentice receiving his professional training. The speaker has been idly collecting and savoring this "Chemage" for a number of years and has, for bookkeeping convenience, divided it into the following categories: Riddles, Games Chemists Can Play, Our Very Own Guinness Book, Merrie Pranks, Acronyms and Phraseology, Authors' Names and Dedications, References and Footnotes, There'll Always Be a Compound Name, and, of course, Miscellaneous. Some examples of each type, mostly on slides made from the original literature, will be offered.

Biography:

Born in Detroit, Michigan, he received his undergraduate degree from Olivet College (Michigan) and his M.S. in biochemistry from Indiana University. After several years in the industry as a control chemist for the R. P. Scherer Corporation, he returned to graduate school at Tulane University for a Ph.D. in organic chemistry. He did postdoctoral work with Dr. J. H. Boyer (Tulane) and Dr. Karl Freudenburg (Heidelberg, Germany). He taught at the University of Southern Mississippi and at the University of New Orleans, where he is presently a professor emeritus. He was an ORAU Fellow at Oak Ridge National Laboratory and spent a research sabbatical at the University of Lund (Sweden) (1974-75). Active in local section and national ACS governance, he has been appointed to the committees dealing with meetings and expositions, nomenclature, Professional Affairs, and Science. He was elected to the Council Policy Committee, the Nominations and Elections Committee, and to the chairmanship of the History of Chemistry Division. His research interests include organometallic chemistry, photochemistry, and the synthetic and mechanistic aspects of electroorganic chemistry.



Directions

Take I-70 east towards Columbus (and Springfield).

Follow I-70 east and take the first exit for Springfield, Route 4. This will downgrade to a 4-lane, split highway as you enter the city, crossing the interchange with Route 68. This then splits into a one-way, 4-lane city street (at the intersection with Bectle Avenue), Columbia Street. Take Columbia for about 0.5 miles past Bectle. Get in the left-most lane.

Take Plum Street north (left). (This will also say "To Route 72, north.") Go about 0.5 mile. At the top of the hill Bill Edwards Drive is on the right. Turn right and then turn immediately into the parking lot on the left (which is across the street from, just north of, the Science Building). Park in this lot.

The Science Building is across the street. Enter through the door at the northwest corner of the building and go up 1/2-flight of stairs. Go through the black doors on the left and down the hallway past the Science Library. Refreshment will be located in this hallway and Room 236 is around the corner to the right.

Meetings...

September

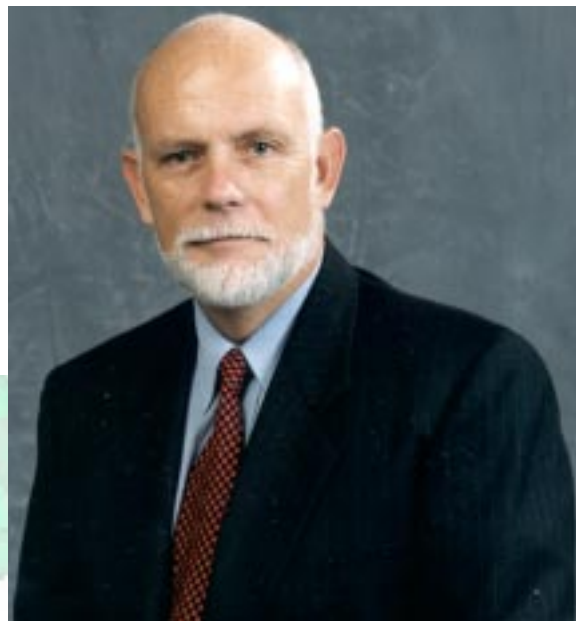
Date: Thursday, September 21, 2000

Place: Engineers Club of Dayton
140 E. Monument St.
Dayton OH 45402

Agenda: **Student Interaction:** 1–2:00PM
MMETS Presentation: 3–4:00PM
Social/Interaction: 4–5:00PM

Speaker: Dr. Richard Smalley
Center for Nanoscale Science & Technology
Rice University

Topic: "Buckytubes and Fibers"



Abstract: The tubular extension of the fullerenes popularly known as “Buckytubes” are now available commercially in small quantities. Early measurements indicate that these tubes behave as coherent quantum wires. In short lengths, they are expected to be the most rigid of all-possible beams and effectively unbreakable even when bent in half. Grown in long ropes they are expected to form the strongest fiber ever made, with a tensile strength approximately 100 times stronger than steel at only one-sixth the weight. Short lengths derivitized at the ends will constitute a new branch of organic chemistry. These buckytubes may bring into reality old dreams of molecular electronics, and have application in virtually all technologies where electrons flow.

Biography: Professor Smalley received his B.S. degree in 1965 from the University of Michigan and Ph.D. from Princeton in 1973, with an intervening four-year period in industry as a research chemist with Shell. During an unusually productive postdoctoral period with Lennard Wharton and Donald Levy at the University of Chicago, he pioneered what has become one of the most powerful techniques in chemical physics; supersonic beam laser spectroscopy. After coming to Rice University in 1976 he rose rapidly through the academic ranks, being named to the Gene and Norman Hackerman Chair in Chemistry in 1982. He was one of the founders of the Rice Quantum Institute in 1979, and served as the Chairman of this interdisciplinary Institute from 1986 to 1996. Since January 1990 he has also been a Professor in the Department of Physics, and was appointed Director of the new Center for Nanoscale Science and Technology at Rice in 1996. In 1990 he was elected to the National Academy of Sciences, and in 1991 to the American Academy of Arts and Sciences. He is the recipient of the 1991 Irving Langmuir Prize in Chemical Physics, the 1992 International Prize for New Materials (which he shares with his colleagues R. F. Curl and H. W. Kroto), the 1992 E.O. Lawrence Award of the U.S. Department of Energy, the 1992 Robert A. Welch Award in Chemistry, the 1993 William H. Nichols Medal of the American Chemical Society, the 1993 John Scott Award of the City of Philadelphia, the 1994 Europhysics Prize, the 1994 Harrison Howe Award, the 1995 Madison Marshall Award, the 1996 Franklin Medal, and the 1996 Nobel Prize in Chemistry. His research at Rice has made pioneering advances in the development of new experimental techniques (super-cold pulsed beams; ultrasensitive laser detection technique; laser-driven source of free radicals, triplets, metals, and both metal and semiconductor cluster beams) and has applied these techniques to a broad range of vital questions in chemical physics. He is widely known for the discovery and characterization of C₆₀ (Buckminsterfullerene),

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a soccerball-shaped molecule, which, together with other fullerenes such as C_{70} , now constitutes the third elemental form of carbon (after graphite and diamond). His group has also been the first to generate fullerenes with metals trapped on the inside. His current research is focused on the production of continuous carbon fibers, which are essentially giant single-fullerene molecules. Just a few nanometers in width, but many centimeters in length, these fullerene fibers are expected to be the strongest fibers ever made, 100 times stronger than steel.

Musings From the Chair



I would like to thank the National American Chemical Society for arranging a meeting with Representative David L. Hobson (R) and his Legislative Assistant, Stacy Rastauskas on Thursday, 17 August. Harvey Paige, Manfred Luttinger Government Relations Representative of the Columbus Section, Caroline Trupp Gil from the American Chemical Society (ACS), Office of Government Affairs, and I participated in the meeting which focused on Department of Defense (DOD) and National Science Foundation (NSF) Research & Development (R&D) funding for Fiscal Year (FY) 2001.

Representative Hopson sits on two subcommittees relevant to R&D funding pertinent to Dayton and Columbus. The Subcommittee on Defense gives him oversight of Department of Defense (DOD) R&D. The Subcommittee on Veterans Affairs, Housing and Urban Development, and Independent Agencies (VA-HUD) decides funding for the National Science Foundation as well as the NASA and EPA.

Congress has passed the DOD R&D budget for FY 2001 with significant increases. For that reason, our meeting concentrated on proposed increases to the NSF budget, which has not been addressed by the Senate. Caroline helped us organize our presentation into three topics: a brief description of the National and Local ACS, the importance of NSF funding for education, and the impact of NSF funding of basic physical science research on the long term state and national economies.

We thanked Representative Hobson for his support of increased DOD research funding and found him very supportive of R&D funding in general. He indicated that he would advocate increased NSF funding if House and Senate bills require reconciliation, but emphasized that budget caps limit maneuverability. In response to a direct question, he indicated that letters to Ohio Senators could help our cause. With respect to the overall budget the dollar amount is small. The Administration has asked for a \$675 million FY 2001 NSF increase. The House version provides for an increase of \$167 million.

We owe a special debt of gratitude to Caroline, who provided information and insight into the budget process and kept us focused during the meeting.

Glen Buell, Chair
glen.buell@wright.edu

Needed: Electronic Mentors for Student Science Projects

Each year, the Dayton Section provides funds and judges for West District Science Day, where area students display their science projects. However, the expertise of our members is badly needed well in advance of WDS. Students and teachers alike need advice on choosing an appropriate project, setting objectives, outlining the research, data collection, data analysis, and drawing conclusions. Our advice will not only result in higher-quality science projects but will also bring about increased participation in WDS and in other science fairs such as Montgomery County Science Day.

You can help by mentoring science students and teachers via email. The Affiliate Societies Council is collecting email addresses of area scientists, engineers, and mathematicians to be made available to organizers of Montgomery County Science Day and West District Science Day. There is no commitment on the part of any mentor other than that which he/she makes with the teacher/student. Send your name, area of expertise, and email address to william.elrod@juno.com.



Call For Patterson-Crane Nominations


Nominees for the 2001 Patterson-Crane Award are being sought by the Dayton and Columbus, Ohio Sections of the American Chemical Society. The biennial award, consisting of a \$2000 honorarium and a personalized commendation, is given in honor of Austin M. Patterson and E. J. Crane, previous editors of *Chemical Abstracts*.

An international honor, the Patterson-Crane Award acknowledges outstanding contributions to the field of chemical information, including the design, development, production or management of chemical information systems or services; electronic access and retrieval of chemical information; critically evaluated data compilations; information technology applications in chemistry; or other significant chemical documentation.

Nominations for the award must be in writing and should discuss the nominee's contributions to the field and provide an evaluation of accomplishments. Materials supporting the nomination should include a biography and bibliography of publications and presentations relevant to the award. Seconding letters are required.

Send one copy of the nomination materials to The Patterson-Crane Award Committee, Melinda Greer, Chair, University of Dayton Chemistry Department, 300 College Park, Dayton, OH 45469-2357, for receipt by 31 January 2001. For more detailed information, see the ACS Dayton Section web page (<http://www.udayton.edu/~acs>) or contact Melinda Greer at (937) 229-2666.

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Tel. (937) 435-7632 **Dr. Sam P. Sinha**

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seven-member selection committee consisting of Dayton and Columbus Section members as well as the Chair of the American Chemical Society Division of Chemical Information.

The 2001 Patterson-Crane Award will be presented 8 May 2001 at an awards dinner to be held in Dayton, Ohio.

Need Help in Your Career?

The Dayton Section offers assistance in career planning and searching for new positions. Contact Glen Buell (937) 426-2937.

