



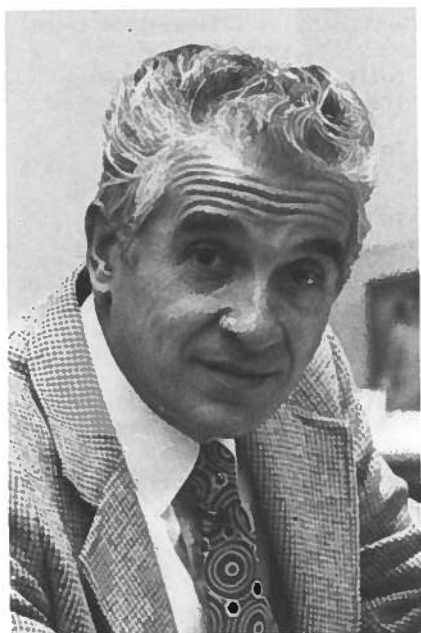
THE **CHESAPEAKE
CHEMIST**

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XLIII

JANUARY, 1987

NUMBER 1



M. GALI SANCHEZ



VAL BUONAIUTO

The front cover of the first issue of *The Chesapeake Chemist* each year is usually adorned with the photographs of the Maryland Section officers for the year. The photos have been omitted this month simply because we don't yet know who the officers are. Page 3 carries the names of last year's officers, the most recent ones revealed to us.

JANUARY MEETING

Perusal of the archives shows that this month's meeting is the first January meeting of the Maryland Section since 1981. A decision to omit January meetings was based on a reluctance to risk too many meetings in the season of snowstorms. Program chairman Al Bober apparently has no fear of big snows. Incidentally, since Al was chairman-elect in 1986, it is a good bet that he is now chairman of the Section.

THE JOHNS HOPKINS UNIVERSITY

Chemistry Colloquia

Colloquia are held at 4:15 pm in Remsen Hall room 221 on the Homewood Campus of The Johns Hopkins University. Refreshments are served before each colloquium at 4:00 pm. For more information contact Mrs. H. J. Potter, 338-7421.

Date	Speaker and Affiliation	Title
January 27	To be announced	
February 3	Millard H. Alexander University of Maryland	Collisional Electron'c Energy Transfer in Diatomic Molecules
February 10	Gary Brudvig Yale University	To be announced
February 17	Paul Wender Stanford University	To be announced
February 24	Josef Michl Univ. of Texas at Austin	To be announced
March 3	To be announced	
March 10	Terry A. Miller Ohio State University	To be announced
March 17	James M. Lisy University of Illinois	Vibrational Predissociation Spec- troscopy of Molecular Clusters
March 31	To be announced	
April 7	T. Ross Kelly Boston College	To be announced
April 14	To be announced	
April 21	To be announced	
April 28	Anthony G. M. Barrett Northwestern University	To be announced



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Sr. Denise Eby

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Tim McNeese Mike Zapf

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to the Editor. Send advertising copy and inquiries to the Business Manager. The Maryland Section is not responsible for opinions expressed herein. Editorials express the opinions only of their authors. The Editor is responsible for all unsigned material.

Dr. M. Gali Sanchez was born in Spain. His early education was interrupted by the Spanish Civil War and later in France by the Second World War. He and his family migrated to Cuba where he resumed his formal training. In 1951 he received a Doctor of Science degree from the University of Havana in Physical-Chemical Sciences. He did additional post-graduate work in physics at the Johns Hopkins University. In 1951 he came to the United States and became a citizen in 1955.

In 1952 Dr. Sanchez joined the Davison Chemical Corporation in Baltimore where he worked in physical and inorganic chemistry, particularly in colloids, surface phenomena, catalysis, and solid state. Davison was acquired by W.R. Grace & Company in 1954.

After transferring to the Central Research Division of Grace in 1958, he worked in various fields of R&D and held administrative and management positions. In 1967 he was appointed President of the Corporate Research Division. In recent years, as Vice President of the Corporate Technical Group, he has concentrated his activities in scientific and technical matters at Grace's Washington Research Center in Columbia, Maryland.

Dr. Sanchez is the inventor of about 70 U.S. patents and has authored 12 scientific papers. In 1966 he directed the team which developed a new family of nuclear fuels selected as one of the 100 most significant new technical products of the year. In 1980 he was selected Maryland Chemist of the Year. He is a member of the ACS, the Electrochemical Society, the Faraday Society, and is a Fellow of the American Institute of Chemists.

OXYGEN VACANCY MODEL IN STRONG METAL-SUPPORT INTERACTION

A model is proposed to account generically for strong metal-support interactions, a term which is used in a broad sense, and for SMSI, an acronym which is used in a specific and narrow sense. The generalized model is operative through the interaction of metal atoms with oxygen ion lattice vacancies in oxide supports. The occupancy of vacancies by metal atoms is equally applicable to different oxide systems, but the resulting effects may vary profoundly depending on the nature of the support. When applied to fluorite-type oxide supports, the model accounts for experimental observations of high metal dispersion, high sorption, and high catalytic activity, and unusual stability of these against sintering, up to temperatures ca. 1400 K under strong oxidation conditions. In contrast, when applied to rutile the model accounts for SMSI. The marked differences in behavior of metals on the two types of supports is explained on the basis of the uniformly compact or localized open cation sublattices. On the first type, interactions are mainly limited to metal occupancy of surface vacancies due to the diffusion barrier created by the support cations. In the second type, metal diffusion into support bulk vacancies and metal burial are possible, under hydrogen reduction, because of the open nature of the cation sublattice. The opposite phenomenon, dislodging the metal back to the support surface through oxidation, is also presented. As such, the model accounts for the typical observations in SMSI systems. The model has predictive value.

VAL BUONAIUTO

Val Buonaiuto is the General Manager of the Instrument Sales and Service Division at the Perkin-Elmer Corporation. Mr. Buonaiuto has responsibility for the international and domestic sales and service organizations for the company's analytical instrumentation.

JANUARY MEETING

DATE:

Wednesday, January 21, 1987

PLACE:

Knott Science Center
The College of Notre Dame
of Maryland
North Charles Street
Baltimore

SPEAKERS AND TOPICS:

5:30 pm
M. Gali Sanchez
W.R. Grace & Co., retired
'Oxygen Vacancy Model in Strong
Metal-support Interaction'

8:15 pm
Val Buonaiuto
Perkin-Elmer Corp.
'The Chemist in Business, or
What To Do When the Glue Won't
Stay Stuck'

COCKTAILS AND DINNER:

Doyle Building Dining Room
Social Hour 6:30 pm
Dinner 7:15 pm

Dinner price \$12.00 per person, but spouses, retired chemists and students may attend for \$10.00

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

John Corliss
P.O. Box 20899
Baltimore, MD 21209

by January 12. Late reservations may be made by calling

John Corliss at (301) 235-6612 or Nolan Phillips at (301) 939-3500

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

Since joining Perkin-Elmer in 1978, Mr. Buonaiuto has served in a number of sales management positions in the Instrument Group. Most recently, he was National Sales Manager, United States Sales.

Mr. Buonaiuto has an A.S. degree from Western Connecticut State College in Business Administration.

THE CHEMIST IN BUSINESS, OR WHAT TO DO WHEN THE GLUE WON'T STAY STUCK

From the chemist who developed a glue which wouldn't stay stuck, and used it to invent Post-It notes, to the chemists managing some of America's largest corporations, thousands of people are laying to rest the myth that scientists can't succeed in business. Chemists have skills and knowledge which make them just as well suited to start businesses as the computer scientists we hear so much more about. With training in management, many others successfully exploit their technical knowledge to lead their companies to success over their less informed competitors. The trick is in understanding the strengths which a chemist brings to the job, and in compensating for the weaknesses.

Large doses of entrepreneurial spirit can partly make up for the prevailing lack of experience of chemists in business. With the advances coming out of our labs today, the 1990's could be the age of the chemist, much as the 80's have been the age of the computer entrepreneur. It is the chemist's task to recognize his or her potential, to make the break from the safety of the lab, and to teach himself or herself how to run chemical-based businesses ranging from semiconductor manufacturing to furniture making.

ACS BEGINS SCIENCE POLICY SABBATICAL PROGRAM

ACS will initiate a science policy sabbatical program next fall in the Department of Government Relations and Science Policy. The Sabbatical will begin September 1, 1987. The program objectives are twofold. First, the Department hopes to provide an opportunity for ACS members to gain experience with the operations of Congress, the executive branch, and the ACS. Second, the member will assist the ACS in the formation of public policy involving the chemical sciences and technology by providing professional staff support and by completing a special science policy project. The ACS Board of Directors was expected to give final approval for this program at its December, 1986 meeting.

Applicants should submit a letter of intent, resume, and two letters of reference to the Office of Science Policy Analysis. The letter of intent should include a description of the applicant's experience in public-oriented projects in which scientific or technical knowledge was used as a basis for interaction, a statement that tells why they have applied for the Sabbatical and what they hope to accomplish in their Sabbatical year, and ideas for science policy projects. The resume should describe the candidate's education and professional experience and include other pertinent personal information. Letters of reference should be solicited from people who can discuss not only the candidate's competence but also the applicant's experience in public-oriented projects. Arrangements should be made to send the letters of reference directly to ACS. The deadline for receipt of applications is March 1, 1987. For further information regarding the program, contact the Office of Science Policy Analysis, ACS, 1155 Sixteenth Street, N.W., Washington, DC 20036 or call (202) 872-4384.

ANALYTICAL STARTER GRANT PROGRAM

The Society for Analytical Chemists of Pittsburgh has announced that it will award two \$5,000 grants to encourage high quality research by new analytical chemistry professors. The competition is open to assistant professors who have accepted a college or university appointment since December 31, 1983.

Application forms are available from W.G. Tramosch, Calgon Carbon Corp., P.O. Box 717, Pittsburgh, PA 15230-0717; telephone (412) 787-6616. Completed applications must be received by April 13 and winners will be announced in May.

MODERN ANALYTICAL COURSE

The University of Florida has announced the fifth offering of its short course on Modern Analytical Chemistry. It will be presented March 22-26, 1987. The aim of the course is to provide laboratory supervisors, managers and research directors with an overview of modern analytical techniques. The course is patterned somewhat after the style of the Gordon Conferences. Information can be obtained from Ms. Jeanne Karably, Department of Chemistry, University of Florida, Gainesville, Florida 32611; telephone (904) 392-0556.

CHEMICAL ABSTRACTS SERVICE ADDITIONS

Chemical Abstracts Service adds two new publications to its biotechnology current-awareness service, *CAS BioTech Updates*, this month. The two new topics are *Agriculture* and *Biopolymer Sequence*.

Further information can be obtained from CAS Customer Services, 2540 Olen-tangy River Road, P.O. Box 3012, Columbus, Ohio 43210 (or call 800-848-6538).

1986-1987 MARYLAND SECTION PROGRAM

DATE AND LOCATION	SPEAKER	AFFILIATION
February 18, 1987 College of Notre Dame	Frederick Lampe Joyce Kaufman	Pennsylvania State Univ. The Johns Hopkins Univ.
March 11, 1987 College of Notre Dame	John Lever Glen Prestwich	The Johns Hopkins Univ. SUNY at Stonybrook
April 22, 1987 Hood College	Student Awards Plus 3 under 30 Bober, Riley and Cohen Science Fair Winners' Posters	
May, 1987	Remsen Award	

THE PITTSBURGH CONFERENCE

The Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy, after its 38th edition in Atlantic City, March 9-13, 1987, will take to the road for the next four years, visiting New Orleans, Atlanta, New York and Chicago. Advance registration for the 1987 meeting is \$35 with lower rates for students and spouses and rate increases for on-site registration. Those wishing additional information may contact Dr. John Novak, Registration Chairman, 12 Federal Drive, Pittsburgh, PA 15235.

SOCIAL HOUR SPONSORS

Companies sponsoring the social hours at our 1986-87 series of dinner meetings include Beckman, Fisher Scientific, Hewlett Packard, Kimble Glass, Kratos Analytical, Perkin-Elmer and the W.R. Grace Research Center.

1987 HERMAN SKOLNIK AWARD

Dr. William Theilheimer has been chosen to receive the 1987 Herman Skolnik Award of the ACS Division of Chemical Information. The award was inaugurated in 1976 to recognize contributions to the theory and practice of chemical information science. It will be presented on September 1 at the ACS meeting in New Orleans. A symposium in Dr. Theilheimer's honor will also be held at that time.

Four years ago Theilheimer devised a chemical reaction categorization system which is regarded as fundamental to most modern chemical reaction databases. His system led to the publication of forty successive yearbooks of *Theilheimer's Synthetic Methods of Organic Chemistry*.

DIVISION OF PROFESSIONAL RELATIONS

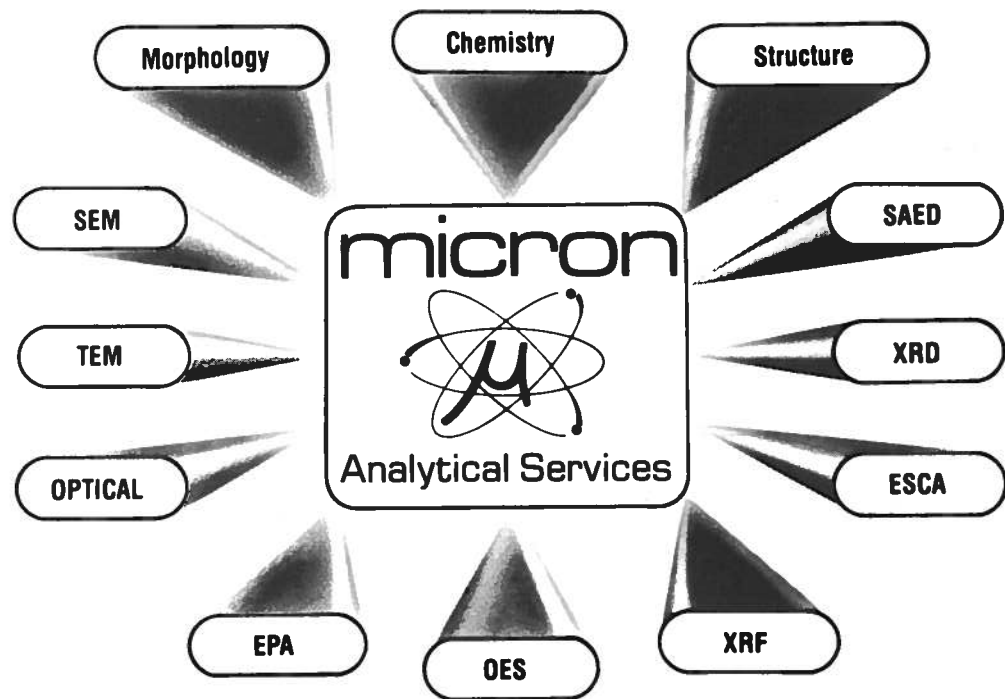
We have been asked by Raquel Diaz-Sprague, chair of the Professional Relations Committee of the Columbus Section, to aid in soliciting new members for the ACS Division of Professional Relations. The DPR works for expansion of the employment rights of chemical professionals and, of course, its representation on the ACS Council depends on the size of its membership.

Annual dues of the Division are \$4.00 and membership can be arranged through Paul A. Rebers, Secretary, Division of Professional Relations, P.O. Box 70, Ames, Iowa 50010.

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