



THE

CHESAPEAKE CHEMIST

MARYLAND SECTION
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NUMBER 7



JOHN W. VANDERHOFF



RICHARD M. IKEDA



LAWRENCE H. DUNLAP



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Lawrence H. Dunlap was born in Madison, Wisconsin in 1910. He received A.B., B.S., and M.A. degrees from the University of Missouri and a Ph.D. in organic chemistry from the University of Illinois in 1939. He was employed in several capacities by the Armstrong Cork Company until 1975, serving as Senior Research Associate from 1962 - 1975. He has numerous patents and publications in the fields of natural and synthetic resins, plastics, drying oils and floor coverings.

Dr. Dunlap is a Fellow of the Chemical Society (London), the American Association for the Advancement of Science, and the American Institute of Chemists. He is a member of Sigma Xi and Alpha Chi Sigma. His A.C.S. activities have included service as a National Councilor and as Chairman of the Southeastern Pennsylvania Section.

Dr. Dunlap has chaired symposia on organo-metallic polymers and on thermodynamic properties of bulk polymers. He was also a delegate to the 12th International Congress of Pure and Applied Chemistry.

PRINCIPLES OF POLYMER CHEMISTRY

This discussion will include: characteristics of polymers; the concept of functional groups; chains and networks; types of polymerization as step-reactions and chain-reactions; molecular weight averages and distributions; properties of polymers, such as melt and glass temperatures, crystallinity and orientation, and the factors influencing those properties such as chain length, branching, polarity, shape, copolymerization, plasticization and cross-linking. Some typical uses are mentioned for each type. This is aimed at undergraduate level audiences who know some organic chemistry.

RICHARD M. IKEDA

Richard M. Ikeda received a B.S. in chemistry from Juniata College and a Ph.D. in physical chemistry from the University of Illinois. Following a post-doctoral appointment at Harvard, he joined the Film Department at the Du Pont Company Experimental Station in Wilmington, Delaware in 1959. Since that time, he has held a number of research positions at Du Pont working generally in the area of polymer structure and morphology. He is presently a Group Leader in the Central Research and Development Department.

THE VAPOR PHASE POLYMERIZATION OF POLY(p-PHENYLENE TEREPHTHALAMIDE)

A highly unusual vapor phase polymerization technique was devised to deposit thin (1-10 μm) poly(p-phenylene terephthalamide) coatings onto polyester film and other sheet substrates. A minimum deposition temperature of 170°C was found to be critical. When substrate temperatures were also below 170°C, the coatings were loosely adhered, powdery, and of low molecular weight; above 170°C, coherent, well-adhered, high molecular weight coatings were obtained. These vapor deposited coatings exhibited exceptionally good oxygen barrier properties and unusual morphological characteristics. A mechanism will be proposed to account for both polymerization peculiarities and the resulting structures.

OCTOBER MEETING

DATE:

Wednesday, October 17, 1979

PLACE:

W. R. Grace Research Center
Rt. 32 west of Rt. 29
Clarksville, Maryland

DINNER RESERVATIONS:

Reservations should be made
with *Dr. Melvin P. Miller*

323-1010 ext 467

Dinner price \$8.00 per person, except retired members, spouses, and students may attend the dinner for \$5.00

Meet in the lobby of Building #1 for meeting locations.

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

SCHEDULE:

5:15 Lawrence H. Dunlap
Armstrong Cork Co.
Principles of Polymer
Chemistry

Charles Morgan
W. R. Grace & Co.
Radiation Curable
Coatings

Richard M. Ikeda
E. I. duPont
Gas Phase Polymerization

6:00 Social Hour

6:45 Dinner

8:15 John W. Vanderhoff
Lehigh University
Polymer Structure
Determination

JOHN W. VANDERHOFF

John W. Vanderhoff is a native of Niagara Falls, N.Y. He received a B.S. degree in chemistry from Niagara University, and a Ph.D. from Buffalo University. He joined the staff of Lehigh University in 1970 as Associate Director - Coatings of the Center for Surface and Coatings Research. He is also Professor of Chemistry at Lehigh and Research Director of the National Printing Ink Research Institute, which has headquarters at the university.

Dr. Vanderhoff was previously Associate Scientist in the Physical Research Laboratory at Dow Chemical. His fields of specialization are polymer, colloid, and surface chemistry, in particular, emulsion polymerization, uniform particle size latexes, and application of latexes in paints, paper coatings, cement, and immunology. He holds a number of patents and has published more than 90 technical papers. In 1965 he was co-recipient of the Union Carbide Chemistry Award of the ACS.

Dr. Vanderhoff is a member of ACS, the American Association for the Advancement of Science, Sigma Xi, the Technical Association of the Pulp and Paper Industry, and the Association of Manufacturing Engineers. He is also a Fellow of the American Institute of Chemists.

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MARYLAND SECTION FUTURE PROGRAM

Date	Location	Speakers	Topic
November 14	College of Notre Dame	Donald T. Witiak (Ohio State Univ.)	Prostaglandin F ₂ Antagonist
		Daniel Lednicer (Mead, Johnson & Co.)	Serendipity and the Discovery of New Drugs
December 12	College of Notre Dame	Maryland Chemist Award	
January 16	Loyola College	Jon D. Franklin (Baltimore Sunpapers)	To Be Announced
February 13	College of Notre Dame	William Avery (Johns Hopkins Applied Physics Lab)	Chemical Storage of Energy
March 19	Towson State University	John Pavlik (Fisher Scientific)	Art, Science and Alchemy
		Jon B. Eklund (Smithsonian Inst.)	To Be Announced
April 16	McCormick & Co. Research Lab	Garry Rechnitz (U. of Delaware)	Bio-selective Membrane Electrodes
		Joseph O. Jordan (Penn. State U.)	Thermometric Titrations and Enthalpometric Analysis
May	Johns Hopkins	Remsen Award	

ELECTION OF SECTION OFFICERS

Please complete the following ballot for the election of the 1980 officers, councilors, and members-at-large of the Maryland Section, and mail it to Frances Hummel, 9627 Whiteacre Road, Columbia, MD 21045 by November 10, 1979. Please sign the envelope so that Section membership can be verified, but please do not sign the ballot itself.

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Alternate Councilor (1980-82)	Robert L. Caret	_____
Members-at-large	Simon Courtade	_____
(Vote for 5)	Donald Hoster	_____
	Maria Kirk	_____
	Lou Sacchetti	_____
	Sister Vincent	_____

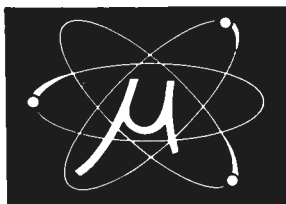
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Semi quantitative and quantitative analysis of trace elements
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- ☐ **X-Ray Fluorescence**
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- ☐ **Differential Scanning Calorimetry**
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