The Conference brought together scientists so that they could exchange recent research results and provided a mechanism for the development of close interactions between these scientists. The Conference was attended by 114 conferees. There were 65 scientists from industrial agencies, 15 government participants, and 34 conferees from academic agencies. In addition, there were participants from the following countries: France, Italy, Israel, Japan, Czechoslovakia, England, and West Germany.
GORDON RESEARCH CONFERENCES
ON POLYMERS(W)

Final Project Report

AFOSR-TR-87-0662

by

J. J. Aklonis

for the period
7 January 1985 to 6 April 1985

University of Rhode Island
Gordon Research Conferences
125 Pastore Chemical Laboratory
Kingston, RI 02881

AFOSR-85-0110

Approved for Public Release; distribution unlimited
This grant provided essential financial support of the Gordon Research Conference on Polymers (U) which was held from January 7-11, 1985 at the Miramar Hotel in Santa Barbara, California. The objective of this Conference was to bring together scientists so that they could exchange recent research results and the Conference provided a mechanism for the development of close interactions between these scientists. The Conference was attended by 114 conferees. There were 65 scientists from industrial agencies, 15 government participants, and 34 conferees from academic agencies. In addition, there were participants from the following countries: France, Italy, Israel, Japan, Czechoslovakia, England, and West Germany.

Lectures were presented in several areas relevant to the theme of this conference. A copy of the program and participant list have been enclosed for your information.

The quality of all of the lectures was exceptionally high and considerable discussion followed each lecture. Many of the conferees expressed very favorable comments about the intellectual stimulation provided by this Conference.
### GORDON RESEARCH CONFERENCES

**POLYMERS**

*July 1-5, 1985*

Colby-Sawyer College, New London

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<td>Koenigkramer, Betty</td>
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<td>Morovetz, Herbert</td>
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PROGRAM FOR THE 1985 GORDON CONFERENCE

POLYMERS (WEST)

January 7-11, 1985

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I.C. Sanchez, Vice Chairman

Monday morning, January 7

Discussion Leader: D.R. Squire
U.S. Army Research Office (U.K.)

"Long Range Electronic Energy Transfer and
Quenching Processes in Aromatic Polymers"  A. Gupta
Jet Propulsion Lab

"Fluorescence Studies of the Morphology of Composite Polymer Materials"  M.A. Winnik
University of Toronto

Monday afternoon, January 7

Discussion Leader: J. Moacanin
Jet Propulsion Lab

"Polymer-Biomembrane Interactions: Nature and Consequences"  D. Tirrell
University of Mass.

"Alkyl Chain Flexibility in Liquid Crystal Polymers via Deuterium NMR"  E.T. Samulski
University of Conn.

Tuesday morning, January 8

Discussion Leader: R.S. Porter
University of Massachusetts

"Fractal Concepts in Polymers, Gels and Colloids"  H.E. Stanley
Boston University

"Computer Simulations of Fractal Structures in Materials, Science"  P. Meakin
E.I. duPont Co.
Tuesday afternoon, January 8

Discussion Leader: T.L. Smith
IBM Research Labs

"The Retardation Spectrum of Amorphous Materials Near Tg"
D. Plazek
U. of Pittsburgh

"Phase Equilibrium and Critical Phenomena in Chemically Reactive Polymer Solutions"
J.C. Wheeler
U.C. San Diego

Wednesday morning, January 9

Discussion Leader: N.W. Tschoegl
California Institute of Technology

"A Comparison of the Viscosity and Diffusivity of Linear and Branched Polymers"
D. Pearson
Exxon Research

"Properties of Ring Polymers"
A.J. Kovacs
CRM/CNRS

Wednesday afternoon, January 9

Discussion Leader: M. Golub
Moffett Field

"Anionic Synthesis of Multiphase Copolymer Systems"
J. McGrath
Virginia Polytech. Inst. and State University

"New Polyaromatics"
J. Stille
Colorado State Univ.

Thursday morning, January 10

Discussion Leader: R.E. Robertson
Ford Motor Corporation

"Physical Aging of Polymers and their Blends"
W. Prest
Xerox Corporation

"A Fundamental Relation between the Breadth of the Relaxation Spectrum and Relaxation Time Scale: Application to Volume and Enthalpy Recovery, Nonlinear Stress-Strain Behavior, and Melt Rheology"
R. Rendell
Naval Research Lab
Thursday afternoon, January 10

Discussion Leader: I.C. Sanchez
National Bureau of Standards

"An Inorganic Analog of Polyethylene"
D.G.H. Ballard
New Sciences Group, ICI

Poster Session

Friday morning, January 11

Discussion Leader: W. Pavelich
Borg-Warner Chemical Company

"Structure and Properties of Segmented Polyurethanes"
W.J. MacKnight
University of Mass.

"Order-Disorder in Block Copolymers"
F. Bates
Bell Labs
Poster Session

1. "Direct Evidence for Steric Stabilization of Colloidal Particles Using Block Copolymers", George Hadziioannou, IBM (San Jose)


4. "Isothermal and Non-isothermal Crystallization Kinetics of Poly(etheretherketone), PEEK", Peggy Cebe and Su-Don Hong, Jet Propulsion Laboratory.


7. "Will the Distribution of Relaxation Times Change in the Glassy State?", Shiro Matsuoka, Bell Labs.


10. "Diffusion in Semi-dilute Polymer Solutions by Pulsed Field Gradient NMR", Eric Amis, USC.

11. "Dynamics of a Polymer in a Electric Field", Monica Olvera de la Cruz, NBS/UMASS, and J. Deutsch, ITP, Santa Barbara.

12. "Polymer Rheology and Entanglements", Michael Rubenstein, Bell Labs.

13. "Phase Separation Phenomena in PS/PVME Blends", Charles C. Han, NBS.


15. "Electronic Excited State Transport as a Probe of Polymer Structure", Glenn H. Fredericksen, Bell Labs.
END
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DTIC