

RHEOLOGY BULLETIN

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FALL 1971 MEETING PRELIMINARY ANNOUNCEMENT

With regard to the Fall 1971 Society of Rheology meeting, the following tentative arrangements have been made:

Time:

Sunday, October 24 through Wednesday, October 27.

Place:

University Center, University of Tennessee, Knoxville (Rooms for two simultaneous sessions have been reserved).

Accommodations:

One half of group (A through M) University Inn, Second half of group (N through Z) Sheraton Motor Inn. (Both motels are within walking distance of the University Center).

Bingham Medal:

Ceremony and Smoker

Sheraton Motor Inn (Tuesday October 26).

RHEOLOGY NOMENCLATURE

The Executive Committee is interested in receiving expressions of interest from members concerning nomenclature. The time appears ripe for a second ad hoc committee on communication problems in rheology with emphasis this time on symbols and with viscoelasticity in general. [See Transactions SOR, Volume III, 205-206 (1959)] Inform your Editor if you are interested in chairing or serving on such a committee. Even if your answer to that question is no, we would be interested in your advice.

RHEOLOGY DEFINED

President Markovitz ran across this new definition of rheology in "Lightning Empiricist" 17 (3) 11 (1969):

Rheology: Study of the deformation and flow of matter (pastes) in terms of stress, strain and time.

REPORT OF THE 1969 BINGHAM AWARD COMMITTEE

1. Dr. Stanley G. Mason of McGill University was selected to be the Bingham Medalist for 1969.
2. A number of other highly qualified candidates were considered by the committee. These nominees were proposed both by committee members and by members of the Society. In several cases, these nominations were supported by very complete summaries of the candidates' scientific work. It would be improper to name these potential candidates in this report, which will have wide circulation; however this committee strongly recommends that these nominees be given serious consideration by next year's Award Committee. In order to accomplish this, all the information on these nominees in the hands of this committee will be turned over to the Chairman of the 1970 Award Committee.
3. This committee recommends strongly that the principle of continuity of membership on the Bingham Award Committee, initiated several years ago be continued. It further recommends that the President, with the advice and consent of the incoming President, should appoint the new members and the Chairman of next year's Award Committee before the fall meeting of the Society. This will permit members of the new committee to meet together at the Meeting for informal face-to-face discussion of both procedural matters and the qualifications of various candidates. Such informal discussions have been very helpful in the past and lead to a freer exchange of views than is possible by correspondence.
4. This committee does not recommend any changes in the "Rules to Govern the Bingham Medal Award". It feels strongly, however, that these rules should reflect both the spirit in which the award was established, and the current situation in the Society. We therefore feel that each committee should consider possible revisions of these rules as a part of its assigned responsibility and should make suitable recommendations for their revision when it believes changes are desirable.

RHEOLOGY BULLETIN
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WINTER MEETING
THE SOCIETY OF RHEOLOGY, INC.

California Institute of Technology
Pasadena, California 91109

February 2-4, 1970

Sessions unless otherwise stated will be held in
Room 153 Arthur A. Noyes Laboratory of Chemical
Physics, CIT

MONDAY, FEBRUARY 2, 1970

8:00 a.m.—Registration

SESSION A.

Viscoelastic Theory, Chairman, N. W.
Tschoegl, California Institute of Technol-
ogy, Pasadena, California.

- 9:00 a.m.—Invited Lecture—*Stochastic Models of Re-
laxation Phenomena*, D. R. Axelrad, McGill Uni-
versity, Montreal, Canada.
- 10:00 a.m.—Break
- 10:15 a.m.—*Calculations of the Stress Relaxation Mod-
ulus from "Real" Experiments*, R. E. Kelchner and
J. J. Aklonis, University of Southern California,
Los Angeles, California 90007.
- 10:45 a.m.—*The Measurement of the Viscosities of Sol-
ids*, I. J. Gruntfest and M. Most. General Electric
Company, King of Prussia, Pennsylvania 19406
- 11:15 a.m.—*Permanent Memory Viscoelastic Constitu-
tive Theory*, R. J. Farris, University of Utah, Salt
Lake City, Utah 84112.

Lunch

SESSION B.

Flow Properties, Chairman, R. F. Landel,
Jet Propulsion Laboratory, California Insti-
tute of Technology, Pasadena, California
91103.

- 2:00 p.m.—*The Optical Measurement of Normal
Stresses and the Decay of Normal and Shear
Stresses*, W. Philippoff, Esso Research and Engi-
neering Company, Linden, New Jersey 07036.

2:30 p.m.—*Stresses in Flows of Dilute Bead-Nonlinear
Spring Macromolecules*, R. I. Tanner and W.
Stehrenberger, Brown University, Providence,
Rhode Island 02912.

3:00 p.m.—*Terminal Group Association in Carboxy
and Carboxylate Terminated Polybutadiene*, E. P.
Otocka, M. Y. Hellman and L. L. Blyler, Bell
Telephone Laboratories, Inc., Murry Hill, New
Jersey 07971.

3:30 p.m.—Break

3:45 p.m.—*Experimental Determination of Elonga-
tional Viscosity*, C. D. Han and L. Segal, Poly-
technic Institute of Brooklyn, Brooklyn, New
York 11201.

4:15 p.m.—*Measurement of the Axial Pressure Distri-
bution of Molten Polymers in Flow Through a
Rectangular Duct*, C. D. Han and M. Charles,
Polytechnic Institute of Brooklyn, Brooklyn, New
York 11201.

4:45 p.m.—*Polyvinylchloride Melt Rheology II. The
Influence of Molecular Weight on the Flow Ac-
tivation Energy*, E. A. Collins and A. P. Metzger,
B. F. Goodrich Chemical Company, Development
Center, Avon Lake, Ohio 44012.

6:00 p.m.—Social Hour—Courtesy of the Instron
Corporation.
Athenaeum Club, California Institute of Tech-
nology.

7:00 p.m.—Banquet—Athenaeum Club, California In-
stitute of Technology.

9:00 p.m.—Inspection of Caltech Polymer Laboratories.

TUESDAY, FEBRUARY 3, 1970

SESSION C.

Adhesion, Chairman, D. H. Kaelble, Science
Center, North American Rockwell Corpora-
tion, Thousand Oaks, California 91360.

8:30 a.m.—Invited Lecture—*Strength of Soft Adhe-
sives*, A. Gent, Institute of Rubber Research, Uni-
versity of Akron, Akron Ohio 44304.

9:30 a.m.—Break

9:45 a.m.—*Polymer Adsorption, Layer Thickness, and
Adhesion*, F. R. Eirich, Polytechnic Institute of
Brooklyn, Brooklyn, New York 11201.

10:15 a.m.—*Time Dependent Unbonding of Dissimilar
Viscoelastic Solids*, W. G. Knauss, California Insti-
tute of Technology, Pasadena, California 91109.

10:45 a.m.—*Theoretical and Experimental Treatment of
an Adhesive Interlayer*, M. L. Williams, J. D.
Burton, and W. B. Jones, University of Utah,
Salt Lake City, Utah 84112.

12:00 noon—Bus leaves for Jet Propulsion Laboratory

Lunch—Jet Propulsion Cafeteria - Building 167.

Meeting—Public Affairs Building 180, Room 101 Jet Propulsion Laboratory.

SESSION D.

JPL, Bldg. 180, Room 101—*Biorheology*,
Chairman J. H. Wayland, California Institute of Technology, Pasadena, California 91109.

2:00 p.m.—*The Viscosity of Hardened Red Blood Cells*, R. F. Landel and R. F. Fedors, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California 91103.

2:30 p.m.—*An Instrumentation for Studying Viscoelasticity in DNA Solutions and Results on Phage DNA's*, L. C. Klotz and B. H. Zimm, Revelle College, University of California (San Diego), La Jolla, California 92037.

3:00 p.m.—*Mathematical Development and Solution of a Physical Model for Muscular Contractile Elements*, Julia T. Apter, Presbyterian-St. Luke's Hospital and Department of Surgery, University of Illinois, Chicago, 60612, and W. W. Graessley, Northwestern University, Evanston, Illinois 60201.

3:30 p.m.—Inspection of Spacecraft Control Center, Spacecraft Museum, and Polymer Laboratories, Jet Propulsion Laboratory.

7:30 p.m.—Special Topics Discussion, Athenaeum Club, *CIT Rheology in Reacting Systems*, Chairman J. Moacanin, Jet Propulsions Laboratory, California Institute of Technology, Pasadena, California 91103.
Discussion Leader, J. J. Aklonis, University of Southern California, Los Angeles, California 90007.

WEDNESDAY, FEBRUARY 4, 1970

SESSION E.

Filled Elastomers and Block Copolymers,
Chairman, H. Leeming, Lockheed Propulsion Company, Redlands, California 92373.

8:30 a.m.—Invited Lecture—*Dynamic Mechanical Properties of Filled Systems*, L. E. Nielsen, Monsanto Company, St. Louis, Missouri 63166.

9:30 a.m.—*The Effect of Pressure on the Mechanical and Ultimate Properties of Filled Elastomers*, C. K. Lim and N. W. Tschoegl, California Institute of Technology, Pasadena, California 91109.

10:00 a.m.—Break

10:15 a.m.—*Interfacial Morphology and Mechanical Properties of A-B-A Triblock Copolymers*, D. H. Kaelble, Science Center, North American Rockwell Corporation, Thousand Oaks, California 91360.

10:45 a.m.—*Viscoelastic Properties of a Solvent-Cast S-B-S Block Copolymer*, M. Shen, E. H. Cirilin, and D. H. Kaelble, Science Center, North American Rockwell Corporation, Thousand Oaks, California 91360.

11:15 a.m.—*The Measurement of the Yield Stress of Gels with a Sphere Rheometer*, A. Adicoff, A. L. Woodman, W. J. Murbach, and A. H. Lepie, Naval Weapons Center, China Lake, California 93555.

Lunch

SESSION F.

Large Deformation and Ultimate Properties, Chairman, W. G. Knauss, California Institute of Technology, Pasadena, California 91109.

2:00 p.m.—*Irreversible Processes and Existence of Entropy*, K. C. Valanis, University of Iowa, Iowa City, Iowa 52240.

2:30 p.m.—*On the Thermodynamics of General Relaxation Phenomena*, T. J. Peng*, K. C. Valanis**, and R. F. Landel*, *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California 91103, and **University of Iowa, Iowa City, Iowa 52240.

3:00 p.m.—*Extension of the Valanis-Landel Theory to Small Deformations Superposed on a Finite Stretch*, T. J. Peng and N. W. Tschoegl, California Institute of Technology, Pasadena, California 91109.

3:30 p.m.—Break

3:45 p.m.—*Effect of Tensile Strain on the Use of the WLF Equation*, A. Adicoff and A. H. Lepie, Naval Weapons Center, China Lake, California 93555.

4:15 p.m.—*Mechanical Excitation of Scission of Polymer Chains Embedded in a Viscoelastic Medium*, H. H. Kausch-Blecken von Schmeling, Battelle-Institute. V. Frankfurt (Main), Germany, and J. Becht, Deutsches Kunststoff-Institut, Darmstadt, Germany.

4:45 p.m.—*Residual Stresses in a Thermorheologically Simple Composite Material*, R. P. Murro, Lowell Technological Institute, Lowell, Massachusetts 01854.

