

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Vol. 52, No. 1

January 1983



54th ANNUAL MEETING Evanston, Illinois

The Society of Rheology wishes to thank Rheometrics, Imass, DuPont, General Mills and Amoco for their contributions toward the Annual Meeting.

Also, thanks to the University of Illinois and Northwestern University for permitting Anthony McHugh and Buckley Crist, Jr. the time to effectively carry out their duties as Program Chairman and Local Arrangements Chairman.

55th ANNUAL MEETING Hilton Inn Knoxville, Tennessee October 16-20, 1983

Program Committee

Lothar W. Kleiner (Chairman)
Diamond Shamrock Corporation
T. R. Evans Laboratory
P. O. Box 348
Painesville, Ohio 44077
216/357-3250

William B. Russel (Co-chairman)
Dept. of Chemical Engineering
Princeton University
Princeton, New Jersey 08544
609/452-4590

Local Arrangements Chairman

Donald C. Bogue (Chairman)
Dept. of Chemical Engineering
University of Tennessee
Knoxville, Tennessee 37916
615/974-3393

John F. Fellers (Co-chairman)
University of Tennessee
609 Dougherty Hall
Knoxville, Tennessee 37916
615/974-2440

SOCIETY OF RHEOLOGY SHORT COURSE

There will be a short course on Saturday and Sunday prior to the Annual Meeting. Contact: E.A. Collins, Diamond Shamrock Corporation, T.R.Evans Research Center, P.O.Box 348, Painesville, Ohio 44077.

CALL FOR PAPERS

An abstract form is enclosed which should be used when submitting abstracts. Use elite type, if possible. Deadline for submission of abstracts is June 1, 1983. Symposium papers should be sent to the respective symposium chairman.

Chemorheology of Polymer Systems

Paul C. D. Han
Polytechnic Institute of New York
333 Jay Street
Brooklyn, New York 11201
212/643-2852

Coatings

W. B. Russel
Address listed above.

Rheology of Nonaqueous Lubricants

Stanley K. Baczek
The Lubrizol Corporation
29400 Lakeland Blvd.
Wickliffe, Ohio 44092
216/943-4200 Ext. 2814

Composite Materials

Byron Pipes
University of Delaware
Center for Composite Materials
P. O. Box 4578
Newark, Delaware 19711
312/738-2310

Conductive Composites

Bing-Lin Lee
B.F. Goodrich Company
9921 Brecksville Rd.
Brecksville, Ohio 44141
216/447-5534

Solid State Viscoelasticity

Richard J. Farris
University of Massachusetts
Dept. of Polymer Sciences & Engineering
Amherst, Massachusetts 01003

Rheology of Multi-phase Polymer Systems

Robert G. Weiss
University of Connecticut
Dept. of Chemical Engineering
Storrs, Connecticut 06268
203/486-4698

RHEOLOGY BULLETIN

Raymond R. Myers, Editor
Department of Chemistry
Kent State University
Kent, Ohio 44242
216/672-2034

Education Committee

Edward A. Collins

Site Selection Committee

Edward A. Collins

Nomenclature Committee

John M. Dealy (Chairman)

R. R. Bird

W. W. Graessley

K. F. Wissbrun

Members are asked to send their comments regarding the enclosed Report of the Nomenclature Committee to committee chairman John Dealy whose address is listed in the report.

Rheology in Enhanced Oil Recovery

Raymond W. Flumerfelt
University of Houston
Dept. of Chemical Engineering
Houston, Texas 77004
713/749-2414

Multiphase Flows

Robert K. Prud'homme
Princeton University
Dept. of Chemical Engineering
Princeton, New Jersey 08540
609/452-4577

General

Joel R. Fried
University of Cincinnati
Dept. of Chemical & Nuclear Engineering
Cincinnati, Ohio 45221
513/475-350

and

Lothar W. Kleiner
Address listed above.

1983 BINGHAM AWARD NOMINATIONS

Nominations for the 1983 Bingham Medal should be made before February 18, 1983 to Arthur B. Metzner (committee chairman), Dept. of Chemical Engineering, University of Delaware, Newark, Delaware 19711. Phone: 302/738-2328.

Nominating documents should state the nominee's achievements as specifically as possible and include some estimate of the importance they have had.

COMMITTEES

Executive Committee

Alan N. Gent (president)
William R. Schowalter (vice president)
John R. Collier (secretary)
Edward A. Collins (treasurer)
Raymond R. Myers (editor)
John M. Dealy (member-at-large)
Kurt F. Wissbrun (member-at-large)
Edward B. Bagley (past president)

Bingham Award Committee

Arthur B. Metzner (1983) (Chairman)
Nobuyuki Nakajima (1983)
Daniel D. Joseph (1984)
Thor L. Smith (1984)
B. Duane Marsh (1985)
Ward O. Winer (1985)

Nominating Committee

Robert S. Marvin (Chairman)
Christopher W. Macosko
Donald J. Plazek

Membership Committee

Charles L. Sieglaff

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

The Society of Rheology

Evanston, Illinois

October 24, 1982

The meeting was called to order at 2 p.m. by President A.N. Gent. Those in attendance were W.R. Schowalter, R.R. Myers, J.R. Collier, E.A. Collins, E.R. Bagley, J.M. Dealy, K.F. Wissbrun. Also attending were S.H. Carr, B. Crist, Jr., A.J. McHugh, L.W. Kleiner, A.B. Metzner, J.R. Knox, D. Hunston, and B. Mena. Minutes of the previous meeting were adopted.

Discussion of the 1982 Annual Meeting was held. When Plenary Lecturers are non-members, no registration fee will be charged and one night lodging at meeting location will be covered. Twenty-five to thirty percent more papers were received this year than last year. Imass, Rheometrics, DuPont, and Amoco were financially supporting this meeting.

Discussion continued to the 1983 Annual Meeting, October 16-20, 1983, at the Knoxville Hilton Inn in Knoxville, Tennessee. Donald Bogue will be the local arrangements chairman and Lothar Kleiner will be the technical program chairman. The abstract deadline will be June 1, 1983. Registration for the 1983 meeting will not exceed (without Executive Committee approval) \$30 for members and \$50 for non-members. Twenty dollars of the non-member fee will pay that person's dues as a member for the year. Students may attend the meeting for half price, and if working for The Society (slide projection, etc.), then no registration will be charged. Short course registration for 1983 should not exceed \$200 for on-time registrants.

Since only five replies were received on the survey pertaining to future meetings, the Executive Committee felt that the Society members were implying that the Executive Committee should use its collective judgment. The possible locations for the 1984 Annual Meeting (to be held in January or February 1985 due to the International Meeting) are in priority order: Williamsburg, Virginia; University of Florida, Gainesville; Cal Tech-Pasadena.

The Site Selection Committee is empowered to fix the date for the 1983 Annual Meeting after a final site is determined and a local arrangements chairman committed.

Bingham medalist selection was discussed and an ad hoc committee will be appointed by the president to study the selection process.

The October 8-13, 1984 International Meeting in Acapulco, Mexico was discussed. It was clearly stated by Dr. Mena that The Society of Rheology is not responsible for any part of the program, but individual members may be asked to participate.

Possible sites for the 1985 and 1986 Annual Meetings include University of Michigan, Ann Arbor; Georgia Tech, Atlanta; University of Buffalo; and Lehigh

1983 TREASURER'S ESTIMATE

Estimate Balance in Account January 1, 1983 \$38,500

Receipts

Dues 1982 and 1983	\$20,000	
Interest Savings Certificate & Short Term	2,000	
Income Short Course (Fall)	2,000	
Page Charges J. Rheology	4,000	
Annual Meeting	<u>500</u>	<u>28,500</u>

TOTAL RECEIPTS \$67,000

Disbursements

Charges for Dues Billing & Collection 1.50/item	1,650	
Charges for Preparation & Maintenance Member File at 1.75/member	1,925	
Financial Handling 5/8 of 1%	300	
Member Society Dues \$1/member	1,100	
J. of Rheology	10,000	
Editorial Expenses	2,400	
Subscription Expenses	2,000	
Bulletins	1,500	
Abstracts 55th Annual	2,000	
Administration AIP	2,100	
President's Discretionary Fund	500	
Treasurer's Discretionary Fund	500	
Society of Presidents Dues	100	
Miscellaneous (Postage, Stationery, etc.)	1,000	
Short Course Expenditures	<u>2,000</u>	

TOTAL DISBURSEMENTS 29,075

Estimated Balance December 31, 1983 \$37,925

Submitted by Edward A. Collins, Treasurer
October 25, 1982

Application for Membership

in

THE SOCIETY OF RHEOLOGY

I hereby desire to apply for membership in THE SOCIETY OF RHEOLOGY dating from
January 19__

NAME _____

MAIL ADDRESS _____

PROFESSIONAL AFFILIATION _____

POSITION _____

PLEASE INDICATE IN THE
BOXES PROVIDED BELOW
THE CODE LETTER FROM
THE LIST TO THE RIGHT,
WHICH BEST DESCRIBES
YOUR AREAS OF INTEREST,
IN ORDER OF DECREASING
IMPORTANCE.

- PRIMARY
- SECONDARY
- TERTIARY

INTEREST AREA

- Biological Materials
- Foods and Natural Products
- Inorganic Materials
- Oils and Lubricants
- Soils
- Synthetic Polymers
- Fluids (Including Solutions)
- Solids
- Suspension and Particulate Systems
- Experimental Techniques
- Mechanics
- Mechanics
- Phenomenology
- All of the above
- None of the above

CODE

- A
- B
- C
- D
- E
- F
- G
- H
- J
- K
- L
- M
- N
- Y
- Z

I understand that my regular member's subscription to the Journal of Rheology is for my personal use, and not for library use.

Signature

Date

Enclose remittance of \$20 for Regular Annual Dues or \$150 for Sustaining Annual Dues and mail to:

THE SOCIETY OF RHEOLOGY
c/o American Institute of Physics
335 East 45th Street
New York, New York 10017

University, Bethlehem, Pennsylvania.

Congratulations are extended to the **Group of Rheologists** formed under the Canadian Institute of Chemists and best wishes for their success.

The Editor's Report by R.R. Myers stated the Journal is healthy. The Executive Committee agreed that the Editor should ask the members in the Bulletin if first class postage for non-journal mail should be a choice to international members with those members paying the incremental cost.

The Treasurer's Report included the following information. Due to a Final Variance in AIP accounting, our December 31, 1981 balance is \$44,896.15. Estimated balances are \$40,549.88 on September 30, 1982; \$38,500 estimated year end balance 1982; \$37,925 estimated year end balance 1983. Factors affecting the year end balances are lower page costs, lower interest rates, lower miscellaneous income, and higher AIP costs (currently \$7,075 to AIP).

New dues statements from AIP will include an indication that \$1 of the dues is for **Physics Today**. Dr. Wissbrun, Society representative to AIP, reported that AIP is attempting to change its constitution to increase the charges for **Physics Today**.

The next meeting of the Executive Committee will be April 9, 1983 at the Cleveland Hopkins International Airport.

The Executive Committee agreed that the Nomenclature Committee Report should be printed in the Bulletin and that member comments should be received by January 30, 1983, so that a final report could be prepared at the April Executive Committee meeting.

Submitted by John R. Collier, Secretary

MINUTES OF THE BUSINESS MEETING
The Society of Rheology
Evanston, Illinois
October 26, 1982

The meeting was called to order at 5 p.m. by President A.N. Gent and the Minutes of the 1981 Business Meeting were presented by J.R. Collier. The Minutes were accepted in an amended form to thank Hercules, GE, Imass, and Rheometrics for financial support for the 1981 meeting.

The Editor's Report was presented by President Gent and included the low member response (5) to a Bulletin survey on future meeting sites and a statement that the Journal is in good shape.

The Treasurer's Report was also presented by President Gent including that the December 31, 1981 year end balance was \$44,896.15; the current annual income is approximately \$40,000, of which approximately \$7,000 goes to AIP.

After discussion concerning Liability Insurance for The Society, the following motion was passed: The Executive Committee should explore the possibility and cost of liability insurance for The Society.

The Secretary's Report stated that from September 1980 to September 1982 the membership increased slightly from 1150 to 1164 with 17 current sustaining members. A motion was passed stating: The Membership Committee should attempt to increase the number of sustaining members.

The Society expressed its appreciation to Tony McHugh and Buckley Crist for their efforts as technical program and local arrangements chairman respectively, and to Imass, Rheometrics, DuPont, and Amoco for financial support of this meeting.

The 1983 Annual Meeting will be held at the Knoxville Hilton Inn, with Donald C. Bogue, Chemical Engineering Department at the University of Tennessee, as the local arrangements chairman and Lothar W. Kleiner, Diamond Shamrock Corporation, Painesville, Ohio, as the program chairman. Deadline for submission of abstracts is June 1, 1983.

The International Congress will be held in Acapulco, Mexico, October 8-13, 1984. The first circular was distributed at this meeting, the second will be mailed in April, and the third later.

Announcements of the meetings of the Group of Rheologists formed under the Canadian Institute of Chemists will be announced in the Bulletin. If possible, other meetings of interest should also be announced here.

The Nomenclature Committee report will be circulated via the Bulletin in January with a deadline for responses one month later. A motion was made and seconded, but defeated, that would have requested the Executive Committee to extend the time for response to two months.

The secretary was asked to make sure announcements of SOR meetings are listed in **Physics Today** and by the **American Academy of Mechanics**.

A discussion occurred regarding the organization of future meetings with debate over whether the sessions should be grouped by discipline. No motion was made nor were there any general conclusions reached.

Considerable discussion occurred on both sides of the issue of how, or whether, to deal with smoking in meeting rooms.

The meeting was adjourned as scheduled at 6 p.m.

Submitted by John R. Collier, Secretary.

EDITOR'S REPORT
The Society of Rheology
Raymond R. Myers
October 4, 1982

JOURNAL OF RHEOLOGY

Volume 26 (1982) will wind up with slightly over 600 pages. Volume 27 (1983) is scheduled for 700 pages by virtue of a few extra symposia scheduled for next year. Issues 1 through 5 contained 23 papers, four notes, abstracts from the 53rd Annual Society of Rheology Meeting, and from JSOR Japan Volumes 9 and 10.

Manuscripts are running normally: 41 are in the referee process at this writing (9/30/82) and 11 manuscripts are at the publisher, giving us a four-month lead time. To date, 42 manuscripts were submitted to the Journal of Rheology; 24 were accepted, and five were rejected or withdrawn.

The assistant editors (R.C. Armstrong, E.A. Collins, S. Onogi, J.G. Savins, C.L. Sieglaff, A. Silberberg, and J.L. White) are all doing superb jobs.

Wiley has informed us that the Journal of Rheology will cost \$125 next year.

BULLETIN

The January Bulletin included an abstract form for authors. As a result, less retyping was needed this year than previously. The July Bulletin contained the program and abstracts for the meeting in Evanston.

POLL ON MEETING SITE PREFERENCE

The July Bulletin asked for choice selection for the February 1984 (the 1983 Annual) and October 1984 meetings. Only five replies were received, of which two opted for Pasadena and two for Williamsburg for the February meeting. Three voted for Pasadena in October. The rest of the choices were neither representative nor clear cut. Site selection remains the responsibility of the Executive Committee.

OPTION FOR OVERSEAS MEMBERS

Overseas members normally receive Bulletins, programs, and abstracts after some of the events covered by the mailings have transpired. Where time permits overseas members of SOR receive their mailings via surface printed matter. This has caused some delays in receipt past the useful life of some of the announcements. By special arrangements with AIP, we can send abstracts, programs, and bulletins by air to all overseas members who wish to pay a \$5 surcharge. Please correspond with Peggy Nightingale, American Institute of Physics, 335 East 45th Street, New York, NY 10017.

IXth INTERNATIONAL CONGRESS ON RHEOLOGY Acapulco, Mexico October 8-13, 1984

Contact David Binding, IXth International Congress on Rheology, Apdo. Postal 70-353, Ciudad Universitaria, Coyoacan, 04510, Mexico, D.F., Mexico, for further information.

ANNOUNCEMENTS

The Canadian Rheology Group has elected officers at their organizational meeting held in September. They are: John M. Dealy, Chairman; Leszek Utracki, Vice-Chairman; and M.A. Kabayama, Secretary.

John Dealy has been named the Canadian representative on the International Committee on Rheology. The I.C.R. has been notified of the Canadian Rheology Group's interest in hosting the 1988 International Congress in Montreal.

Kent State University's Rheology and Coatings Division of the Chemistry Department will present three short courses as follows: "Dispersion of Pigments and Resins in Fluid Media" May 16-20, 1983; "Adhesion Principles and Practice for Coatings and Polymer Scientists" June 6-10, 1983; and "Applied Rheology for Industrial Chemists" June 20-24, 1983. Contact Carl J. Knauss, Chemistry Department, Kent State University, Kent, Ohio 44242. Phone: 216/672-2327.

There will be a Short Course on Rheological Measurements of Polymer Liquids August 9-12, 1983 at the University of Minnesota. Contact: John S. Vollum, Dept. of Conferences, 223 Nolte Center, University of Minnesota, 315 Pillsbury Drive, S.E., Minneapolis, MN 55455-0018. Phone: 612/373-3157.

A five-part 52nd Shock and Vibration Bulletin containing the Proceedings of the 52nd Shock and Vibration Symposium held in New Orleans, Louisiana in October 1981, may be ordered from The Shock and Vibration Information Center, Naval Research Laboratory, Code 5804, Washington, DC 20375. Cost: \$140 (U.S. and Canada); \$175 (Foreign).

Proceedings of the First Conference of European Rheologists held in Graz, April 14-16, 1982 are available. Contact: Dietrich Steinkopff Verlag, Saalbaustr. 12, D-1600 Darmstadt, W.Germany.

There will be a European Meeting on Polymer Processing and Properties on June 13-16, 1983 in Naples, Italy. Contact: Paolo Masi, Istituto di Principi di Ingegneria, Chimica, Facolta di Ingegneria, Piazzale Tecchio, I-80125 Naples, Italy.

The British Society of Rheology and Deutsche Rheologische Gesellschaft in association with EFCE Working Party on Non-Newtonian Fluid Processing will hold a Conference on Engineering Rheology, September 19-23, 1983 at Imperial College, London, England. Contact: D.C.-H. Cheng, Warren Spring Laboratory (Ref. 116/43), P.O.Box 20, Gunnel Wood Road, Stevenage / Hertfordshire SG1 2BX / U.K.; or K.Kirschke, Bundesanstalt fur Materialprufung, Unter den aeichen 87, D-1000 Berlin 45, W.Germany.

An International Rubber Conference will be held in Moscow, USSR, in September 1984 covering theory of mechanical properties of elastomers; mechanical properties of vulcanizates and methods of their determination; new developments in chemistry and rubber technology; and others. Contact: General Secretary of the Conference, prof. V.A. Berestnev, USSR, 197258, Moscow, Krasnobogatyrskaya st., 42.