

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Vol. 48, No. 1

July, 1979



50th JUBILEE MEETING

Copley Plaza Hotel
Boston, Massachusetts
Oct. 28 - Nov. 1, 1979

PROGRAM

The second circular has been prepared and sent to the membership giving full details on the meeting.

The program and abstracts will be sent separately.

Program Chairman: Roger S. Porter, GRC 701, University of Massachusetts, Amherst, MA 01003.

Local Arrangements Committee:

Cochairmen E. J. Tolle, Imass, Inc.,
Box 134, Accord, MA 02018, and
Robert E. Cohen, Chem. Eng. Dept.
12-145A, Massachusetts Institute of
Technology, Cambridge, MA 02139.

Coordinating Committee:

J. R. Knox, chairman, reports that donations have been received that will permit various activities to be subsidized for this meeting.

SHORT COURSE ON RHEOLOGY

Copley Plaza Hotel
Boston, Massachusetts
Oct. 27 and 28, 1979 8:30 a.m.

Instrumental Methods in Polymer Melts and Solution Rheology

Fee \$100 + \$20 if after September 15. A short course brochure will be sent separately. Chairman, Donald Hunston, Naval Research Lab, Code 6120, Washington, DC 20375.

BINGHAM AWARD

Professor William W. Graessley, Department of Chemical Engineering and Department of Materials Science and Engineering, Northwestern University, has been named the 1979 Bingham Medalist of the Society of Rheology.

Professor Graessley was born in Muskegon, Michigan in 1933. He received undergraduate degrees in chemistry and chemical engineering at the University of Michigan and his Ph.D. in chemical engineering from the same institution in 1960. After spending four years at Air Reduction Company he joined the faculty at Northwestern University.

Professor Graessley's research activities are concerned with the structural aspects of polymer rheology, polymerization reactor kinetics, and molecular characterization. He has made important contributions, both theoretical and experimental, towards an understanding of how molecular structure and intermolecular interactions influence the properties of polymer liquids and networks.

NOMINATIONS FOR OFFICE FOR 1980-81

The nominating committee, consisting of R. A. Mendelson, chairman; J. A. Goddard; and R. F. Landel, has proposed the following candidates for office for 1980-81 (2-year terms):

President - E. B. Bagley
Vice President - A. N. Gent
- S. S. Sternstein

Secretary - M. T. Shaw
Treasurer - E. A. Collins
Editor - R. R. Myers
Executive Committee Members-at-Large (2 to be elected)

- E. A. Kearsley
- A. S. Lodge
- N. Mohsenin
- L. R. Schmidt

Society of Rheology Secretary, Montgomery T. Shaw, Institute of Materials Science, University of Connecticut, Storrs, CT 06268, reports that ballots will be mailed separately and should be returned to the Secretary before September 28.

VIIIth INTERNATIONAL CONGRESS ON RHEOLOGY

The VIIIth International Congress on Rheology will be held during the week of September 1-6, 1980, in the School of Engineering of the University of Naples. The school is situated just out-of-town within easy reach by subway.

The opening session will be held in the Aula Magna of the school on the morning of September 1, 1980. After the usual speeches by varying dignitaries the opening address will be given by C. Truesdell who will speak on: The History of Rheology. The regular sessions will be arranged in five parallel sessions.

Proceedings will be made available at the time of registration. The format of the proceedings will be similar to that of the VIIth Congress in that it will contain extended abstracts except for invited lectures which will be published *in toto*. The cost of the Proceedings will be included in the registration fee.

The registration fee has not been set yet, but will be of the order of \$100 for pre-registrants and \$130-\$150 for late registrants.

Housing will be in hotels in town, close to adequate transportation. A banquet and a ladies' program are planned as well as various excursions to places like Pompeii, Capri, Amalfi, Sorrento, the Vesuvio, etc. These will be handled by an independent travel agency who will also make suggestions for pre- and/or post-congress excursions.

The nearest international airport for wide-bodied aircraft is Rome's Fiumicino Airport. Excellent train transportation from Rome and Naples is available. Buses run from Fiumicino airport to the train station (Termini) in Rome. Flights from Rome to Naples should be booked well in advance.

In keeping with tradition, the President of the International Committee on Rheology, Josef Kubat, Chalmers University, Gothenberg, Sweden, will be the Honorary Chairman.

For further information contact the secretary of the organizing committee: L. Nicolais, Montedison DIRS, Via Nuova delle Breccie, 150, Barra, Naples, Italy.

REPORT OF THE COMMITTEE ON EDUCATION

A short course on Instrumental Methods in Rheology is planned for the Boston Meeting. It will concentrate on polymer melts although a question period will allow people to ask about other areas too. The objective will be to outline the type of measurements that can be made, how the data are obtained, and what information about molecular or processing variables can be learned. The course will be coordinated with the instrument exhibit.

Since the exhibitors cannot start to setup before Sunday, a hands-on course is not possible; however, an effort will be made to open the exhibit late Sunday afternoon for course members (particularly those who will not be staying for the regular meeting). The Local Arrangements Committee has contacted the Hotel about rooms and a lecture hall for the weekend before the meeting.

The first returns from the short course survey have been received. Although the number of responses is small, they are clearly from people interested in attending future short courses so the results will provide some useful information.

RHEOLOGY BULLETIN
Raymond R. Myers, Editor
Department of Chemistry
Kent State University
Kent, Ohio 44242

In regard to the committee's efforts to develop a collection of educational materials, Greg McKenna will begin work on this while the rest of the Committee is working on the short course. A number of people have expressed an interest in having such a collection available. We hope to have an appropriate questionnaire for a future issue of the Bulletin; however, it may be necessary to contact the people directly if we are to get a complete response.

Donald Hunston
Committee Chairman

MINUTES OF EXECUTIVE COMMITTEE MEETING

Cleveland, Ohio
March 3, 1979

The spring meeting of the Executive Committee of The Society of Rheology was called to order by President Krieger at 10:30 am in the Sheraton Hopkins Airport Hotel, Cleveland, OH. Present were Executive Committee members E. B. Bagley, E. A. Collins, I. M. Krieger, A. B. Metzner, R. R. Myers, W. R. Schowalter, and M. T. Shaw. In addition, D. Hunston, N. Nakajima, R. S. Porter, C. L. Sieglaff, and E. J. Tolle attended.

The Secretary read the minutes of the October 22, 1978, Executive Committee Meeting; these were approved as read.

The Editor provided a report on the *Journal of Rheology* and the *Bulletin*, and requested a decision on a policy for advertisements in the *Journal*. By motion, second and voice vote, the Editor was authorized to allow John Wiley and Sons to include inserts in the *Journal* at the Editor's convenience and discretion. A membership application blank may also be included.

The invitation to The Society to be listed as a sponsor of *Rheological Acta* was reviewed by Metzner; a motion to remain unlisted was passed after considerable discussion. Dr. Metzner will communicate the decision to Dr. Giesekus, Editor of *Rheological Acta*.

The Treasurer reported a balance at the end of 1978 of \$28,984, up by about \$5,000 from 1977. A sum of \$100 to reimburse the President's institution for out-of-pocket expenses was approved; a yearly discretionary fund of \$500 maximum for the use of the President, to be disbursed by the treasurer, and with an accounting available for the Executive Committee was also approved. A short discussion of the possibility of reimbursing Executive Committee members for travel expenses to committee meetings led to the conclusion that The Society could not afford this luxury, but that the President could, when needed, use his discretionary fund for this purpose.

A telephone report from J. R. Knox concerning the organization of the 50th Anniversary Meeting was transmitted by Krieger. About \$8000 has been raised from industry to support the program; several federal agencies have also been contacted for additional funds. Notification of the meeting is being circulated broadly, both here and abroad. Partial support for travel has been offered to presidents of foreign societies, and a luncheon in honor of Bingham medalists and past presidents has been arranged. Mementos have been selected.

Tolle reported for the local arrangements committee, noting a full schedule of activities including an extensive instrument exhibit, a short course, a reception at the Gardiner Museum, an organ recital, and the traditional Tuesday evening banquet. Prof. H. Markovitz will be invited to speak on the history of The Society.

The technical program was reviewed by Porter, who reported that 15 topical sessions had been arranged. About a dozen Bingham medalists have agreed to participate, and it was the opinion of the Committee that their talks should be placed in the sessions according to subject. Porter was authorized to expand his committee; the necessary appointments to be made by Krieger. Hunston reported that the short course at the 50th Anniversary Meeting will be entitled "Instrumental Methods in Rheology" with C. Macosko and R. Armstrong appointed as instructors. (Collins interjected at this point that his survey on short courses showed that "Rheology of Solids and Composites" was extremely popular and perhaps worth repeating.)

For funding the technical program, the Committee passed two motions: (1) that at least 51% of the specially collected funds, with a minimum of \$6,000, be set aside for the use of the Program

Chairman; and (2) that the specially collected funds be in control of and disbursed by the treasurer. These funds do not include the small amount normally allocated to the Local Arrangements Committee to pay bills, but those specifically collected from industry and government for support of the program of the 50th Anniversary Meeting.

N. Nakajima reported on arrangements for the spring meeting in Hawaii. Most have been finalized, with a fine technical program (arranged by D. C. Bogue) in store.

Reports from other standing committees followed, including the Bingham Award Committee (May 11, 1979 has been set as the deadline); the Nomination Committee (has met and will report to the Secretary by May 1, 1979); the Membership Committee (membership has increased to 925, new brochures have been mailed with 8 responses so far); and the Site Selection Committee (aside from previously discussed sites, a formal invitation has been received from G. Miller for the Louisville area).

With no new business presented, the meeting was adjourned by Krieger at 4:00 pm. The next Executive Committee Meeting will be held on Sunday, October 28 at 2:00 pm in the Copley Plaza Hotel, Boston.

Respectfully submitted,
M. T. Shaw
Secretary

EDITOR'S REPORT THE SOCIETY OF RHEOLOGY

Raymond R. Myers
February 27, 1979

Publication Status, Journal of Rheology

The *Journal of Rheology* Volume 22 contained 29 papers, 3 notes and, counting the abstracts from the *Journal of Rheology*, Japan, and abstracts from the 46th and 47th Society of Rheology annual meetings, 682 pages in the six issues.

A total of 62 manuscripts were submitted in 1978. Assistant Editors Edward Collins, Shigeharu Onogi, George Savins, Charles Sieglaff, Alex Silberberg and James White were instrumental in securing competent referees for these manuscripts with acceptance running about 58% for the past year. Irvin Krieger was responsible for a suspension rheology symposium.

Certificates of appreciation were distributed to the Assistant Editors.

The golden anniversary volume of the *Journal of Rheology* will be gold-covered. We have 26 manuscripts in process for this volume, which carries Wiley past Issue No. 4.

Bulletins were issued in April, August and December, 1978. In addition to giving details of coming Society meetings and Society officer reports, the December issue contained a survey of topics for short courses given by the Society.

Relations with Wiley

Our publisher does not view favorably our consideration of sponsoring *Rheol Acta*, even if it is in name only. I believe we should honor his feelings in this matter.

There will be a dinner for Assistant Editors and Society Officers at Kona hosted by Mr. Allan Wittman. This will be a working dinner, at which an accumulation of suggestions from various sources will be discussed. Included will be consideration of a standard referee form to be used by the Assistant Editors.

**AMERICAN INSTITUTE OF PHYSICS INCORPORATED FOR
THE SOCIETY OF RHEOLOGY**

**STATEMENTS OF RECEIPTS AND DISBURSEMENTS
Year Ended December 31, 1978**

Balance in Account - December 31, 1977*		\$23,614.11
<i>Receipts (January 1 - December 31, 1978)</i>		
Dues Collections:		
1977 Dues	\$ 615	
1978 Dues	4,147	
1979 Dues	9,820	
1980 Dues	<u>15</u>	\$14,597
Sales of Mailing Lists:		46
Net Receipts from 1976 Annual Meeting		1,136
Interest Elyria Savings Acct. 9-19920	397.05	
Interest Cardinal Savings (certificates)	642.95	
Short Course Madison 1977	185.00	
Short Course Houston 1978	3,100.00	
Page Charges Journal Rheology	2,745.00	
Net Receipts Madison Annual Mtg. 1977	<u>1,419.95</u>	<u>\$ 8,489.95</u>
		<u>\$24,268.95</u>
Total Receipts		\$47,883.06
<i>Disbursements (January 1 - December 31, 1978)</i>		
Charge for Dues Billing and Collection (\$1.23 per Item Billed-Annual Charge)		\$ 1,037
Charge for Member Record File (\$1.50 per Member Record-Annual Charge)		1,304
Financial Handling Charge-Year 1978 (5/8 of 1% of Business Handled)		180
Member Society Dues-Year 1978 (\$1 per Member per Year)		850
Editorial Expenses:		
Salaries, Telephone and Postage		2,200
April 1978 Bulletin		426
August 1978 Bulletin		620
October 1978 Abstracts		1,013
Membership Directory-1978		364
Combined Mailing of Letter from Society of Plastics Engineers and Notice of VIII International Congress of Rheology	202	
Less: Reimbursement from Society of Plastics Engineers	86	116
Short Course Mailing		72
1979 Renewal Billing		502
49th Annual Meeting-Houston		360
April 1979 Meeting-Hawaii		
Call for Papers and pre-registration Information		196
Letterhead and Brochures		110
Assistant Editor Gold Certificates		58
Letter to Delinquent Members		11
Administration Services, A.I.P.		1,468
Madison Fall Mtg. Smoker	\$ 87	
J. Wiley J. Rheology 1977 Vol. 21 (1-4)	6,606	
Penalty Withdrawal - Savings Certificate 10-0398449	77.75	
Expense Houston Short Course 1978	<u>1,241.10</u>	<u>8,011.85</u>
Balance in Account Dec. 31, 1978		<u>\$28,984.21</u>

Respectfully submitted,
Edward A. Collins
Treasurer

*Adjusted to include 1977 Quoted Price Variance

March 3, 1979

CALL FOR PAPERS FOR VARIOUS MEETINGS

Symposium on Computational Methods in Nonlinear Structural and Solid Mechanics at Sheraton National Motor Hotel, Washington, DC. October 6-8, 1980.

Modeling and solution of nonlinear structural and solid mechanics problems. Contact: Ahmed K. Noor, M.S. 246, George Washington University, NASA Langley Research Center, Hampton, VA 23665. Phone: 804/827-2897.

15th International Congress of Theoretical and Applied Mechanics. Toronto, Canada. August 17-23, 1980. Extended summary and abstract to Ken Charbonneau, Executive Secretary, ICTA Toronto, National Research Council, Ottawa, Ontario K1A 0R6, Canada, by February 4, 1980.

PUBLICATIONS

The Proceedings of the IUTAM Symposium on Non-Newtonian Fluid Mechanics, held in Louvain-la-Neuve, Belgium on August 28-September 1, 1978 are published as a special volume of the Journal of Non-Newtonian Fluid Mechanics, Vol. 5 (April 1979) for \$45 (\$55 air mail). Contact: A. W. van der Avoird, Elsevier Scientific Publishing Company, Jan van Galenstraat 335, P.O. Box 330, 1000 AH Amsterdam, The Netherlands.

"An International Survey of Shock and Vibration Technology" by H. C. Pusey, R. H. Volin, and J. G. Showalter. \$60. Contact: Shock and Vibration Information Center, Naval Research Laboratory, Code 8404, Washington, DC 20375.

Proceedings of the VIIth International Congress on Rheology, held in Gothenburg, Sweden in 1976, \$10. Contact: Swedish Society of Rheology, c/o C. Klason, Dept. of Polymeric Materials, Chalmers University of Technology, S-402, 20, Gothenburg, Sweden.

Polymer Science Series offers a course on Fundamental Structure-Property Behavior of Polymeric Systems. August 5-9, 1979. Program Lecturer, Garth L. Wilkes. Program contents will emphasize the fundamental relationship between Polymer Structure and final properties. Contact: Director of Professional Education, University Associates, P. O. Box 541, Princeton, NJ 08540.

Polymer Extrusion - Theory and Practice course offered at Rensselaer Polytechnic Institute July 30 - August 3, 1979. Fee \$425. Contact: Richard J. Teich, Office of Continuing Studies, Rensselaer Polytechnic Institute, Troy, NY 12181. Phone: 518/270-6442.

September 12-14, 1979.

"Applied Rheology", Aberystwyth, U.K. See B.S.R. Bulletin 21 (3) p. 39 (1978). The annual council meeting of the B.S.R. will be held during this conference.

March 26-28, 1980.

"Practical rheology in polymer processing" Loughborough, U.K. (Joint meeting with the Plastics and Rubber Institute). See B.S.R. Bulletin 21 (3), p. 38, (1978).

The American Institute of Physics has established a Prize for Industrial Applications of Physics, to be awarded every second year, starting in 1977. Funded by AIP's Corporate Associates, the prize of \$5000 is open to U.S. residents who have developed an important or potentially important product or process while employed in U.S. industry. The 1977 awardee was Robert D. Maurer of Corning Glass Works, for development of fiber optics communications. Any member who wishes to propose a rheologist for this award is asked to forward the nomination and supporting documentation to the Chairman of the Awards Committee prior to September 7, 1979: E. B. Christiansen, Dept. of Chemical Engineering, University of Utah, Salt Lake City, UT 84112.

The 1979 ONR/AIAA Research Award in Structural Mechanics has been presented to William N. Findley, Department of Engineering, Brown University.

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
(Please print)

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	CODE
Biological Materials	A
Foods and Natural Products	B
Inorganic Materials	C
Oils and Lubricants	D
Soils	E
Synthetic Polymers	F
Fluids (Including Solutions)	G
Solids	H
Suspension and Particulate Systems	J
Engineering	K
Experimental Techniques	L
Mechanics	M
Phenomenology	N
All of the above	Y
None of the above	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 \$15 for Regular Annual Dues or \$100 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