

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Vol. 44, No. 1



March, 1975

JOINT MEETING OF THE U.S. — JAPAN SOCIETY OF RHEOLOGY

The Princess Kaiulani Hotel, Honolulu, Hawaii
JUNE 3-6, 1975

Program

COMMITTEE: R. B. Bird (Chairman), D.C. Bogue, R. S. Marvin (U.S. Society); Y. Mori, S. Onogi, K. Umeya (Japan Society).

Abstracts of the papers to be presented are included as part of this bulletin.

Local Arrangements

COMMITTEE: N. W. Tschoegl (Chairman), H. Kambe (Japan Society), W. Stuver (University of Hawaii).

Reservations

Reservations may be sent to the Princess Kaiulani Hotel, Waikiki Beach, Honolulu, Hawaii 96800.

Registration

Registration may be made in advance through Chairman N. W. Tschoegl, California Institute of Technology, Pasadena, Calif. 91125. The registration fee has been set at \$25.00 for members, \$35.00 for non-members, and free admission for students.

Travel

Although the deadline has passed, those interested in group flights may be able to join until April 20, at which time final payment is due. Contact R. E. Coulehan, Ciba-Geigy Corp., Ardsley, NY 10502 for particulars.

Recreation

Mrs. Sophie Tschoegl will be hostess for the Ladies' Program. Time has been allotted during the program for scheduled tours and other special events.

46TH ANNUAL MEETING

OCTOBER 27-30, 1975
Chase Park Plaza Hotel
St. Louis, Missouri

Call for Papers

Deadline for Submission — July 12, 1975

The submission of contributed papers for presentation at the Annual Meeting is open to both members and non-members of the Society. Suggested topics include: (1) Deformation and Fracture of Solids, (2) Relaxation and Flow of Liquids, (3) Rheology of Composites, and (4) Molecular Rheology.

An Abstract of 250 words or less is required prior to July 12. Abstracts should be sent to:

A. N. Gent, Program Chairman
Society of Rheology
Institute of Polymer Science
University of Akron
Akron, Ohio 44325

Please adhere to the 250 word limitation and avoid the

use of equations in the Abstract. The Program Committee (A. N. Gent, C. Goldstein, J. L. Kardos, E. A. Kearsley and C. L. Sieglaff) will review submitted Abstracts. Acceptance will be based on technical content and relevance to rheology but without regard to the specific topic. Those contributors who choose to submit more than one paper should bear in mind the exigencies of program scheduling. However, each abstract will be judged on an individual basis.

Several invited lectures will be given on topics of broad general interest to the Society. These will be announced in the next bulletin.

A Monday evening beer session is also being planned on the general topic of Film Forming. It is being organized by a Committee on Industrial-University Relations consisting of J. T. Bergen, Chairman, T. Alfrey, R. F. Landel, R. S. Moore, and N. Nakajima.

The registration fee for the St. Louis meeting will be \$20.00 for members and \$30.00 for non-members.

Society of Rheology Short Course

A short course on "The Mechanics of Polymer Processing and the Effects of Processing Variables on Structure and Performance" will be offered on October 25th and 26th, 1975, prior to the Annual Meeting at the Chase Park Plaza Hotel in St. Louis, Missouri, conducted by Turner Alfrey, Jr., Dow Chemical Company, Midland, Michigan.

Further details will be provided in the next issue of the Rheology Bulletin or may be obtained from

E. A. Collins
B. F. Goodrich Co., Inc.
Avon Lake, Ohio 44012
Telephone 216-933-6181

SEVENTH INTERNATIONAL CONGRESS OF RHEOLOGY

Chalmers University of Technology
Gothenburg, Sweden
AUGUST 23-27, 1976

The Congress will be organized by the Swedish Rheological Society, a special section of the Swedish National Committee on Mechanics. It will be held under the auspices of the International Committee on Rheology with Robert S. Marvin as Honorary President. Titles and 300 word abstracts to be submitted to committee chairman by October 1, 1975.

Organizing Committee:

Josaf Kubat, Chairman
Chalmers University of Technology
Reologilaboratoriet
Fack S-402 20
Gothenberg 5, Sweden

as well as E. Forslind, L. E. Gelin, and F. K. G. Odqvist.

RHEOLOGY BULLETIN

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

MINUTES OF EXECUTIVE COMMITTEE MEETING

OCTOBER 20, 1974

Univ. of Massachusetts, Campus Center, Amherst, MA

Executive Committee members present: E. A. Collins, J. R. Knox, I. M. Krieger, R. A. Mendelson, R. R. Myers, R. S. Rivlin, L. J. Zapas. Others present: J. T. Bergen, R. B. Bird, R. E. Coulehan, G. E. Fulmer, C. T. Hill, R. H. Marks (AIP), R. S. Marvin, S. Onogi (Japan Soc. Rheol.), R. S. Porter, W. R. Schowalter, C. Sieglaff, S. S. Sternstein. The meeting was called to order by the President at 5:10 p.m.

1. The minutes of the May 2, 1974, Executive Committee meeting, as printed in the *Bulletin* were submitted by R. A. Mendelson with the following correction: item 3.k. should read, "Industrial-University Relations: under reorganization with J. T. Bergen as chairman." The corrected minutes were approved.
2. R. S. Rivlin presented an updated roster of committee appointments, which accompanies these minutes.
3. E. A. Collins presented the Treasurer's Report, correcting two errors in the 1973 year-end statement and presenting a 1974 six-month statement. These financial statements are reported separately by the Treasurer. He also suggested that consideration be given to increasing membership dues to \$15, particularly if *Transactions* publication costs rise. The Treasurer's Report was accepted.
4. The Editor's Report was presented by R. R. Myers. Three issues of Vol. 18 of *Transactions* comprising 492 pages have been published, and the target of 600 pages will be met with the final issue of the volume. A steady flow of manuscripts are in various stages of processing. Wiley-Interscience has indicated that they wish to double the publication page charges based on member subscriptions (from 3 to 6 mills, adding \$1.80/600 page volume due to this factor alone). The Executive Committee was asked for alternatives and for a policy decision. The Editor's Report was accepted.
5. President Rivlin introduced the AIP proposal to publish the *Transactions* as embodied in the letter from R. H. Marks to J. R. Knox, Sept. 27, 1974. Publication charges to the Society would be on an actual cost basis, with the Society accepting the surplus or deficit. AIP estimates indicate a surplus, as opposed to current controlled deficit. Publication format and the premises for the economic estimates were discussed. It was concluded that the validity of AIP's economic forecast is contingent upon AIP's ability to maintain non-member subscriptions. Concern was voiced over the possibility of catastrophic losses should non-member subscription renewals fall drastically. Marks was instructed to ascertain the legal status of non-member subscription lists and to report to Rivlin. President Rivlin and Editor Myers will then meet with Wiley-Interscience to discuss alternatives. Riv-

lin will also discuss possible economic guarantees with W. Koch of AIP.

6. A motion to publish a membership Directory having the format proposed in Option 2 of the letter of January 26, 1974, from L. Slack (AIP) to F. R. Eirich was adopted. The Secretary was instructed to contact AIP to this effect.
7. R. S. Marvin reported on the Swedish acceptance of the host role for the 1976 International Congress on Rheology. He also reported on the admission of the International Committee on Rheology to both the IUPAC and the International Commission on Theoretical and Applied Mechanics. This report of the International Committee was accepted. Rivlin reported that he has appointed N. W. Tschoegl as a delegate to the International Committee with Marvin.
8. S. S. Sternstein gave the Program Committee report on the Amherst meeting.
9. C. T. Hill reported that local arrangements are underway for the 1975 Annual Meeting in St. Louis. A block of rooms has been reserved at the Chase Park Plaza Hotel.
10. R. B. Bird and S. Onogi reported on the program plans for the Joint Meeting of the U. S. and Japanese Societies of Rheology in Honolulu.
11. R. S. Porter reported on local arrangements for the Amherst meeting. Registration was currently 165 (Final registration exceeded 200). The report was accepted and the Committee thanked for its work. Rivlin suggested it should be future policy of the Society that non-member invited speakers not be charged a registration fee.
12. The 1976 Winter Meeting will be held at the Jack Tar Hotel in San Francisco during the 4th week in January, if a local arrangements committee can be established.
13. J. T. Bergen reported on the activities of the Committee on Industrial-University relations. The new committee membership has been established. It is expected that the Monday night session will be continued at the St. Louis meeting.
14. G. E. Fulmer reported on membership committee activities. It was agreed to expand the committee size. It was also agreed to exchange membership application forms with the Japan Society of Rheology.
15. R. S. Rivlin reviewed the activities of the Committee of Scientific Society Presidents (CSSP) formed to meet with and discuss technical policy of national importance with government officials. Rivlin has been elected Secretary of CSSP for 1975.
16. R. S. Stein reported that the Rheo-Optics short course was successfully completed, with 26 registrants, approximately the expected number who could be accommodated. A motion to thank Profs. Stein and Wilkes for their contributions to the short course was unanimously passed.
17. R. R. Myers invited the Executive Committee to meet next at Kent State University. The meeting was adjourned at 11:25 p.m.

Respectfully submitted,

R. A. Mendelson, Secretary

MINUTES OF ANNUAL MEETING

OCTOBER 21, 1974

Univ. of Massachusetts, Campus Center, Amherst, MA

The meeting was called to order at 5:20 p.m. by President Rivlin who announced:

1. The Joint Meeting of the U.S. and Japanese Societies

- of Rheology.
2. The 1975 Annual Meeting in St. Louis.
 3. The International Congress on Rheology; the 1976 Annual Meeting will be held in the Winter of 1977, probably in New York. (There will be no Fall Meeting in 1976 because of the International Congress); and the 1977 Annual Meeting in Autumn, possibly at Atwood Lake Lodge in Central Ohio.
 4. Wiley-Interscience's proposed increase in publication charges. This could increase dues; efforts will be made to avoid this, including investigation of a proposal of the American Institute of Physics to take over publication.
 5. Professor Onogi's indication that the Japanese Society of Rheology would welcome membership applications from the U. S. Society members.
 6. The Nominating Committee for the 1975 election of Society Officers; F. R. Eirich (Chairman), J. D. Ferry, and D. H. Kaelble.
 7. Organization of the Committee on Industrial-University Relations with J. T. Bergen as Chairman.

The Secretary's Report for 1974 was given by R. A. Mendelson (to be found elsewhere in the *Bulletin*) and was approved.

Questions were raised from the floor concerning the AIP publication proposal, and a discussion followed concerning this proposal, the proposed increases in publication charges by Wiley-Interscience, and possible changes in journal format and mode of printing. It was pointed out that a principal reason for current deficits incurred by the *Transactions* is that the rate of honoring of page charges has fallen drastically.

The Treasurer's Report (also found elsewhere in the *Bulletin*) was presented by E. A. Collins and was approved. In addition to presenting the financial statements, it was noted that since 1973 the Society has been receiving interest on its operating balance for the first time.

The Editor's Report was presented by R. R. Myers and was approved. He re-affirmed and explained the mechanism of the two-track publication system involving possible delay of publication of papers for which page charges are not honored. He emphasized that neither the Editor nor the Assistant Editors are aware in which cases pages charges are honored; thus it has no effect on acceptance of papers, but could affect the publisher's schedule. Currently, the rate of publication is such that the two-track has not been activated, but this could change. Further details concerning the various proposals for *Transactions* publication were given.

A motion to thank the members of the Program and Local Arrangements Committees for the Amherst meeting was passed.

R. E. Coulehan discussed travel arrangements for the Hawaii meeting and indicated that a mailing with further information and a request for deposits would be forthcoming.

The meeting was adjourned at 6:10 p.m.

Respectfully submitted,

R. A. Mendelson, Secretary

**1974 REPORT OF THE SECRETARY TO THE
ANNUAL BUSINESS MEETING, AMHERST, MA
OCTOBER 21, 1974**

Membership Activities:

Two technical meetings were held by the Society in 1974: the Winter Meeting, January 28-30, at Indian Wells, California; and the Annual Fall Meeting, October 21-24, at Amherst, Massachusetts. Twenty-two papers

and lectures were presented at the first and seventy-five were presented at the second meeting.

A short course on "Rheo-Optics" was presented by R. S. Stein and G. L. Wilkes, with a guest lecture by Prof. Onogi (Japan Soc. of Rheol.), prior to the Amherst Society of Rheology meeting.

Scheduled meetings for 1975 are the Joint Meeting of the U.S.-Japan Societies of Rheology, June 3-6, in Honolulu, and the Annual Fall Meeting, October 26-30, in St. Louis, Missouri. Membership of the Society in 1974 is 828.

Publications:

Two issues of the *Rheology Bulletin* and three issues of the *Transactions of the Society of Rheology* (Vol. 18), with the latter containing 494 pages, have been published to date. A fourth issue of the *Transactions* bringing total pages to approximately 600 is expected to be published around the end of the year.

The relative merits of continuing to have Wiley-Interscience publish the *Transactions* at an increased cost or to have the American Institute of Physics become the publisher are being examined currently by the Executive Committee.

Acknowledgments:

The Secretary wishes to thank the Society Officers and Committee members and, particularly, Mrs. Nightingale of the AIP for their cooperation and aid. He also wishes to acknowledge the aid of Monsanto Company for defraying minor expenses and providing time and services incident to the Secretary's duties.

Respectfully submitted,

R. A. Mendelson, Secretary

**ANNOUNCEMENTS
SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS
SESA SPRING WORKSHOPS**

Chicago, Illinois

MAY 11-16, 1975

For further information, contact Mike Semenek, International Harvester Company, 7 South 600 County Line Road, Hinsdale, Ill. 60521 (312-887-3835).

SYMPOSIUM IN HONOR OF PAUL J. FLORY

Honoring the Nobel Laureate in Chemistry, 1974, Carnegie-Mellon University, June 17, 1975, covering *Polymer Science: Achievements and Prospects*. Contact: Hershel Markovitz, Department of Chemistry, Carnegie-Mellon University, 4400 Fifth Avenue, Pittsburgh, Pa. 15213.

**JOINT MEETING OF THE BRITISH SOCIETY OF
RHEOLOGY AND THE PLASTICS INSTITUTE**

Loughborough University

SEPTEMBER 16-19, 1975

Contact F. N. Cogswell, 67 Daniells, Welwyn Garden City, Hertfordshire AL7 1QT, England.

A. I. Ch. E. ANNUAL MEETING

Los Angeles, California

NOVEMBER 16-20, 1975

Call for Papers

A technical session on the "Application of Rheology to Polymer Processing" is being organized. Abstracts should be sent to C. D. Han, Dept. of Chemical Engineering, Polytechnic Institute of New York, Brooklyn, New York 11201 or L. H. Drexler, Bell Telephone Laboratories, Indianapolis, Indiana 46206.

AMERICAN INSTITUTE OF PHYSICS INCORPORATED
FOR SOCIETY OF RHEOLOGY

Statement of Receipts and Disbursements — Year Ended December 31, 1974

Balance in Account - January 1, 1974	\$ 7,918.42
RECEIPTS (January 1 - December 31, 1974)	
Dues Collections:	
1973 Dues	\$ 420.00
1974 Dues	4,889.00
1975 Dues	5,160.00
	10,469.00
Miscellaneous Income:	
Income from Fall Meeting	425.00
Income from Winter Meeting	105.00
Interest Income (\$1,000 U.S. Treas. Note, 6%, due 6/15/75)	60.00
	590.00
Total Receipts	\$18,977.42
DISBURSEMENTS January 1 - (December 31, 1974)	
Charge for Dues Billing and Collection (\$.70 per item billed)*	643.00
Charge for Preparation and Maintenance of Member Record File (\$1.40 per Member Record)*	1,209.00
Financial Handling Charge - Year 1974 (5/8 of 1% of Business Handled)	300.00
Member Society Dues - Year 1974 (\$1 per Member per Year)	850.00
Editorial Expenses: Salaries, Telephone and Postage	1,200.00
Transactions of the Society of Rheology (Schedule A)	7,694.00
SOR Transactions: (Vol. 17, No. 1-4; Vol. 18, No. 1-4)	3,220.00
Mailing Expense (Vol. 17, No. 1-4; 18, No. 1-4)	1,034.00
Winter Bulletin: Printing 900 copies	126.00
Spring Bulletin:	258.00
Summer Bulletin:	250.00
Abstracts for 45th Annual Meeting:	524.00
July Mailing: (AIP Job Order No. 9555)	207.00
August Mailing: (AIP Job Order No. 9574)	294.00
September Mailing: (AIP Job Order No. 9594)	150.00
Addressing Lists:	113.00
Administrative Services:	1,317.00
Repayment of Advance Made to Chairman for Montreal Conference 10/28/73	(700.00)
	18,689.00
Balance in Account AIP - December 31, 1974	\$ 288.42
Savings Certificates	10,000.00
Savings Account - December 31, 1974	4,539.68
BALANCE IN ACCOUNT - December 31, 1974	\$14,828.10

TRANSACTIONS OF THE SOCIETY OF RHEOLOGY — SCHEDULE A

INCOME	
Publication Charges (Vol. 18 No. 1-3)	\$ 3,705.00
Reprint Sales (Vol. 18, No. 1-3)	1,629
Total Income	\$ 5,334.00
EXPENSES	
Publishing Expense (Vol. 17, No. 1-4; Vol. 18, No. 1-4)	\$11,048.00
Printing Reprints (Wiley)	1,629.00
Printing Mailing Labels	16.00**
Reprint Order Handling Charge	335.00**
Total Expense	13,028.00
Net Income or Expense	(\$ 7,694.00)

*Annual Charge
**Estimated
February 25, 1975

Respectfully Submitted,
E. A. Collins, Treasurer