

# RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Volume 43, No. 1



April, 1974

## 45TH ANNUAL MEETING

OCTOBER 21-24, 1974

Amherst, Massachusetts

*Call for Papers*

**Deadline for Submission — July 12, 1974**

The submission of contributed papers for presentation at the annual meeting is open to both members and non-members of the Society. Suggested topics for contributed papers include (1) Deformations and Relaxations of Solids, (2) Rheology of Multiphase Systems, (3) Flow and Deformation Instabilities, (4) Molecular Rheology, and (5) any topic involving the concepts and applications of rheology.

In addition, a Symposium on *Rheology of Plastics Processing Operations* is being organized by J. L. White (Univ. of Tennessee) and C. Denson (G. E., Louisville). Contributed papers are welcome on such topics as Sheet Forming, Injection Molding, Mixing or other processing operations for which rheological considerations are of primary concern. Inquiries concerning the symposium should be addressed to J. L. White, Polymer Science and Engineering Program, University of Tennessee, Knoxville.

For submission of contributed papers an abstract of 250 words or less is required prior to July 12. All abstracts including the Symposium papers should be sent to:

S. S. Sternstein, Program Chairman  
Society of Rheology  
Materials Division  
Rensselaer Polytechnic Institute  
Troy, New York 12181

Those papers intended for the symposium should be so designated. The Program Committee (J. L. Ericksen, A. N. Gent, R. S. Stein, S. S. Sternstein, K. Wissbrun) will review the papers and acceptance will be based on technical content and relevance to rheology, but without regard for the specific topic. Those contributors who choose to submit more than one paper should bear in mind that each abstract will be judged on individual merit.

A Monday evening beer session is planned and several invited lectures will be given on topics of broad general interest to the Society. These will be announced in the next bulletin.

### *Local Arrangements*

The meeting is currently being planned for 3½ days, Monday through Thursday noon, with a buffet supper and bar available Sunday evening. Accommodations will be available Sunday - Wednesday nights, principally at the University Student Center, but with some additional facilities at local motels. In general, meals will be pro-

vided, and several quite reasonable registration package options (e.g., accommodations with or without meals) will be available. Pre-registration forms will be mailed to members at a later date. Because relatively inexpensive accommodation and food arrangements are being made on a package basis, everyone planning to attend the meeting is urged to take advantage of the pre-registration procedure, if at all possible.

## SOCIETY OF RHEOLOGY SHORT COURSE

A short course in "Rheo-Optics" will be offered on October 19, 20 (Sat., Sun.), 1974, prior to the Annual Meeting at the University of Massachusetts in Amherst, conducted by R. S. Stein, (University of Massachusetts) and G. L. Wilkes (Princeton University). Further details will be published in the next issue of the Rheology Bulletin.

## ANNOUNCEMENTS

### BRITISH SOCIETY OF RHEOLOGY

The British Society of Rheology is holding its Autumn Conference at Corpus Christi College, Cambridge, September 16-19, 1974. The conference topic is "Theoretical Rheology". Communications should be addressed to Professor J. R. A. Pearson, Department of Chemical Engineering, Imperial College, London.

### SOCIETY OF RHEOLOGY, JAPAN

The Society of Rheology, Japan now publishes *Journal of the Society of Rheology, Japan*. Volume 1, Number 1, issued early this year.

### INTERNATIONAL STRUCTURAL MECHANICS SOFTWARE SYMPOSIUM

A symposium will be held by the Office of Naval Research and the National Science Foundation on June 12-14, 1974 at the University of Maryland. The registration fee of \$55 includes a copy of the hard-bound symposium proceedings, three luncheon buffets and refreshments. For technical information and registration details contact:

Walter D. Pilkey  
Department of Engineering Science and Systems  
University of Virginia  
Charlottesville, Virginia 22901  
Phone: (804) 924-3291

or

Harry Schaeffer  
Department of Aerospace Engineering  
University of Maryland  
College Park, Maryland 20742  
Phone: (301) 454-2426

## RHEOLOGY BULLETIN

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

### SEVENTH INTERNATIONAL CONGRESS

The seventh ICR will be held in Sweden in 1976.

### 14TH PRAGUE MICROSYMPOSIUM ON MACROMOLECULES

Will be held August 26-29, 1974 on Crosslinking and Networks in the Institute of Macromolecular Chemistry, Czechoslovak Academy of Sciences, Prague 6-Petriny.

### 4TH DISCUSSION CONFERENCE ON MACROMOLECULES

Will be concerned with Heterogeneities in Polymers and will be held at the Czechoslovak Academy of Sciences, Sept. 2-5, 1974.

### SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS

SESA is holding a national meeting in Detroit, at the Sheraton-Cadillac Hotel, Detroit, Michigan on May 14-17, 1974.

The SESA is the world's leading organization in the field of experimental mechanics, with membership in more than 60 countries.

For further information, contact Lynn Savary, 21 Bridge Square, P.O. Box 277, Saugatuck Station, Westport, Connecticut 06880, 203-277-0829.

### ANNUAL BUSINESS MEETING

Champlain Room  
Sheraton-Mt. Royal Hotel  
OCTOBER 29, 1973

1. The meeting was called to order at 5:30 p.m. by President Eirich.
2. The minutes of the business meeting in Cincinnati were approved as printed in the Bulletin.
3. President Eirich announced the result of the election of officers. These will be printed in the Bulletin.
4. John Elliot pointed out the present Secretary, John Miller, is retiring and a standing vote of thanks was given for his efforts.
5. E. A. Collins reported that the short course on Rheological Instrumentation was successful. Wm. Grassley was the instructor.
6. Treasurer's report on the 1974 budget was given by E. Collins. The 1972 final accounting was accepted unanimously.
7. R. R. Myers, the Editor, gave his report and it was accepted unanimously.
8. E. A. Collins reported that the 1974 fall meeting will be held at the University of Massachusetts on October 21-23. The possibility of holding a meeting in Hawaii with the Japanese Society of Rheology is being considered.

9. Several possibilities were given as short course topics in the next course.

- Crystallinity and Rheology
- Stress-Strain Behavior

10. R. S. Marvin, our delegate to the International Committee of Rheology, reported IUPAC has accepted us as an associate member. IUTAM has not acted upon our application.

It appears that the publication of the papers at the Sixth Congress will not be published in toto. The Seventh Congress has not been scheduled, but an invitation to Sweden may be forthcoming.

11. R. S. Rivlin proposed a vote of thanks for F. R. Eirich for his efforts as President of the Society.

12. The meeting was adjourned at 6:30 p.m.

### REPORT BY THE SECRETARY FOR 1973

#### 1. *Publication Charges*

Vol. 17, No. 1 and 2 of the Transactions will collect about 40% of the publication charges. This rate returns to our previous low after collecting 60% on Volume 16. Improvement in the rate of collection is a necessity.

The Secretary has observed that all authors pay for reprints. This provides no income for the Society, since all the collections go to Interscience.

#### 2. *Publications*

Two issues of the Rheology Bulletin were published this year. Three issues of the Transactions, Volume 17, were sent to all members. The publishing schedule for the last two years has been excellent, undoubtedly due to the Editor's efforts.

#### 3. *Membership*

Two technical meetings were held this year. The displaced 1972 Fall meeting in Cincinnati in January and the Fall meeting for 1973 in Montreal.

#### 5. *AIP Relations*

Mrs. Emily Wolfe has retired and AIP has assigned Mrs. Margaret Nightengale to provide assistance at AIP for the Society. Thus far, this has worked out very well. The Society Special Services program has been phased out for the present.

#### 6. *Acknowledgments*

The Secretary wishes to thank the Officers of the Society, Committee Members, and the AIP for their cooperation.

The Secretary is grateful for minor expenses supplied by Union Carbide Corporation.

### EXECUTIVE COMMITTEE MEETING

OCTOBER 28, 1973

Sheraton-Mt. Royal Hotel, Quebec Room  
Montreal, Canada

1. R. R. Myers was appointed Secretary pro tem in the absence of the Secretary.
2. Minutes of the previous meeting were approved as distributed by the Secretary.
3. Results of the 1973 election were announced:  
President — R. S. Rivlin  
Vice-President — J. R. Knox  
Secretary — R. A. Mendelson  
Treasurer — E. A. Collins  
Editor — R. R. Myers  
Executive Committee at Large — Irvin Krieger,  
Louis Zapas

4. E. A. Collins reported that \$12,000 had been transferred from AIP to the Elyria Savings and Trust Co., Avon Lake, Ohio. The money will earn 6% interest. The Treasurer presented the proposed 1974 budget. This was accepted as proposed.

5. The Secretary's report was read and the contents were accepted as proposed. The Secretary will rewrite the report. A suggestion by the Secretary to raise the price of reprints was deferred.

6. The Editor's report by R. R. Myers is attached. A motion to make the 1974 Transactions 600 pages was proposed, seconded and passed. In response to a question, Myers reported the two track system is still operating. The Editor's report was accepted.

7. E. A. Collins reported that the committee on future meeting sites suggested the University of Massachusetts for 1974. A motion to go to the University of Mass. was made, seconded and passed. Other possible sites for future years were:

Kent State University  
Sheraton Hotels — anywhere  
University of Tennessee in 1974

8. A motion on changing the length of the meeting to 3.5 days was made and seconded. After considerable discussion the motion was passed with two negative votes. The motion is contingent on the ability of the U. of Mass. to accommodate 3.5 days.

9. The committee on future sites is considering a joint meeting with the Society of Rheology in Japan in Hawaii for the winter meeting in 1975.

10. N. Nakajima's report on the Committee Industrial-University Cooperation is attached. Publication of the proceedings of the symposium on Rheological Problems may be published in the Transactions.

11. Expansion of the program to include branches of rheology other than polymers was discussed. It was suggested that we get rheologists to speak at other societies.

12. E. A. Collins reported that the Rheological Survey was still incomplete.

13. The short course in Instrumentation was successful with 29 attendees and 31 paid.

14. A vote of thanks to Professor Grassley was passed.

15. C. Sieglaff presented the first list of symbols from the Committee on Nomenclature. The list will be considered approved by the Executive Committee if objections are not raised by December 31, 1973.

16. Proposed guidelines for program chairmen presented by E. A. Collins and accepted by a unanimous vote.

17. All information received by the Secretary about other societies should be sent to the Editor.

18. Meeting adjourned at 12:15 p.m.

John C. Miller, Secretary

## REPORT OF THE EDITOR

October 26, 1973

### *Publication Trends*

Volume 17 will amount to 751 pages, comprising 44 manuscripts. Last year I postulated a steady state condition of this order of magnitude, but my prognosis for next year must be adjusted downward for reasons that have no direct bearing on the flow of manuscripts.

Twenty-nine manuscripts were received since January 28, 1973 when I last reported. They were parceled out to the assistant editors who currently are processing 55 manuscripts. In addition, Wiley has eighteen manuscripts on hand.

### *Statistics*

Growth statistics were given in my 1970 report, and with a slight penumbra of reported facts they are picked up here

TABLE 1. Size of SOR

Volume	Year	Papers	Pages
14	1970	38	622
15	1971	44	791
16	1972	46	776
17	1973	44	751

### *Quality*

Last year we reported that an earlier concern about the quality of papers appearing in the Transactions was unfounded. This condition appears to remain under control. The assistant editors are doing excellent work and we have no dearth of manuscripts from which to select.

### *Prospects for the Future*

In the past Michael Harris has occasionally threatened to renegotiate our contract with Wiley. This time the pressure has come from Joseph Kuney, manager of the journal and encyclopedia department, who has stated that an 800-page Volume 18 will have to carry a \$40 price to non-SOR members. I took the liberty of asserting that we would carry only 600 pages in 1974 and would like the Executive Committee to ratify this decision. There was no time for consultation, and in fact my directions to Kuney may have been too late for them to compose a new rate schedule.

## ESTIMATED 1974 BUDGET

Balance 1973 Estimate .....	\$16,310
Receipts	
Dues Collected .....	10,000
Income from Winter Meeting (Indian Wells, Jan. 1974) .....	400
Income from Fall Annual Meeting (Amherst ?) .....	500
Income from Short Course .....	1,200
Interest from bonds .....	1,000
Total Receipts	\$29,410
Disbursements	
Charge for Dues, Billing and Collection .....	420
Charge for Maintenance and Society List .....	600
Contribution for support of AIP .....	900
January 1974 Meeting Bulletin .....	350
Spring Bulletin .....	250
Fall Meeting (Amherst ?) .....	1,000
Fall Meeting Bulletin .....	500
Transaction Subscription Charges (Wiley .003/page/member) .....	2,000

AIP expense related to Transactions .....	300	
Transaction Expenses (scheduled at 60%) .....	5,000	
Editorial Expenses .....	900	
AIP Secretarial duties .....	200	
Miscellaneous expenses .....	500	
		Total Disbursements
		\$12,920
Estimated Balance December 31, 1974		<u>\$16,490</u>

Edward A. Collins, Secretary

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

Statement of Receipts and Disbursements — Nine Months Ended September 30, 1973

Balance in Account - January 1, 1973 \$22,578.57  
**RECEIPTS (January 1 - September 30, 1973)**

Dues Collections:		
1973 Dues	\$3,430.13	
1974 Dues	10.00	3,440.13
Miscellaneous Income:		
Income from Winter Meeting	263.15	
Interest Income	30.00	293.15
Total Receipts		<u>\$26,311.85</u>

**DISBURSEMENTS (January 1 - September 30, 1973)**

Charge for Dues Billing and Collection	\$ 375.00*	
Charge for Preparation and Maintenance of Member Record File	855.00*	
Financial Handling Charge - Nine Months - 1973	260.00*	
Member Society Dues - Nine Months - 1973	600.00	
Editorial Expenses:		
Salaries, Telephone and Postage	300.00	
Transactions of the Society of Rheology (Schedule A)	3,437.11	
S of R Transactions:		
Mailing Expense	\$ 459.22	
Subscription Expense	1,879.02	2,338.24
Winter Meeting:	484.01	
Spring Bulletin:	331.82	
Fall Bulletin	135.86	
Mailing Ballot:	94.84	
Carried Forward	\$9,211.88	\$26,311.85
Brought Forward	\$9,211.88	\$26,311.85
Questionnaire:		
Addressing Lists	84.75	
Abstracts for 44th Annual Meeting:	37.59	
Other:	597.05	
Polymer Division, ACS Mailing List	\$ 75.00	
Offsetting Letterheads and Letters	6.84	
Advance to Chairman for Montreal		
Conference 10-28-73	700.00	
Retirement Gifts for E. Wolf	400.00	
Transfiles	7.70	
Miscellaneous Supplies	4.61	
Postage	28.58	
Telephone and Copying	7.54	
	<u>1,230.27</u>	11,161.54
		<u>\$15,150.31</u>
LESS: Transfer of Funds to Society of Rheology 8-13-73		12,000.00
Balance in Account - September 30, 1973		<u>\$ 3,150.31</u>

**TRANSACTIONS OF THE SOCIETY OF RHEOLOGY — SCHEDULE A**

Statement of Income and Expense — Nine Months Ended September 30, 1973

<b>INCOME</b>		
Publication Charges (Vol. 16 No. 4; Vol. 17 No. 1 & 2)		\$3,480.00
Reprint Sales (Vol. 16 No. 4; Vol. 17 No. 1 & 2)		1,785.01
Total Income		<u>\$5,265.01</u>
<b>EXPENSE</b>		
Publishing Expense (Vol. 16)	\$6,490.11	
Printing Reprints (Wiley)	1,785.01	
Printing Mailing Labels	12.00*	
Reprint Order Handling Charge	415.00*	
Total Expense		<u>8,702.12</u>
Net Income or (Expense)		<u>(\$3,437.11)</u>

\*Estimated