

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.



Vol. 51, No. 1

January, 1982

53rd ANNUAL MEETING

Louisville, Kentucky

The Society of Rheology is very effective in bringing together both academic and industrial scientists at the annual meetings. This success is due to the generosity and cooperation of many corporations and individuals. We wish to thank Hercules, Inc., General Electric, IMASS, and Instron for their contributions.

A special thanks is also due General Electric and University of Louisville for permitting Larry Schmidt and Eugene Miller the time to effectively carry out their duties as Program Chairman and Local Arrangements Chairman.

54th ANNUAL MEETING

Northwestern University
Evanston, Illinois
October 25-28, 1982

Program Committee

Anthony J. McHugh (Chairman)
Dept. of Chemical Engineering
University of Illinois
108 Roger Adams Laboratory
1209 West California
Urbana, Illinois 61801

Lothar Kleiner
Diamond Shamrock Corporation
T. R. Evans Laboratory
P.O. Box 348
Painesville, Ohio 44077

Local Arrangements Committee

Buckley Crist, Jr. (Chairman)
and Stephen H. Carr
Department of Materials Science
Engineering
Northwestern University
Evanston, Illinois 60201

SOCIETY OF RHEOLOGY SHORT COURSE

There will be a short course on "Food Rheology" on Saturday and Sunday prior to the annual meeting. Contact: Donald Hunston, National Bureau of Standards, Polymer Science and Standards Division, Washington DC 20234.

CALL FOR PAPERS

An abstract form is enclosed which should be used when submitting abstracts. Deadline for submission of abstracts is June 1, 1982.

Symposium papers should be sent to the symposium chairman; general papers to the program chairman.

Rheology, Fluid Mechanics, and Phase Transformations

James L. White
Dept. of Chemical Engineering
University of Tennessee
Knoxville, TN 37916

Rheology of Geological Materials

S. L. Passman and W. Waiversik
Div. 5531
Sandia National Laboratories
Albuquerque, NM 87185

Food Rheology

Edward B. Bagley
Northern Regional Research Center, USDA
1815 N. University
Peoria, IL 61604

Interrelationship of Processing and Rheology

Bruce Bersted
Amoco Chemical Corp.
Box 400, Naperville Research Center
Naperville, IL 60540

Processing and Rheology of Conductive Polymers

Lothar W. Kleiner
address above

Yielding Phenomena in Solids

S. S. Sternstein
Materials Engineering Dept.
Rensselaer Polytechnic Institute
Troy, NY 12181

Suspensions and Multiphase Flow

W. B. Russel
Dept. of Chemical Engineering
Princeton University
Princeton, NJ 08544

General Session

A. J. McHugh
address above

1982 BINGHAM AWARD NOMINATIONS

Nominations for the 1982 Bingham Medal are due before February 26, 1982.

Contact A. B. Metzner (committee chairman), Dept. of Chemical Engineering, University of Delaware, Newark, Delaware 19711. Telephone: (302) 738-2543.

COMMITTEES

Executive Committee

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

Bingham Award Committee

Donald C. Bogue (1982)
Chan I. Chung (1982)
Arthur B. Metzner (1983) (Chairman)
Nobuyuki Nakajima (1983)
Daniel D. Joseph (1984)
Thor L. Smith (1984)

Membership Committee

Charles L. Sieglaff (Chairman)

Representative to International Congress of Rheology

Jack R. Knox (Oct. 1981-Oct. 1983)

Committee on Education

Donald Hunston (Chairman)

Committee on Site Selection and Topics

Edward A. Collins (Chairman)

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

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

The Society of Rheology
Louisville, Kentucky
October 11, 1981

The meeting was called to order by President E. B. Bagley at 1:05 p.m. Present were Executive Comm. members: E. B. Bagley, E. A. Collins, A. N. Gent, E. A. Kearsley, I. M. Krieger, R. R. Myers, and M. T. Shaw. Also attending were J. R. Knox, L. R. Schmidt, C. L. Sieglauff, K. F. Wissbrun, and A. Wittman.

The Secretary read the minutes of the last meeting and the Report of the Secretary; both were approved by motion, second, and voice vote after minor corrections.

L. Schmidt, Chairman of the Program Committee for the 53rd Annual Meeting, gave a brief report. No major changes in the published program had been found necessary.

Treasurer E. A. Collins went over the Annual Report from his Office, noting that a large bill from Wiley required a revised 1980 report, with a new 1980 year-end balance of \$21,497. The balance for October 1981 was given as \$28,595. The estimated 1982 balance, reflecting the dues increase, was \$28,401. The Treasurer's report was accepted by unanimous voice vote after a motion and a second of the motion.

Attention of the Committee then focused on the report of the Editor, R. R. Myers. The question of the number of pages for the Journal of Rheology was addressed by Mr. Wittman of John Wiley & Sons, the publisher of the Journal. Mr. Wittman felt that the number of pages should be allowed to rise, if the number of submitted manuscripts so warranted. The questions of costs to The Society of a larger Journal and the smoothing out of the flow of papers were then addressed. Wittman saw no problem with the latter but will examine the question of costs more carefully and return with a proposal that will limit the per member costs to an affordable level (e.g. \$10/member) regardless of the number of pages. Wittman also agreed to print in the Journal the list of Sustaining Members once a year. Editor Myers then discussed the steps taken to increase the flow of manuscript including personal letters to selected authors presenting papers at the 53rd Annual Meeting and the continual solicitation of review papers. Other business brought forward included the issue of postage for overseas mailings. After considerable discussion it was concluded that an air mail option for overseas members would be too complex to administer and the matter was tabled. Editor Myers displayed the certificates for the Bingham medalists, and there was unanimous approval of the design.

At this juncture, the President presented a motion for a vote of thanks to General Electric, IMASS, and Instron for their support of the 53rd Annual Meeting. This motion received the unanimous approval of the Committee.

The report of the Membership Committee was presented by its chairman, C. L. Sieglauff, who quoted a current membership of 1119 regular members, 9 retired members and 24 sustaining members. Chairman Sieglauff will be submitting a recommendation on proposed benefits for Sustaining Members while the Secretary was asked to investigate the possibility of having AIP send retired members a "no charge" invoice at renewal time. This would avoid the expense of mailings to retired members who did not need or desire the information. •

D. Hunston, Chairman of the Education Committee, reported on his committee's recent activities. A short course at Louisville on Polymer Processing attracted 15 registrants. Hunston raised the question of adjusting the course fee, currently \$100, according to the circumstances of the course. In response to this, the Executive Committee passed a motion authorizing the Education Committee Chairman to manage all aspects of the short course, including fees, to insure the success of the course and to avoid placing a financial burden on The Society. Hunston announced that a short course on "Food Rheology" was planned for 1982 with a possible rerun of a popular subject in parallel. I. M. Krieger discussed the results of a

questionnaire sent to colleges and universities teaching rheology courses; a report on the results will be presented at the next Executive Committee meeting.

The report of the Nomenclature Committee (J. Dealy, chairman) was read by President Bagley, who also related that the question of the Canadian Division has been satisfactorily resolved without an amendment. The Society's representative to the International Congress on Rheology, J. R. Knox, reported on progress toward a Congress in Mexico in 1984. Bagley has volunteered to the ICR the services of The Society to help with the planning, but advised President-elect A. Gent to contact Baltasar Mena of the Mexican Society of Rheology directly.

The Site Selection Committee report was read by its chairman E. A. Collins who noted that the members at Northwestern University had agreed to host the 54th Annual Meeting but that the University of Illinois at Urbana provided a good backup site. After some discussion the following first choice/second choice sites were approved for subsequent meetings: 1983, University of Tennessee/Princeton University; 1984 (Feb. 1985), Gainesville, FL/Williamsburg, VA; 1985, Atlanta/Lehigh University.

The Bingham Award Committee report was given by President Bagley who noted that the task of preparing a set of guidelines for selection of medalists will be passed on to the 1982 Committee.

There was no additional Old Business; under New Business, President Bagley read a letter from Steven Passman asking about possible activities in the area of rheological modeling of geological materials. The possibility of a symposium on this subject should be considered by the Program Chairman of the 1982 meeting in consultation with Dr. Passman.

The next Executive Committee meeting will be scheduled by President-elect A. Gent; he requested the Secretary forward data on all new Committee members.

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

Respectfully submitted,
M. T. Shaw, Secretary

EDITOR'S REPORT
THE SOCIETY OF RHEOLOGY

Raymond R. Myers
October 11, 1981

The Journal of Rheology
Manuscript Flow

Volume 25 (1981) of the Journal of Rheology will be slightly lighter in pages than the preceding record volumes but still over our target of 600-700 pages. Issues 1-4 contained 22 papers and a record number of 10 notes, plus abstracts of the 52nd Annual Meeting and abstracts from the Japanese Society Journal. Issue No. 6 will run the pagination to 700-750. Wiley's guarantee to outside subscribers is 600 pages.

Twenty-six manuscripts are in the referee process, and 19 manuscripts are in the hands of the publisher. As of September 10, 35 manuscripts had been submitted, of which six were rejected or withdrawn. A definitive paper on liquid crystals was published this year in accord with a policy established in 1976 to publish such papers at the rate of about one each year.

Other Journal Items

The Journal of Rheology carries an occasional obituary. Rules for inclusion of an obituary were established by the corps of assistant editors and are quite simple: any member who feels strongly enough about a recently deceased member may write the story, subject to editing.

Rheology Bulletin

Issues of the Rheology Bulletin appeared in May and July. The first of these was the call for papers and announcement of the Louisville meeting and the second covered the Louisville meeting; it was accompanied by the program and abstracts.

The program and abstracts for the Louisville meeting were mailed to New York on August 14. A great toll was exacted of the program chairman who was caught between a missed July 1 deadline for papers (some arrived as late as July 31) and our targeted mailing date of August 15 out of New York. Our resolution to tighten up on abstract format requirements was unmet, but until there is better adherence to deadlines by authors, the necessity to retype abstracts is not the main problem, as long as program chairmen are as cooperative as Dr. Schmidt was.

Acknowledgment

The Editor acknowledges the continued service and advice of the corps of assistant editors: Robert C. Armstrong, Edward A. Collins, Shigeharu Onogi, J. George Savins, Charles L. Sieglaff, Alex Silberberg, and James L. White.

Sustaining Members

The sustaining members of The Society are listed below:

AVX Corporation Myrtle Beach, SC 29577	Hercules, Inc. Wilmington, DE 19899
British Library Yorkshire LS23 7BQ, England	Massachusetts Inst. of Technology Cambridge, MA 02139
Brookfield Engineer Labs, Inc. Stoughton, MA 02072	Owens-Corning Fiberglass Corp. Granville, OH 43023
Brown University Providence, RI 02912	Rheometrics, Inc. Union, NJ 07083
Cabot Corporation Billerica, MA 01821	Schott America New York, NY 10010
Celanese Research Company Summit, NJ 07901	Tennessee Eastman Company Kingsport, TN 37662
Dart Industries, Inc. Paramus, NJ 07652	Texas Tech University Lubbock, TX 79409
Diamond Shamrock Corporation Painesville, OH 44077	Union Carbide Corporation Bound Brook, NJ 08805
E. I. DuPont de Nemours Wilmington, DE 19898	University of Michigan Ann Arbor, MI 48109
B. F. Goodrich Company Brecksville, OH 44141	Westvaco Research Lab Laurel, MD 20810

1981 REPORT OF THE SECRETARY THE SOCIETY OF RHEOLOGY

October 12, 1981

During the calendar year 1981 The Society has sponsored two technical meetings: the 52nd Annual Meeting held in Williamsburg, Virginia in February; and the 53rd Annual Meeting in Louisville, Kentucky. About 57 papers were presented at the former while 84 papers and plenary lectures are scheduled for the current meeting at Louisville.

James Lindsay White was named recipient of the Bingham Medal for 1981.

The membership of The Society rose in 1981 from 1036 to 1107 as of June 30, 1981. A new membership directory has been ordered for 1982.

The following officers and executive committee members-at-large were elected by letter ballot to serve two-year terms commencing on the last day of this Annual Meeting:

President	A. N. Gent
Vice President	W. R. Schowalter
Secretary	J. R. Collier
Treasurer	E. A. Collins
Editor	R. R. Myers
Members-at-Large	K. F. Wissburn J. M. Dealy

Two other events of importance occurred during the past year. A letter ballot to increase the annual dues from 15 to 20 dollars received strong support from the membership and will be instituted for the calendar year 1982. And finally, after many legal and procedural delays, a Certificate of Amendment to the Certificate of Incorporation of The Society of Rheology, Inc. has been served to the Secretary of the State of New York. This amendment was required by the Internal Revenue Service.

The Secretary wishes to acknowledge and thank Mrs. Margaret Nightingale of AIP for her help during the past four years and the Institute of Materials Science of the University of Connecticut for providing necessary services to this office.

Respectfully submitted,
M. T. Shaw, Secretary

MINUTES OF THE BUSINESS MEETING

The Society of Rheology
Louisville, Kentucky
October 12, 1981

The meeting was called to order at 5:32 p.m. by President E. B. Bagley. After welcoming the members, President Bagley thanked General Electric, IMASS, and Instron Corporations for their support of the 53rd Annual Meeting. President Bagley read the Report of the Editor; this report was accepted by motion, second, and voice vote.

The Secretary read the minutes of the last Business Meeting and the Report of the Secretary; both were approved by motion, second and voice vote. This was followed by the Report of the Treasurer which was similarly approved.

The report of the Site Selection Committee was read by its chairman, E. A. Collins, who listed the site choices made at the Executive Committee meeting (see minutes for details). Collins was asked about a West Coast location; an informal poll showed that many could attend. While citing travel costs as the reason for the reported choices, Collins proposed an examination of a California site for 1983; this was approved by the members.

The report of the Education Committee was given by its chairman, D. Hunston. He related to the members the statistics on the "Polymer Processing" course taught by C. L. Sieglaff and J. M. McKelvey and announced a course on "Food Rheology" for next year.

There was no further Old Business.

Under New Business, J. Dealy asked about the site selected for the IXth International Congress on Rheology, noting that Mexico City might be preferable to Acapulco. ICR Representative J. R. Knox responded by listing the many logistical problems with Mexico City; these were confirmed by D. M. Binding, a member of the Mexican Society of Rheology.

Further New Business involved a discussion of publication times in the Journal of Rheology in response to a question by D. G. Legrand. J. R. Knox cited a survey he had taken on publication times in various journals; the 10-11 months (average) time-of-receipt to publication for the Journal of Rheology was found to be very favorable. It was recommended that the Editors request a 2-week review period of the reviewers, but a motion to require this was defeated. A question about the quality of papers prompted several suggestions including a beer session on the Journal and an inclusion of referees' names on published papers. No motion was officially adopted, but Knox noted that the Editor's efforts to attract more manuscripts should allow the rejection rate to be raised from its present 15-18% and increase the quality of the published papers.

The meeting was adjourned at 6:44 p.m.

Respectfully submitted,
M. T. Shaw, Secretary

ANNOUNCEMENTS

Kent State University's Rheology and Coatings Laboratory in the Chemistry Department will continue to present three well-received short courses for coatings and polymer specialists. They are:

"Dispersion of Pigments and Resins in Fluid Media"

May 17-21, 1982;

"Adhesion Principles and Practice for Coatings and Polymer Scientists", June 7-11, 1982;

"Applied Rheology for Industrial Chemists", June 21-25, 1982.

Contact: Carl J. Knauss, Chemistry Department, Kent State University, Kent, Ohio 44242. Telephone: (216) 672-2327.

Massachusetts Institute of Technology is offering a one-week summer program for scientists involved in food processing and food research entitled "Food Rheology: Principles and Practice" from July 26 through July 30, 1982.

Contact: ChoKyun Rha, Room 56-137, Dept. of Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

A symposium entitled "Influence of Associative Thickeners and Rheology on Coatings Performance" will be held in Des Plaines, Illinois on May 25, 1982.

Contact: J. Edward Glass, Polymers & Coatings Dept., North Dakota State University, Fargo, ND 58105. Phone: (701) 237-7128.

(Continued - bottom page 4)

**AIP INC. FOR THE SOR STATEMENT OF RECEIPTS & DISBURSEMENTS
YEAR ENDED DECEMBER 31, 1980**

Balance in Account December 31, 1979*		\$20,289.52
<i>Receipts (Jan. 1 - Dec. 31, 1980)</i>		
Dues Collection 1979, 1980 & 1981	\$20,347.00	
Sale of Mailing List	195.00	
Interest Savings Certificate	3,096.48	
Page Charges J. of Rheology	3,030.00	
Short Course (Boston)	145.00	
Net Receipts Annual Mtg. Boston	<u>3,216.40</u>	<u>\$30,029.88</u>
	Net Receipts	\$50,319.40
<i>Disbursements (Jan. 1 - Dec. 31, 1980)</i>		
Charge for Dues Billing & Collection (\$1.40/item)	\$ 1,416.00	
Charge for Preparation & Maintenance of Member file @ \$1.50/member	1,641.00	
Financial Handling Charge 5/8 of 1%	225.00	
Member Society Dues \$1/member	1,100.00	
Editorial Expenses	2,400.00	
J. of Rheology (estimated)	12,807.00	
January Bulletin Mailing	496.00	
July Bulletin Printing	199.00	
Ballot Mailing (Constitutional Change)	31.00	
Renewal Billing	533.00	
Membership Directory	1,026.00	
Williamsburg Winter Mtg. Mailing	566.00	
Certificate of Incorporation Mailing	269.00	
Miscellaneous	2,497.24	
Charter Amendment & Bankruptcy ICR	2,101.12	
SOR Lapel Pins	318.00	
Council of Scientific Soc. Presidents Dues	50.00	
Final Variance	<u>1,147.00</u>	<u>\$28,822.36</u>
Ballance in Account - December 31, 1980		<u>\$21,497.04</u>

*Adjusted to include 1979 Final Receipts & Disbursement Variance.

Final Variance: a correction for estimated bills and small items not included in the original accounting.

Respectfully submitted
Edward A. Collins, Treasurer
October 10, 1981

1982 Treasurer Estimate

Estimate Bal. in Account January 1, 1982		\$ 23,000
<i>Receipts</i>		
Dues 1981, 1982 & 1983	\$20,000	
Interest Savings Certificate & Savings	3,500	
Income Short Course (Fall)	2,500	
Page Charges J. Rheology	3,500	
Annual Meeting	<u>1,000</u>	<u>\$30,500</u>
	TOTAL RECEIPTS	\$53,500
<i>Disbursements</i>		
Charges for Dues Billing & Collection 1.40/item	1,400	
Charges for Preparation & Maintenance member file @ \$1.65/member (1,075 members)	1,774	
Financial Handling 5/8 of 1%	400	
Member Society Dues \$1/member	1,075	
J. of Rheology	9,000	
Editorial Expenses	2,400	
Subscription Expenses	2,000	
Bulletins (3)	1,500	
Short Course Expenses	2,000	
Administration AIP	2,000	
President's Discretionary Fund	500	
Treasurer's Discretionary Fund	500	
Society of Presidents Dues	50	
Miscellaneous	<u>500</u>	<u>\$25,099</u>
Estimated Balance December 31, 1982		<u>\$28,401</u>

Respectfully submitted
Edward A. Collins Treasurer
October 10, 1981

ANNOUNCEMENTS

(Continued from page 3)

There will be an "International Symposium on Adhesive Joints: Their Formation, Characteristics and Testing" to be held at the American Chemical Society meeting in Kansas City, Missouri, September 12-17, 1982.

Contact: K. L. Mittal, Symposium Chairman, Bldg. 300-40E, IBM Corporation, Hopewell Junction, New York 12533. Telephone: (914) 897-6630.

There will be a first Meeting of European Rheologists which will take place in Austria at Graz University April 14-16, 1982.

Contact: K. Kirschke, Deutsche Rheologische Gesellschaft (DRG) e.V., Unter den Eichen 87, D-1000 Berlin 45, West Germany or J. Schurz, Arbeitsgruppe Rheologie im Verein Osterreichischer Chemiker, Heinrichstrasse 28, A-8010 Graz, Austria

The Fourth Ross Priory Course on Rheogoniometry will be held May 18-20, 1982 at the University of Strathclyde with lectures and group clinic sessions.

Contact: J. Ferguson, Dept. of Pure & Applied Chemistry, University of Strathclyde, Cathedral Street, Glasgow, G1 1XL Scotland