

# RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Vol. 54, No. 2



July, 1985

## 57th ANNUAL MEETING 1985 SOCIETY OF RHEOLOGY MEETING

Ann Arbor Inn  
Ann Arbor, Michigan  
October 14-17, 1985

The Program and Abstracts for the 1985 SOR meeting are enclosed with this mailing. If you have questions concerning these, please contact Program Committee chairman Stuart J. Kurtz, Union Carbide Corporation, P.O. Box 670, Bound Brook, New Jersey 08805. Phone: 201/356-8000, ext. 2471.

Local Arrangements chairman is A. S. Wineman, Dept. of Mechanical Engineering & Applied Mechanics, University of Michigan, Ann Arbor, MI 48109. Phone: 313/764-4254. Registration forms and housing information will be mailed separately to members.

Frank Filisko, Dept. of Materials & Metallurgical Engineering, University of Michigan, Ann Arbor (Phone: 313/763-2240) is co-chairman for both the Program and Local Arrangements Committees.

## SOCIETY OF RHEOLOGY TWO-DAY SHORT COURSE

October 12-13, 1985

A short course on "Rheology of Liquid Crystals" will be presented at the Annual SOR Meeting in Ann Arbor, Michigan, on Saturday and Sunday, Oct. 12 & 13. The course instructors will be Prof. Roger Porter and Dr. K. Wissbrun with Prof. G. Marrucci, Univ. of Naples, as guest speaker.

The course is intended to provide a review of the current status of the field and will include a brief introduction to the nature of liquid crystals and rheology of small molecular weight liquid crystals. The course will concentrate on the rheology of polymeric liquid crystals and applications of the rheology to processing behavior.

For additional information, contact Dr. Edward A. Collins, Mitech Corp., 4399 Hamann Parkway, Willoughby, Ohio 44094 (216) 946-3130.

## 58th ANNUAL MEETING

October 1986  
Tulsa, Oklahoma

Local Arrangements Chairman:  
Peter Clark, Dept. of Chem. Eng.,  
U. of Tulsa, Tulsa, OK 74104.

## NOMINATIONS FOR 1986-87 OFFICERS OF THE SOCIETY OF RHEOLOGY

The nominating committee (I. M. Krieger, chairman, Cohen and McIntire) present the following candidates for office for 1986-87 (2-year terms):

*President*  
*Vice President*  
  
*Editor*  
*Secretary*  
*Treasurer*  
*Members-at-Large*

R. F. Landel  
John Dealy  
S. Sternstein  
A. B. Metzner  
D. G. Baird  
E. A. Collins  
(vote for two)  
R. C. Armstrong  
R. Hoffman  
W. B. Russel

## MINUTES OF THE EXECUTIVE COMMITTEE MEETING

February 24, 1985

Attending: W. R. Schowalter, President; R. F. Landel, Vice-President; R. R. Myers, Editor; J. R. Collier, Secretary; E. A. Collins, Treasurer; A. N. Gent, past president; M. T. Shaw, committee member; and A. Eisenberg, committee member. Also in attendance for parts of the meeting were J. Rosenthal (representing Wiley), J. Knox, T. Smith, D. Baird, W. Russel, A. Wineman, and S. Kurtz.

The meeting was called to order at VPI in Blacksburg, Virginia by President W. R. Schowalter at 4 p.m. Minutes of the previous meeting, as printed in the bulletin, and the secretary's report were accepted. Disposition of back issues of the Journal held at AIP was discussed.

In the Treasurer's report it was stated that the year-end balance for 1983 was \$64,609.95, although approximately \$20,000 of that amount will be paid to Wiley for copies of the Journal, Volumes 27 and 28, sent to members. Copies of the Journal to non-members is \$170 per volume. Page charges for the journal are \$15 per page. AIP increased the fixed charges billed to the Society from \$1 to \$2. The normal annual expenditure by the Society is between 20 and \$25,000, therefore the Society is in good financial condition. The current dues of \$20 per year should be maintained at that level. The Treasurer's report was accepted as presented.

Ray Myers officially announced his retirement from Kent State on July 1, but he is willing to continue his duties as Editor of the Journal until the next annual meeting, i.e. October 1985. Appreciation was expressed to Dr. Myers for excellent service to the Society. An extended discussion concerning possible candidates for the position and desired qualities occurred. In the Editor's report, it was pointed out that the Journal is complete through August and possibly October with a large influx of papers expected from the Mexico meeting. The report was accepted and a motion expressing gratitude to Ray Myers for 20 years of service as editor was passed unanimously. A committee was formed by the president, consisting of himself, the president elect, and previous past president to find a new Editor.



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

Donald Baird reported for the current local arrangements committee that 180 people had preregistered. He stated that attendees would receive \$36 worth of services for the \$25 registration fee and that the Executive Committee may want to consider increasing the registration fee in the future by at least \$10. He reported that the following groups are sponsoring this meeting: duPont, Celanese, Rheometrics, Monsanto Polymer Products, Monsanto Fibers and Intermediates, Imass, Mitech, PMIL, General Electric, and Hercules. Dr. William Russel reported for the program committee on the full schedule of papers.

Discussion of future meeting sites occurred with the following decisions being made: October 1985-Ann Arbor; October 1986-Tulsa, Oklahoma; Winter 1976-Southern California, Fall 1987-Atlanta; Fall 1988-International Meeting-Australia; Annual 1988 meeting (February 1989) in Florida (tentative).

W. Schowalter stated in the President's report that AIP is forming a memorandum of agreement with member societies and will share more details when they are available. Kurt Wissbrun is on the nominating committee of AIP, and Robert Landel, Vice President, will represent SOR at the AIP meeting.

Thor Smith reported for the Bingham Award committee that nominations should be made by February 15 for the award and that by April 1 it should be determined if a problem exists. He reported suggestions from the committee that: the requirements of contributions must be made within ten years be dropped; that the award committee should include an executive committee member and a previous recipient of the award; and that the requirement of being an SOR member be dropped.

S. Kurtz reported on arrangements for the Ann Arbor meeting. Session chairpersons and plenary speakers have been chosen and the arrangements are progressing without any undue difficulties.

The meeting was adjourned at 8:45 a.m. Submitted by John R. Collier, Secretary.

## MINUTES OF THE SOCIETY OF RHEOLOGY BUSINESS MEETING

February 25, 1985

The meeting was called to order at V.P.I. in Blacksburg, Virginia by President William R. Schowalter at 4 pm. Minutes of the previous meeting, as printed in the bulletin, and the Secretary's report were accepted.

In the Treasurer's report it was stated that the year-end balance for 1983 was \$64,609.95, although approximately \$20,000 of that amount will be paid to Wiley for copies of the Journal, volumes 27 and 28, sent to members. The normal annual expenditure by the Society is between twenty and twenty-three thousand dollars, therefore the Society is in good financial condition. The current dues of \$20 per year should be maintained at that level. The Treasurer's report was accepted as presented.

In the Editor's report it was pointed out that the Journal is complete through August and possibly October with a large influx of papers expected from the Mexico meeting. The report was accepted and a motion expressing gratitude to Ray Myers for 20 years of service as editor was passed unanimously. A committee was formed by the president, consisting of himself, the president-elect, and previous past president to find a new Editor.

Bill Russel reported that active solicitation of papers for the current meeting had occurred and that 114 papers were scheduled with a couple dozen submitted but not included. A motion was made and passed to extend thanks to the organizing committee and to the following sponsors: duPont, Celanese, Rheometrics, Monsanto Polymer Products, Monsanto Fibers and Intermediates, Imass, Mitech, PMIL, General Electric, and Hercules.

The Education Committee reported that the short course conducted at this meeting by R. B. Bird and C. F. Curtiss was quite successful with 36 attendees. The short course preceding the Ann

Arbor meeting will be presented by K. Wissbrun and R. Porter on Liquid Crystals, October 12 and 13.

The Site Selection Committee reported that future meetings will be held at the following locations: October 1985 - Ann Arbor, Michigan; October 1986 - Tulsa, Oklahoma; Winter 1987 - Southern California; Fall 1987 - Atlanta, Georgia; Fall 1988 - International Meeting - Australia; Annual 1988 Meeting (February 1989) - in Florida (tentative). Meeting locations in Montreal and Akron were offered.

In new business a motion was made, seconded and passed to contact R. S. Marvin in the hospital. W. Schowalter will do so.

The meeting adjourned at 6:04 p.m. Submitted by John R. Collier, Secretary.

## EDITOR'S REPORT

January 17, 1985

### *Journal of Rheology*

Volume 28, Numbers 1-6, 1984 contained 804 pages. It consisted of 38 papers and four notes. Five of the papers were from the Symposium of Rheology of Geological Materials held at the 54th Annual Meeting of the Society of Rheology in 1982, handled by guest editor, Stephen L. Passman, Sandia Labs.

In addition, abstracts from the Journal of Society of Rheology, Japan, Volume 11, Numbers 1-3, 1983; abstracts from the 55th Annual SOR meeting in Knoxville, 1983; and abstracts from the Australian Society of Rheology, First National Conference on Rheology, 1979, were published.

We received 76 submissions for publication in the Journal of Rheology in 1984; 48 were accepted and 16 rejected. Forty are still in the review process. Thirty-nine papers are awaiting publication in Wiley's hands. Ed Barnas of Wiley reports that they have enough manuscripts in hand for publication of JOR February, April, June, and August issues. The 1985 volume will cost \$152.

The Journal of Rheology began publishing abstracts from the Australian Society of Rheology annual conferences in 1984 and will begin to publish abstracts from the annual conferences of the Groupe Francais de Rheologie in 1985. We expect a surge of papers from the international conference held in Mexico in 1984.

Letters were written to the 56th annual SOR meeting symposia chairmen inviting them to gather enough papers to be refereed and made into a separate JOR issue for which they could be guest editor.

Mary Curtis has been promoted to vice president and publisher, periodical division of John Wiley & Sons, Inc. We now deal with Jonas Rosenthal. There will be a working luncheon on Monday at the Blacksburg SOR meeting.

### *Rheology Bulletin*

Two bulletins were issued in 1984. The August bulletin included an abstract form and list of symposia chairmen for the February meeting.

We continue to use the Kent post office for the mailing of the bulletin, program, and abstracts. The January bulletin and the program and abstracts for the February meeting left Kent January 14.

### *Personal*

I wish to acknowledge the services of Assistant Editors Robert C. Armstrong, Edward A. Collins, Shigeharu Onogi, J. George Savins, Charles L. Sieglaff, Alex Silberberg, and James L. White. In October I will retire from the editorship, and these loyal assistants will facilitate a smooth transition to my successor.

I asked for early release from my post as editor and will move from Kent to 43 Wall Street, Bethlehem, Pennsylvania 18018 after August 1. While personal communications will reach me there, you should address Dr. Arthur B. Metzner, Dept. of Chemical Engineering, University of Delaware, Newark, Delaware 19716, for any matters regarding manuscripts in preparation. All of the files have been transferred to him.

After 20 good years as your editor, I step down from the post with regret. Retirement brings on a variety of mixed feelings, and one which pains me most is that I will no longer be responsible for the Society's most important project, the Journal. Please give Dr. Metzner your support, for he has stepped in to make an orderly transition of the office of Editor.

Raymond R. Myers



## 1985 BINGHAM MEDALIST

Roger S. Porter

Roger S. Porter is with the Graduate Research Center of the University of Massachusetts at Amherst. He has B.S. and Ph.D. degrees in chemistry from the University of California at Los Angeles and the University of Washington at Seattle, respectively. He was with the Chevron Research Company, and at the University of Massachusetts he has held the following positions: Program Chairman of Polymer Science and Engineering, Codirector of the National Science Foundation Materials Research Laboratory, and Special Research Assistant to the University President. He received an award for polyolefin research, the International Award in Education, and the International Award in Plastics Science and Engineering from the Society of Plastics Engineers, and for Organic Coatings and Plastics from the American Chemical Society. He also received the Meritorious Service Award from the Plastics Institute of America and the Mettler Award from the North American Thermal Analysis Society. Dr. Porter serves on the Board of Trustees, Gordon Research Conferences, and on the Advisory Board for the Petroleum Research Fund.

## ANNOUNCEMENTS

The 30th IUPAC International Symposium on Macromolecules will be held August 18-23, 1985 in The Hague, The Netherlands. Contact:

Symposium Organizers Bureau, QLT Convention Services, Keizersgracht 792, 1017 EC Amsterdam, The Netherlands. Telex: 31578 inter nl att qlt.

An International Conference on "Viscoelasticity of Polymeric Liquids: Theory, Experiment, Applications" is to be held at Grenoble, France on January 13-16, 1986. Contact:

International Conference on Viscoelasticity  
Institut de Mécanique de Grenoble  
B.P.n° 68 - Domaine Universitaire  
38402 Sain Martin D'Herès, Cedex, France.  
Attn: J. M. Piau.

The Annual Canadian Chemical Engineering Conference will be held in Calgary, Alberta, Canada on October 6-9, 1985. The Canadian Rheology Group will organize a couple of sessions on rheology. Contact:

L. A. Utracki, National Research Council, Canada Industrial Materials Research Institute 75, De Mortagne Boucherville, Quebec, Canada J4B 6Y4.

The 13th Australian Chemical Engineering Conference will be held in Perth, Australia August 25-28, 1985. Theme is "Innovation in the Process and Resources Industries." Contact:

S. Nowak  
Dept. of Chemical Engineering, Western Australia Institute of Technology, Kent Street, Bentley, Western Australia 6102.

The 4th National Conference on Rheology will be held in Adelaide in 1986. Contact:

R. R. Huilgol  
School of Mathematical Science  
Flinders University  
Bedford Park, South Australia 5042

The 9th Annual Meeting of The Adhesion Society will be held February 9-12, 1986 at the Marriott Hotel on Hilton Head Island, South Carolina. Program Chairman:

J. P. Wightman  
Virginia Technical Institute & State Univ. Chemistry Dept.  
Blacksburg, VA 24061  
Phone: 603/961-5854.

A Call for Papers for the 56th Shock and Vibration Symposium to be held October 22-24, 1985 at Monterey, California has been issued by:

The Shock and Vibration Information Center  
Code 5804  
Naval Research Laboratory  
Washington, DC 20375-5000.  
Phone: 202/767-2220.

The Canadian Rheology Group is holding a Rheology Symposium in Calgary, Alberta on Monday, October 7, 1985. Topics covered include rheological behavior of polymer liquids and particle suspensions, applications of rheology in the plastics, petroleum and food industrials and rheological instrumentation. Contact:

Prof. J. M. Dealy, McGill University, Montreal, Quebec  
Phone (514) 392-5442.

President of The British Society of Rheology is I. M. Ward, Dept. of Physics, University of Leeds, Leeds, LS2 9 JT, England.

Since the 2nd International Congress on Rheology will be held in Australia in 1988 The Australian Society of Rheology Council has decided to postpone the National Conference, originally scheduled for 1985, until 1986. The venue of the conference will be in Adelaide. Contact:

R. R. Huilgol  
School of Mathematical Science  
Flinders University  
Bedford Park, South Australia 5042.

L. A. Utracki, Canadian Rheology Group Chairman, reports that the CRG associated with the Macromolecular Science and Engineering Division of the Chemical Institute of Canada and was formed June 1, 1982. After 2½ years the Group has nearly 100 members and is organizing a couple of sessions on rheology during the Annual Canadian Chemical Engineering Conference in Calgary, Alberta, October 6-9, 1985. CRG has been asked to help in organizing the 2nd annual meeting of the International Polymer Processing Society in Montreal in March 1986. Contact:

L. A. Utracki  
National Research Council Canada  
Industrial Materials Research Institute  
75, De Mortagne  
Boucherville, Quebec, Canada J4B 6Y4

The 20th annual meeting of the Groupe Francais de Rheologie will be held November 27-29, 1985 in Paris. Contact:

Daniel Bourgoin  
20ème Colloque du Groupe Francais de Rheologie  
C.H.U. Cochin Port-Royal  
Laboratoire de Biophysique  
24, rue du Faubourg Saint-Jacques  
75674 Paris, Cedex 14, France

The United States National Committee for Theoretical and Applied Mechanics (USNC/TAM) is seeking invitations to host IUTAM Symposia any time during the calendar years 1988-1989.

Invitations to host a symposium should be made on a prepared form which may be obtained from the Secretary of the USNC/TAM and sent not later than December 1, 1985. Address all inquiries to:

Philip G. Hodge, Jr.  
Secretary, USNC/TAM  
107 Akerman Hall  
University of Minnesota  
Minneapolis, MN 55455

Proceedings of the Ninth International Congress on Rheology, Acapulco, Mexico, October 1984, "Advances in Rheology," are available. The 4-volume set price is US\$250.00/Dfl.825.00. Contact:

Elsevier Science Publishers  
P.O. Box 211  
1000 AE Amsterdam, The Netherlands

Plastics Engineering Series, Volume 7, "Computer-Aided Design of Polymers and Composites," by D. H. Kaelble has been published. Contact:

Marcel Dekker, Inc.  
270 Madison Ave.  
New York, NY 10016

The Shock and Vibration Digest, a monthly publication, may be ordered for \$200.00 (domestic) \$250.00 (foreign). Contact:

The Shock and Vibration Info Center  
Naval Research Laboratory  
Code 5804  
Washington, D.C. 20375-5000

Dr. Robert A. Mendelson of the Monsanto Plastics and Resins Company has accepted an appointment to serve on the American Institute of Physics Committee for Public Policy.



**STATEMENT OF RECEIPTS & DISBURSEMENTS**  
Year Ended December 31, 1984

Balance in account December 31, 1983*		\$64,609.95
Receipts January 1 - December 31, 1984		
Dues Collections, 1984, 1985 and Future Years	\$24,821.60	
Sales of Mailing Lists less Processing Costs	46.00	
Interest	3,779.06	
Page Charges - Journal of Rheology	3,990.00	
Annual Meeting - Knoxville	156.72	
Annual Meeting - Blacksburg	150.00	
Blacksburg meeting contribution	500.00	33,443.38
<b>Total Receipts</b>		<b>\$98,053.33</b>
Disbursements January 1 - December 31, 1984		
Charges for Dues, Billing, Collection @ \$1.75	\$ 2,378.18	
Charge for Preparation & Maintenance Records @ \$2.15	2,820.42	
Financial Handling Charge - 1984	212.67	
Member Dues 1984 @ \$1.00	1,150.00	
Journal of Rheology Printing Mailing Labels & Renewal Billings	778.99	
Membership Director Printing & Mailing	1,236.93	
Printing & mailing January 1985 meeting reservation forms & Printing letterheads & letters	441.27	
Administrative Services, Postage, UPS, duplicating	2,581.94	
Editorial Expenses	2,700.00	
Wiley/Mack Vol. 28, #1-5	1,020.55	
Bulletin/Abstracts, Kent Post Office	1,412.50	
Discretionary funds, dues, miscellaneous	1,188.42	
<b>Total Disbursements</b>		<b>17,921.87</b>
Balance in Account December 31, 1984		<b>\$80,131.46</b>

\*Adjusted to include 1983 Final Receipts and Disbursements  
Variance of \$364.00.

Edward A. Collins, Treasurer  
April 11, 1985

**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 \$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	