

## RHEOLOGY BULLETIN

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January 1995

THE SOCIETY OF RHEOLOGY  
EXECUTIVE COMMITTEE - 1993-95

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67th ANNUAL MEETING  
SACRAMENTO  
OCTOBER 8-12, 1995

The next annual meeting of the Society of Rheology will be held at the Hyatt Regency Hotel in Sacramento, California. The meeting organizers are:

*Technical Program Chair:*

Gerald G. Fuller  
Department of Chemical Engineering  
Stanford University  
Stanford, CA 94305-5025  
(415) 723-9243, Fax: (415) 725-7294  
Email: ggf@rio.stanford.edu

*Local Arrangements Chair:*

Robert L. Powell  
(before August 15)  
National Science Foundation  
Room 525 / CTS  
Arlington, VA 22230  
(703) 306-1371, Fax: (703) 306-0319  
Email: rlpowell@ucdavis.edu  
(after August 15)  
Dept. of Chemical Engineering & Materials Science  
University of California at Davis  
Davis, CA 95616  
(916) 752-0400, Fax: (916) 752-1031  
Email: rlpowell@ucdavis.edu

## COMMITTEES

*Membership:*

A. J. Giacomin, chair  
T. C. Jordan  
J. A. Kornfield  
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P. Moldenaers

*Education:*

P. E. Clark, chair  
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A. M. Kraynik

*Bingham Award:*

S. Kim, chair  
W. R. Schowalter  
E. Helfand  
K. R. Rajagopal  
R. L. Powell  
R. H. Colby  
R. K. Prud'homme

*Nominating:*

W. H. Tuminello, chair  
A. W. Chow  
E. S. G. Shaqfeh

## Rheology Short Course

A two-day short course on melt rheology will be offered in Sacramento, October 7-8, 1995. Prof. John M. Dealy of McGill University will discuss *Experimental Methods in Melt Rheology* on the first day and Dr. William H. Tuminello of the Dupont Company will discuss *Utilization of Polymer Melt Rheological Measurements* on the second day. A full course description and registration information will be sent in the July Rheology Bulletin.

The Hyatt Regency is located in downtown Sacramento across from the State Capitol and Capitol Park. Mediterranean architecture houses a modern hotel with a three-story atrium. Sessions will take place within the hotel, which houses two restaurants. A rooftop lounge offers an excellent view of the Capitol grounds. Facilities include a heated pool and health facility. The Hyatt is fifteen minutes from the Sacramento Metro Airport with shuttle services available. Metro Airport is served by most major airlines. October weather in Sacramento is generally clear and moderate. Average daily high and low temperatures are 76 and 49, respectively. Rain in early October is possible but not likely.



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RHEOLOGY BULLETIN  
Andrew M. Kraynik, Editor  
Department 1512  
Sandia National Laboratories  
Albuquerque, New Mexico 87185-0834  
(505) 844-9696  
Fax: (505) 844-8251  
Email: amkrayn@sandia.gov

Rakesh Gupta, Editor (after January 1995)  
Department of Chemical Engineering  
West Virginia University  
P.O. Box 6101  
Morgantown, WV 26506  
(304) 293-2111 Ext. 427  
Fax: (304) 293-4139  
Email: gupta@faculty.coe.wvu.wvnet.edu

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At the confluence of the American and Sacramento Rivers, what would become the City of Sacramento attracted early settlers hoping to take advantage of the access these waterways afforded. With the discovery of gold in the nearby Sierra foothills and the arrival of Statehood and State Government, Sacramento boomed and its future was secured. A century and a half later, rising out of the horizon of the Great Central Valley one finds a burgeoning city skyline that underscores Sacramento's importance as one of the ten fastest growing regions in America. Within the City itself, attractions include Old Sacramento, rebuilt along the riverfront as it was during the Gold Rush, California State Railroad Museum, Sutter's Fort, Governor's Mansion, State Indian Museum and Crocker Art Museum - the West's oldest art museum. Near to Sacramento are the University of California at Davis (15 miles), home to world renowned programs in such diverse areas as viticulture, enology, and studio art; the world famous wineries of the Napa Valley (50 miles) as well as the smaller, often family run wineries of the Sierra Foothills (40 miles).

## TECHNICAL PROGRAM

Authors wishing to present a paper in Sacramento should submit a camera-ready abstract on the enclosed form to the Technical Program Chairman, G. G. Fuller, with a copy to the appropriate symposium chair by May 1, 1995. The planned symposia and their organizers follow.

### Technical Program and General Session Chairs

Gerald G. Fuller  
Department of Chemical Engineering  
Stanford University  
Stanford, CA 94305-5025  
(415) 723-9243, Fax: (415) 725-7294  
Email: ggf@rio.stanford.edu

Andrea W. Chow  
Lockheed Missile and Space Co.  
O/93-50, B/204  
3251 Hanover Street  
Palo Alto, CA 94304-1191  
(415) 424-2015, Fax: (415) 354-5795  
Email: chow\_andrea@mm.rdd.lmsc.lockheed.com

### Experimental Methods in Rheology

Davide Hill  
Department of Chemical Engineering  
University of Notre Dame  
Notre Dame, IN 46556  
(219) 631-8487, Fax: (219) 631-8366  
Email: davide.a.hill.1@nd.edu

### Numerical Simulations and Methods

Lewis E. Wedgewood  
Chemical Engineering Department, BF-10  
University of Washington  
Seattle, WA 98195  
(206) 543-2271, Fax: (206) 543-3778  
Email: wedgewood@chevax.cheme.washington.edu

Bamin Khomami  
Department of Chemical Engineering  
Washington University  
Campus Box 1087  
St. Louis, MO 63130  
(314) 935-6065, Fax: (314) 935-7211  
Email: BAM@WUCHE1.WUSTL.EDU

### Single and Multiphase Polymer Melt Rheology

Julie Kornfield  
Department of Chemical Engineering, 210-41  
California Institute of Technology  
Pasadena, CA 91125  
(818) 395-4138, Fax: (818) 568-8743  
Email: jak@macpost.caltech.edu

### Polymer Processing, Mixing and Dispersions

Jeffrey Giacomini  
Department of Mechanical Engineering  
University of Wisconsin  
Madison, WI 53706  
(608) 262-7473, Fax: (608) 265-2316  
Email: giacomini@engr.wisc.edu

Therese Jordan  
General Electric Central Research and Development  
P.O. Box 8 Building CEB-221  
Schenectady, NY 12301  
(518) 387-7375, Fax: (518) 387-5591  
Email: JORDAN@CRDGW2.crd.ge.com



## Industrial and Applied Rheology

Stephan Drappel  
Xerox Research Center of Canada  
2660 Speakman Dr.  
Mississauga, Ont. L5K 2L1, CANADA  
(905) 823-7091, Fax: (905) 822-7022  
Email: Stephan\_Drappel.XRCC@xerox.com

## Rheology of Structured Fluids: Block Copolymers and Liquid Crystals

Faith Morrison  
Department of Chemical Engineering  
Michigan Technological University  
1400 Townsend Dr.  
Houghton, MI 49931-1295  
(906) 487-2050, Fax (906) 487-3213  
Email: fmorriso@mtu.edu

Lynden Archer  
Department of Chemical Engineering  
Texas A&M University  
College Station, TX 77843-3122  
(409) 847-8766, Fax: (409) 845-6446  
Email: laa@tam2000.tamu.edu

## Suspensions, Colloids and Granular Materials

Giovanni Astarita  
Dept. of Materials and Production Engineering  
University of Naples Federico II  
Piazzale Tecchio  
80125 Napoli, ITALY  
(39 81) 7682401, Fax: (39 81) 7682404

Norman Wagner  
Department of Chemical Engineering  
University of Delaware  
Newark, DE 19716  
(302) 831-8079, Fax: (302) 831-1048  
Email: wagner@che.udel.edu

## Surfactant Solutions: Fluid Flow Interactions

Shi-Qing Wang  
Department of Macromolecular Science  
Case Western Reserve  
Cleveland, OH 44106  
(216) 368-6374, Fax: (216) 368-4202  
Email: sxw13@po.cwru.edu

Eric Matthys  
Department of Mechanical Engineering  
University of California  
Santa Barbara, CA 93106  
(805) 893-2919, Fax: (805) 893-8651  
Email: matthys@alpo.ucsb.edu

## Material Instabilities

Joe Goddard  
Applied Mechanics and Engineering Science  
University of California, SD  
9500 Gilman Dr.  
La Jolla, CA 92093-0411  
(609) 534-4508; Fax: (609) 534-4543  
Email: jgoddard@ames.ucsd.edu

Bernard Coleman  
Rutgers University  
Department of Mechanics and Materials Science  
P.O. Box 909  
Piscataway, NJ 08855-0909  
(908) 445-5558; Fax: (908) 445-5977

## INSTRUMENT EXHIBIT

Several companies will exhibit rheological instrumentation at the annual meeting.

**Registration and housing forms, abstracts, a short-course announcement, and other information on the Sacramento Meeting will be included with the July Bulletin.**

## Workshop on Material Instabilities Sacramento Hyatt Regency October 7-8, 1995

An intensive two-day workshop on material instabilities in rheologically complex materials such as polymer fluids, granular media, and particulate media will be held in conjunction with and immediately preceding the upcoming annual meeting in Sacramento. Attention will be confined to instabilities of the type commonly associated with nonlinearities in constitutive equations, such as "blowup" in nonlinear hyperbolic dissipative systems and loss of uniqueness and homogeneity associated with non-monotonicity of stress-strain relations.

Among the topics to be discussed are:

- Strain localization phenomena, including
  - Shear bands in complex materials
  - Neck formation in the cold drawing of polymers
- "Melt fracture" and "spurt" in polymer melts and solutions
- Density and concentration fluctuations, such as
  - Clustering instabilities in particulate systems
  - Concentration waves in polymer solutions or blends

Presentations are to consist mainly of expository or general survey lectures, with ample time allowed for questions and comments by workshop participants. The workshop will be followed by a symposium of the same title at the Rheology meeting, where submission of papers dealing with specific research contributions is strongly encouraged. A registration fee of \$100 will be charged for workshop participation and will cover registration both at the workshop and the annual meeting.

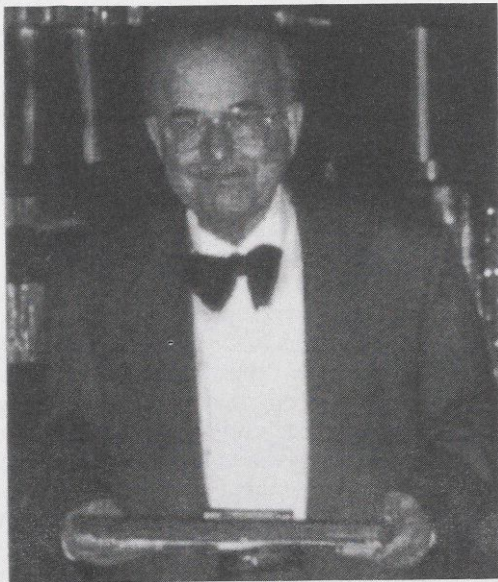


With the goal of achieving a small-meeting atmosphere, and because of limitations on meeting-room size, the workshop will be restricted to approximately fifty invited participants. Those wishing to participate are encouraged to send a brief statement of interest, including a summary of any previous work on related phenomena, no later than June 30, 1995 to one of the co-organizers:

Bernard Coleman  
Rutgers University  
Department of Mechanics and Materials Science  
P.O. Box 909  
Piscataway, NJ 08855-0909  
(908) 445-5558, Fax: (908) 445-5977

Joe Goddard  
Applied Mechanics and Engineering Science  
University of California, San Diego  
9500 Gilman Dr.  
La Jolla, CA 92093-0411  
(609) 534-4508, Fax: (609) 534-4543  
Email: [jgoddard@ames.ucsd.edu](mailto:jgoddard@ames.ucsd.edu)

It is anticipated that there will be limited funds available to provide travel support for students and some of the invited speakers. Further information will be sent with the reply to your application. Eligible graduate students are also encouraged to apply for a regular Student-Member Travel Grant, as described in this bulletin.



Professor Andreas Acrivos received the Bingham Medal at the 1994 Annual Meeting of the Society in Philadelphia.

## Comments from the President Bob Armstrong

From my point of view, the health of the society is excellent. Our journal publishing enterprise is extraordinarily successful by any measure, our meetings are vigorous and well attended, and our membership is at an all time high, having surpassed 1400 late in 1994. As I pointed out at the business luncheon in Philadelphia, our current successes are a direct result of the tireless efforts of our member volunteers.

In recognition of the increasing size of our Journal and the financial commitment that it represents to the Society, the Executive Committee has created the position of Associate Editor for Finance. Professor Monty Shaw of the University of Connecticut has agreed to be the first holder of this position. It is particularly important that we keep a close watch on the financial impact that electronic publishing has on our journal as we gradually enter this new era.

The Executive Committee has also created a separate position of Bulletin Editor in order to encourage expansion of the scope of the bulletin and to take some of the load off of the position of the secretary. Professor Rakesh Gupta has agreed to serve as the first Editor of the Bulletin. I am particularly excited about the creation of this position and Rakesh's enthusiasm, because I think our Bulletin could serve as a very valuable tool for the society by carrying informal articles on issues important to our members and articles of rheological interest that are different in emphasis and tone from those published in the journal. We are interested in your input on the evolution of the Bulletin. Please send your suggestions to me or to Rakesh. Rakesh will take over publication of the Bulletin beginning with the next issue in July, so please send any future news-worthy items to him at the Department of Chemical Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 26506 or electronically at [gupta@faculty.coe.wvu.wvnet.edu](mailto:gupta@faculty.coe.wvu.wvnet.edu).

One of the most important positions in the society is the Editor of the Journal. Since Art Metzner plans to step down this summer, we have been going through the process of searching for a new editor. A search committee, consisting of Bob Mendelson (chair), Bill Russel, and Henning Winter, made a set of recommendations to the Executive Committee at the Philadelphia meeting. We are pursuing their suggestions, and I hope to be able to give you the results of the search soon.

A new opportunity for which I am looking for volunteers is the creation and maintenance of a home page on the World Wide Web for the Society. I think that this would be an excellent means for us to disseminate information to members in a timely way, and also to reach others interested in rheology and let them know about the activities of the society. Please let me know if you are interested.

We have had past discussions at recent business meetings concerning moving the time of our annual meeting from the fall to the spring. For many members, the fall is a particularly busy time for professional society meetings, and it was felt that spring would alleviate some of the travel pressure. This idea was put to the society for a vote at the



## Application for Membership in THE SOCIETY OF RHEOLOGY

**Society of Rheology Officers: 1993-1995**

I wish to apply for membership in THE SOCIETY OF RHEOLOGY dating from January 19 \_\_\_\_\_

(Family Name) \_\_\_\_\_ (Given Name) \_\_\_\_\_

(Please print)

Mail Address \_\_\_\_\_

Telephone Number \_\_\_\_\_ Fax Number \_\_\_\_\_

E-Mail Address \_\_\_\_\_

Please indicate in the boxes provided below the code letter from the list at the right, which best describes your areas of interest in order of decreasing importance.

PRIMARY

SECONDARY

TERTIARY

**Professional Affiliation**

Academic  National Laboratory

Industrial  Other

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 in U.S. dollars (only) and mail to: **THE SOCIETY OF RHEOLOGY**,  
c/o American Institute of Physics, 500 Sunnyside Boulevard, Woodbury, NY 11797-2999, (516) 576-2403.

\$40 for Regular Annual Dues  \$25 for Students

<b>Complete if paying by credit card</b>		<b>CREDIT CARD NUMBER</b>	<b>EXP. DATE</b>	<b>SIGNATURE</b>
<input type="checkbox"/> AMERICAN EXPRESS	<input type="checkbox"/> VISA	<input type="checkbox"/> MASTER CARD		

**President:**

Robert C. Armstrong  
Room 66-352  
Massachusetts Inst. of Technology  
Cambridge, MA 02139  
(617) 253-4581  
(617) 253-9695 (fax)

**Vice-President:**

Kurt F. Wissbrun  
One Euclid Avenue, Apt. 4E  
Summit, NJ 07901-2114  
(908) 273-9605

**Treasurer:**

Edward A. Collins  
255 Glenview Drive  
Avon Lake, OH 44012  
(216) 933-6308  
(216) 933-6308 #1 (fax)

**Secretary:**

Andrew M. Kraynik  
Department 1512  
Albuquerque, NM 87185-0834  
(505) 844-9696  
(505) 844-8251 (fax)

**Editor:**

Arthur B. Metzner  
Department of Chemical Engineering  
University of Delaware  
Newark, DE 19716  
(302) 831-2328  
(302) 831-1048 (fax)

**Past President:**

Joe D. Goddard  
Department of AMES 0310  
University of California-San Diego  
9500 Gilman Drive  
La Jolla, CA 92093-0310  
(619) 534-4508  
(619) 534-4543 (fax)

INTEREST AREA	CODE
Biorheology	A
Experimental Methods	B
Foods	C
Inks, Paints, Coatings	D
Materials Science	E
Petroleum Production	F
Plastics Processing	G
Polymer Dilute Solutions	H
Polymer Melts and Conc. Solns.	I
Theoretical and Applied Mechanics	J
Rubbers and Elastomers	K
Solid Polymers	L
Suspensions	M
Theory of Viscoelasticity	N
Electrorheology	P
Composite Materials	Q
Other _____	O







Philadelphia meeting. The results indicate that you want to retain the fall meeting time, so that we will make no changes in future meeting times. The fall votes outnumbered the spring votes by a margin of about 2 to 1.

A final issue that I would like to raise is the nomination of candidates for the Bingham Medal of the Society. In his Bingham lecture, this past year's medalist, Andy Acrivos (see picture) said that he would like to see the medal used to recognize outstanding rheologists in mid-career. Certainly the society has many outstanding candidates, and I urge you to think about nominating someone you feel is deserving. In the July 1994 Rheology Bulletin, you will see that we have streamlined the nomination package, to make nominating someone a less onerous task. It is up to you to ensure that outstanding work does not go unrecognized!

In closing I would like to thank the Philadelphia organizing committee, both Technical Program and Local Arrangements, for the excellent program they ran. I want to say a special thanks to Deborah Beris, who took pictures for us at a number of special events at the meeting. I have included a few of her photographs here.



Debbie Cook receives some well deserved recognition for her part in organizing the Philadelphia meeting. Many of you know her as secretary at the Journal of Rheology headquarters.

### **Student-Member Travel Grants Available for Sacramento**

The Society of Rheology is again offering grants to support the cost of public transportation to the annual meeting to any second or third year graduate student who is a member of the Society as of July 1, 1995 and whose faculty advisor is also a

member as of that date. Each grant will be a maximum of \$350, available on a first-come, first-served, basis, until available funds are exhausted. To apply, the student should write a letter requesting the grant. The student's faculty advisor should add a letter of support, certifying that both the advisor and the student are members of the Society of Rheology, and that the student is a second or third year graduate student. Only one application per faculty advisor will be accepted. The letters from the student and the advisor should be mailed in the same envelope **before September 1, 1995** to:

Ronald G. Larson  
AT&T Bell-Laboratories, Rm GE-320  
600 Mountain Ave.  
Murray Hill, NJ 07974-0636  
(908) 582-6158, Fax: (908) 582-5570  
Email: rgl@likewise.att.com

### **Carreau Receives Mason Award**

The Canadian Rheology Group has announced that Professor Pierre J. Carreau of Ecole Polytechnique, has received the S. G. Mason Award for 1994.

### **The Journal of Rheology Publication Award**

The second annual publication award will be presented at the Sacramento Meeting this fall. It will be based on the best paper published in the Journal of Rheology in 1993 or 1994.

Nominations for the award are earnestly requested from members of the society. Please submit the title of the paper and 1-2 paragraphs describing the features that merit the nomination. Please send or FAX your nomination(s) to the journal editor as soon as possible since the selection committee will be making its decision in February 1995.

### **Dale Pearson Lectureship Fund**

The Department of Chemical Engineering at the University of California, Santa Barbara, has set up a fund to establish a distinguished lectureship in memory of Professor Dale S. Pearson. Those interested in contributing to the fund are invited to contact L. Gary Leal, Chair, Dept. Chem. Eng., UCSB, Santa Barbara, CA 93106. phone: 805-893-8510, email: bonnie@squid.ucsb.edu.

### **MINUTES OF THE EXECUTIVE COMMITTEE MEETING October 2, 1994**

The Executive Committee Meeting was called to order at 8:30 a.m. on October 2, 1994 in the Hotel Atop the Bellvue in Philadelphia. Executive Committee members in attendance included: Bob Armstrong, Kurt Wissbrun, Art Metzner, Ed Collins, Joe Goddard, Ron Larson, Bill Russel, and Andy Kraynik.



The minutes of the March 13, 1994 Executive Committee Meeting, which appeared in the July 1994 Rheology Bulletin, were approved as read.

Since Art Metzner plans to step down as Editor by June 1995, an Editor Search Committee, consisting of Bill Russel, Henning Winter, and Bob Mendelson (chair), had been formed to recommend candidates for the Editor's position. Once appointed by the Executive Committee, it is anticipated that the interim Editor will run for election later this year. Based on the Search Committee's suggestions, a candidate was chosen and will be contacted by Bob Armstrong.

In the Editor's report, Art Metzner indicated that the number of pages published in the Journal of Rheology has grown consistently and substantially since 1990, the first year that the Journal was published by A.I.P. He also presented Journal Impact Factors relating to the Science Citation Index, which indicate that the Journal competes very favorably with similar publications. Kurt Wissbrun, Assistant to the Editor, reported on business matters. We voted to approve a new Copyright Transfer Form and to increase CCC cost from \$4 to \$7 to conform with Document Delivery.

Bob Armstrong led discussion on duties relating to the newly created position of Bulletin Editor. The new Bulletin Editor is Rakesh Gupta.

Kurt Wissbrun led discussion on meeting policy. Bob Powell reported on local arrangements for the annual meeting in 1995, which will be held in Sacramento. Gerry Fuller will serve as Technical Program Chairman. Because the International Congress on Rheology will convene in Quebec City, Canada, August 18-23, 1996, the delayed annual meeting will be held in Galveston, Texas, February 16-20, 1997. Bill VanArsdale will chair local arrangements and Don Baird and Jay Schieber will coordinate the technical program. The regular annual meeting for 1997 will take place in Columbus, Ohio, under the guidance of Jack Zakin. We accepted a proposal from Joe Goddard to organize a Workshop on Material Instabilities prior to and in conjunction with the Sacramento Meeting and voted to provide \$5000 in support. Ron Larson indicated that 14 students would receive travel grants to attend the Philadelphia Meeting.

Janis Bennett and Terry Scott of A.I.P. reported on A.I.P. issues relating to the Society of Rheology.

Peter Clark, representing the Education Committee, indicated that he would report on plans to produce a video "Introduction to Rheology" at the next Executive Committee Meeting.

Jeff Giacomini, Chair of the Membership Committee, announced that the Society currently has 1359 members.

In the Treasurer's report, Ed Collins indicated that the Society had a fund balance of \$366,159 at the end of 1993.

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

## MINUTES OF THE BUSINESS MEETING October 4, 1994

The Business Meeting was called to order at 5:30 p.m. on October 2, 1994 in the Hotel Atop the Bellvue in Philadelphia.

The minutes of the October 19, 1993 Business Meeting held in Boston were read and approved as they appeared in the January 1994 Rheology Bulletin.

President Bob Armstrong indicated that the Society was very healthy with regard to publication activities associated with the Journal of Rheology, annual meetings, and finances. We plan to run Society finances at zero net income. We have eliminated page charges and will provide free reprints to Journal authors. Rakesh Gupta will serve as the new Editor for the Rheology Bulletin and Monty Shaw will become the Associate Editor for Finance for the Journal. Bob also announced that a search for a new editor was under way and that a poll regarding meeting dates was being conducted.

Art Metzner, Editor, noted that the A.I.P. thought that most good work in the future would be published in a small number of international journals. Art considers us to be in that group. Kurt Wissbrun, reporting on Journal business issues, projected a small net income for 1994 and indicated plans to budget for zero net income in 1995. Kurt also announced a change in the Copyright Transfer Form due to the growth of abstract subscription agencies: the Society grants rights back to authors instead of author retains rights.

In the Treasurer's report, Ed Collins indicated that the Society had a fund balance of \$366,159 at the end of 1993.

The meeting was adjourned at 6:45 p.m.

## Meeting Announcements

July 10-14, 1995: 5th Int. Conf. on Electro-Rheological, Magneto-Rheological and Other Structured Functional Fluids, Sheffield, UK. Contact: Norma Parkes, Dept. Mech. and Process Eng., U. Sheffield, PO Box 600 Mappin St., Sheffield S1 4DU UK, 44 742 825169, Fax: 44 742 753671, Email: N.Parkes@Sheffield.ac.uk

July 23-28, 1995: 9th Int. Cong. Biorheology - 2nd Int. Conf. on Clinical Hemorheology, Yellowstone Conference Center, Big Sky, MT. Contact: Prof. Giles Cokelet, Dept. Biophysics, University of Rochester, Rochester, NY 14642, (716) 275-5283, Fax: (716) 275-6007, Email: Cokelet@micro.biophysics.rochester.edu

August 18-23, 1996: XIIth Int. Cong. on Rheology, Quebec City. Contact: Prof. Daniel DeKee, Dept. Chem. Eng., U. Sherbrooke, Sherbrooke, PQ, J1K 2R1, Canada, (819) 821-7904, Fax: (819) 821-7955, Email: dfaa@udesma.bitnet

February 16-20, 1997: 68th Annual Meeting of the Society of Rheology, Galveston, TX.

## CHANGE OF ADDRESS

If you are moving, be sure to inform: Janis Bennett, (516) 576-2403, Fax: 576-2223, or Carolyn Gehlbach, (516) 576-2404 at the following address.

**THE SOCIETY OF RHEOLOGY  
c/o American Institute of Physics  
500 Sunnyside Boulevard  
Woodbury, NY 11797**



**THE SOCIETY OF RHEOLOGY  
STATEMENTS OF REVENUE AND EXPENSE  
AS OF DECEMBER 1994**

	<u>1993 Budget</u>	<u>1993 Actual</u>	<u>1994 Budget</u>	<u>1994 Projected</u>	<u>1995 Budget</u>
<b>REVENUES</b>					
Dues	\$ 47,000	\$ 48,207	\$ 47,000	\$ 49,000	\$ 50,000
Interest	11,000	14,096	14,000	17,549	16,000
Journal of Rheology	224,023	216,871	208,266	212,398	201,690
Mailing list Sales	300	434	200	504	400
Annual Meetings	5,000	7,726	4,000	2,902	4,000
Short Courses	6,000	9,551	4,500	12,863	5,250
	<u>293,323</u>	<u>296,885</u>	<u>277,966</u>	<u>295,216</u>	<u>277,340</u>
<b>TOTAL REVENUE</b>					
<b>EXPENSES</b>					
AIP Administrative Service	6,000	6,000	7,000	7,000	7,000
AIP Member Society Dues	3,200	3,612	4,800	4,800	5,000
AIP Financial Handling	4,000	4,000	4,000	4,000	4,500
AIP Physics Olympiad	1,000	2,000	1,000	1,000	1,000
Renewal Billing	1,500	1,461	1,500	1,500	1,500
Journal of Rheology	175,440	168,481	207,274	206,679	201,625
Bulletins & Abstracts	6,000	9,791	6,500	11,345	7,000
Short Courses	6,000	5,418	4,500	4,592	5,000
Bingham Award	6,500	5,000	3,000	2,500	3,500
Executive Cmt. Meeting	8,000	5,373	6,500	5,440	6,500
Pres. Discretionary Fund	1,500	500	1,500	1,000	1,500
Trea. Discretionary Fund	1,500	494	1,500	1,323	1,500
Program Chm. Discre. Fund	2,000	-	2,000	2,000	2,000
Secretarial Services	1,000	575	1,000	479	1,000
Mailing	5,000	1,734	5,000	184	5,000
Office Expenses	2,500	1,286	1,500	1,231	1,500
Banking Services	25	10	25	36	100
Liability Insurance	200	182	182	169	200
Membership Directory	-	273	4,500	6,181	3,500
Membership Brochure	1,500	692	1,000	751	1,000
Accountant	1,500	1,095	1,500	1,100	1,500
Student Member Travel Grant	3,500	1,648	5,000	3,498	5,000
Advance Deposit For Future Mtg.	-	500	1,000	2,000	1,500
Miscellaneous *	500	-	500	500	5,500
	<u>238,365</u>	<u>220,125</u>	<u>272,281</u>	<u>269,308</u>	<u>273,425</u>
<b>TOTAL EXPENSE</b>					
<b>NET INCOME</b>	<b>\$ <u>54,958</u></b>	<b>\$ <u>76,760</u></b>	<b>\$ <u>5,685</u></b>	<b><u>25,908</u></b>	<b><u>3,915</u></b>
<b>NET ASSETS AT YEAR END</b>		<b>\$ <u>366,159</u></b>			

\* 1995 Budget includes \$4,900 computer hardware and software for Bulletin Editor.



**JOURNAL OF RHEOLOGY**  
**STATEMENTS OF REVENUE AND EXPENSE**  
**AS OF DECEMBER 1994**

	<u>1993</u> <u>Budget</u>	<u>1993</u> <u>Actual</u>	<u>1994</u> <u>Budget</u>	<u>1994</u> <u>Projected</u>	<u>1995</u> <u>Budget</u>
<b>REVENUES</b>					
SUBSCRIPTION, ADVERTISING AND SALES	\$ 208,800	\$ 201,615	\$ 200,191	\$ 193,927	\$ 199,375
PAGE CHARGES	8,000	7,678	-	570	-
PUBLICATION AWARD	-	-	-	1,300	1,000
MISCELLANEOUS	7,223	7,578	8,075	16,601	1,315
	<u>224,023</u>	<u>216,871</u>	<u>208,266</u>	<u>212,398</u>	<u>201,690</u>
<b>EXPENSES</b>					
ADVERTISING AND MARKETING	15,600	8,095	12,050	12,761	12,760
SINGLE COPY AND REPRINTS	7,954	7,457	8,825	4,734	3,240
AIP EDITORIAL	27,097	29,368	35,280	39,900	36,770
SOR EDITORIAL	34,500	29,483	33,000	28,972	37,000
PRODUCTION COSTS	43,431	48,191	57,309	61,665	56,830
PRINTING AND MAILING	36,129	35,135	49,503	45,825	42,240
SUBSCRIPTION FULFILLMENT	10,729	10,752	11,307	11,522	11,785
PUBLICATION AWARD	-	-	-	1,300	1,000
	<u>175,440</u>	<u>168,481</u>	<u>207,274</u>	<u>206,679</u>	<u>201,625</u>
<b>NET INCOME</b>	<u>\$ 48,583</u>	<u>\$ 48,390</u>	<u>\$ 992</u>	<u>5,719</u>	<u>65</u>