

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Vol. 57, No. 2



July, 1988

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John Curro, chairman

1988 BINGHAM MEDALIST

The Bingham Medal for 1988 will be awarded to Professor William R. Schowalter of Princeton University as a recognition by his peers of his scientific contributions and service to the field of rheology.

Bill Schowalter was educated in Chemical Engineering at the University of Wisconsin and the University of Illinois before joining the Department of Chemical Engineering at Princeton University. There he has served as

Associate Dean of the School of Engineering, Chairman of the Department of Chemical Engineering and is currently Class of 1950 Professor of Engineering and Applied Science. Bill was elected a member of the National Academy of Engineering, and has taken on leadership roles in the society of Rheology, the American Institute of Chemical Engineers, the National Committee on Theoretical and Applied Mechanics, and he contributes as an advisor to the National Bureau of Standards and serves on several committees and commissions of the National Academy of Engineering/National Research Council.

On the scientific side, his publications span a range of topics including studies of instabilities and secondary flows; novel methods for measuring the viscoelastic properties of fluids; and theoretical and experimental work on flocculated dispersions, a particularly trouble-some class of Non-Newtonian materials. The work is characterized by its novelty, its fundamental approach to problems of practical interest, and its foresight in addressing important phenomena such as wall slip and non-affine deformation before the subjects became popular. He also teaches a demanding but popular course for which his book, Mechanics of Non-Newtonian Fluids, serves as the text.

Three set of papers exemplify his foresight in research which is responsible for the lasting impact of his work. Bill's work on the consequences of droplet deformation and inertial effects in flow around rigid spheres clearly anticipated the possibilities and stimulated much of the later effort in suspension mechanics. The theme continues through his sophisticated experiments and calculations dealing with growth and collapse of nonspherical bubbles in polymer solutions. In a similar sense the clever experiments with A. M. Kraynik (1981) demonstrated clearly the phenomena of slip in capillary flow and the dramatic effects on extrusion processes. Finally, a series of papers provided the definitive treatment of shear induced flocculation of colloidal dispersions. Combining the exact descriptions of hydrodynamic interactions between spheres required for a rigorous theory and low angle light scattering technique necessary for quantitative experiments

RHEOLOGY BULLETIN
Arthur B. Metzner, Editor
Debbie Cook, Secretary
Chemical Engineering Department
University of Delaware
Newark, Delaware 19716
302-451-2328

yielded classic pieces of research. The results resolved confusion in the literature and demonstrated the correspondence possible between theory and experiment. Through this work he has educated a generation of bright young chemical engineers, many of whom have been active rheologists.

As a scientist, an educator, and for his success in combining rheology and descriptions of complex materials within a rigorous and modern fluid mechanics framework that has been manifest both in his experimental and theoretical work, the 1988 Bingham Medal is to be awarded to Bill Schowalter.

The award will be presented to Professor Schowalter at the 60th Annual Meeting to be held in Gainesville in February, 1989.

NOMINATIONS FOR 1989 BINGHAM AWARD

Nominations are to be discussed by the Awards Committee during the February meeting. In order to make this possible **nominations must be in the hands of the committee chairman prior to January 15, 1989.** Since our January 1989 bulletin may not be in the hands of the membership prior to that time **this announcement is our only one.** The committee chairman is:

Dr. John G. Curro
Division 1813
Physical Properties of Polymers
Sandia National Labs
Albuquerque, NM 87185

When submitting a nomination to Dr. Curro, please observe the following statement.

GUIDELINES FOR THE BINGHAM AWARD COMMITTEE

The present form is the one adopted by the Executive Committee in 1984.

1. A call for nominations shall be published in the regular Bulletin of the Society of Rheology prior to normal Fall date of the annual meeting stating the deadline.

2. Nominations shall include the following information about the nominee.
 - a. A brief scientific biography.
 - b. A review of those accomplishments upon which the nomination is based.
 - c. A concise evaluation of the importance of the nominee's contribution in advancing the science of rheology.
3. The following item, if submitted, must be appended to the nomination.
 - a. A list of publications.
 - b. Reprints (no more than 3).
 - c. Supporting letters from other rheologists which address the nominee's contributions.
4. The Bingham Award Committee should meet at least once, in person or by teleconference, prior to its final decision.
5. Except in special circumstances, the contributions for which the award is granted shall have been made during the ten years preceding the award.
6. Decision of the Bingham Award Committee must be by majority agreement of its members (including its chairman).
7. The chairman of the Bingham Award Committee should communicate the recorded results to the committee members.
8. The decision of the Bingham Award Committee shall be submitted to the president and the secretary at least by April 1 of the year preceding the normal Fall annual meeting time. It shall be accompanied by a summary of the information specified in guideline 2 above.
9. If the Bingham Award Committee is unable to arrive at a majority decision, its chairman shall submit to the Executive Committee for its decision the dossiers of those nominees receiving the most support.
10. If the Executive Committee fails to ratify a decision of the Bingham Award Committee, or fails to choose from the dossiers forwarded, then no award shall be given for that year.
11. After its final decision The Bingham Award Committee shall classify the rejected nominations into three categories.
 - a. Those to be reconsidered for the next Bingham Award.
 - b. Those to be returned to the nominators for revision and updating.

- c. Those to be retired from consideration.
The chairman shall notify each nominator of the classification given his, or her, nomination.

**60th ANNUAL MEETING
GAINESVILLE, FLORIDA
February 12-15, 1989**

PROGRAM COMMITTEE

Program Chairman: James M. O'Reilly
Eastman Kodak Co.
Corporate Research Lab
1669 Lake Ave.
Rochester, NY 14650-2110
Telephone: 716/477-4334

Co-Chairman: Leszek A. Utracki
Institut de Genie des Materiaux
75, De Montagne
Boucherville, Quebec J4B 6Y4
Canada
Telephone: 514/641-2280

Local Arrangments Chairman:
Professor Charles L. Beatty
Department of Materials Science and Engineering
University of Florida
Gainesville, FL 32611
U.S.A.
Telephone: 904/392-1574

Individuals wishing to present papers at this meeting should submit abstracts on the form included in this bulletin, in camera-ready format, **prior to September 15, 1988**. The abstract should be sent to Dr. O'Reilly with a copy to the appropriate symposium chairman. Symposia being planned at this time, and their chairmen, are as follows:

- Recent Developments in Viscoelasticity*
John Aklonis and Eric Amis
Hydrocarbon Research Institute
University of Southern California
University Park
Los Angeles, CA 90089-1661
Phone: 213-743-2793
- Numerical Analysis and Constitutive Equations*
Robert C. Armstrong
Department of Chemical Engineering
M.I.T.
Cambridge, MA 02139
Phone: 617-253-4581
- Rheology in Emerging Technologies*
Jehuda Greener
Eastman Kodak Co.
Diversified Tech. Group Research Lab
1669 Lake Ave.
Rochester, NY 14650-2115
Phone: 716-477-3723
- Solids, Glasses, Metals, and Ceramics*
Donald G. LeGrand

General Electric R&D Center
1 River Road
Schnectady, NY
Phone: 518-387-6163

- Colloids and Complex Fluids*
William B. Russel
Department of Chemical Engineering
Princeton University
Princeton, NJ 08544
Phone: 609-452-4590
- Engineering Applications of Rheology*
Ward O. Winer
School of Mechanical Engineering
Georgia Institute of Technology
Atlanta, GA 30332
Phone: 404-894-3200
- Interfacial and Melt Rheology*
Jeff Koberstein
Institute of Material Science
U-36 U. of Conn.
Storrs, CT 06268
Phone: 203-486-4716
- General Papers*
Dennis A. Siginer
Department of Mechanical Engineering
201 Ross Hall
Auburn University
Auburn, Alabama 36849-5341
Phone: 205-826-4820

Ideas and suggestions for the Monday Night Beer Session are solicited by the chairman.

**61st ANNUAL MEETING
MONTREAL, CANADA
October 21-26, 1989**

This meeting is being held in conjunction with the **FIRST ANNUAL MEETING OF THE CANADIAN RHEOLOGY GROUP** and the **FIRST INTER-AMERICAN CONFERENCE ON RHEOLOGY**. Three other American rheological societies: The North American Society of Biorheology, Asociacion Argentina de Reologia and Sociedad Mexicana de Reologia will also participate.

The program will be as follows:

Stream I: "MULTIPHASE SYSTEMS AND BIOPOLYMERS": Microrheology; Rheology of Multiphase Systems; Biorheology; and Rheology of Biopolymers.

Stream II: "THEORETICAL AND SOLID PHASE RHEOLOGY": Molecular Theories and Constitutive Equations; Mathematical Methods and Flow Modeling; and Solid State Deformations.

Stream III: "EXPERIMENTAL RHEOLOGY": Rheological Methods and Tools; Rheology Under High Temperature and Pressure; Rheology in Reactive and Other Time-Dependent Systems; Adhesives, Sealants and Coatings; and Lubricants, Lubrication and Tribology.

Authors interested in submitting a paper should send before **November 1988**, the title, name of the authors with return address, phone, fax, and telex number to:

L. A. Utracki, Program Chairman
NRCC/IMRI, 75 boul. de Mortagne
Boucherville, Que., Canada J4B 6Y4
Telephone: (514) 641-2280
FAX: (514) 641-4627
Telex: 055-61622

A 200 words abstract on the standard SOR form will be due before **May 1, 1989**.

REQUEST FROM THE PRESIDENT

The Executive Committee wants to ensure that the Society is meeting the current needs of its members. It is essential that we know how members feel about our present activities and about how these might be improved or expanded. Please take a few minutes to give us your views. Please send information and comments to:

John M. Dealy
Department of Chemical Engineering
McGill University
3480 University Street
Montreal, Canada H3A 2A7

Please advise us, for example, of your interests in rheology, whether the Society is doing a good job in these areas and, if not, what steps should be taken to address the problems. What new areas or activities should we be considering? Are there areas in which you would be willing to serve, such as committee work, meeting program, or meeting organization?

CORRECTION OF MINUTES

The minutes of the October 20, 1987 Business Meeting contained an error. They should have stated that the short course at the Atlanta meeting was taught by Richard Farris, G. Nicolais and S. Sternstein.

EXECUTIVE MEETING MINUTES March 13, 1988

The executive meeting was called to order at 9:05 a.m. on March 13, 1988 at the Airport Ramada Inn in Philadelphia. Officers present were: J. Dealy, R. Mendelson, D. Baird, A. Metzner, and E. Collins. Others present were G. McKenna, member-at-large, C. Beatty, local arrangements chairman for the February, 1989 meeting in Gainesville, FL, and K. Wissbrun, the SOR's representative on the AIP Governing Board.

Officers' Reports

The secretary's report of the last executive meeting held in conjunction with the Atlanta meeting was accepted as read. The treasurer's report was accepted as read. The balance as of December 31, 1988 was \$86,982. Once the journal page charges are received from Wiley, the balance will be as projected. Ed Collins noted that there was a discrepancy between the charges per member by AIP and the number of members. Ed will ask AIP to rationalize the discrepancy. The editor's report was accepted as read.

Editor's Report

A. Metzner noted that the decrease in the time for review has helped to increase the number of papers received for publication in the Journal of Rheology. Art is also following up on an agreement between the SOR and the post office for special mailing rates. The matter of advertising in the bulletin was determined not to be worthwhile as the total would probably be less than \$1,000. If we did advertise in the bulletin, we would only pay taxes on the income received from this activity.

Publication of the Journal by AIP

The question of having AIP publish the journal was raised as it would be cheaper than if Wiley does it. Kurt Wissbrun will contact other smaller societies within AIP to see if they are satisfied with AIP's publication services. John Dealy will inquire into the financial risk to SOR.

Non-member Subscription Rate for Journal

The matter of whether the present charge of \$240 subscription rate for non-members should be raised was discussed, but the executive committee was not in favor of pursuing this any further.

Sustaining Members Policy

The possibility of raising the sustaining member rate which is presently \$200 was discussed. The original idea behind the sustaining member was to have a group of supporters for SOR. While a more detailed plan is being developed, a motion was passed that we raise the sustaining member rate to



THE SOCIETY OF RHEOLOGY

Dedicated to the Development of the Science of the Deformation and Flow of Matter

President

J. M. Dealy

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Vice-President

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Secretary

D. G. Baird

Polymer Materials and
Interfaces Laboratory
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(703) 961-5998

Past-President

R. F. Landel

Jet Propulsion Laboratory, 67-201
4800 Oak Grove Drive
Pasadena, CA 91109
(818) 254-4402

Dear Member:

We would like to add both the telephone number and electronic mail address of each member to the membership list. Please fill-in the form at the bottom of this letter and return to Margaret Ensley at the address given below.

Sincerely,

Donald G. Baird
Secretary

Margaret Ensley
American Institute of Physics
335 East 45 Street
New York, NY 10017

Name: _____ Member ID#: _____

Address: _____

Telephone Number: _____

Electronic Mail Address
Userid: _____

Node: _____

Member Society of the American Institute of Physics
335 East 45th Street, New York, NY 10017

Dr. E. B. Christiansen, 77, Professor of Chemical Engineering and former chairman of the Department of Chemical Engineering at the University of Utah, died July 9, 1988, as a result of a stroke while working in his office on Thursday, June 30. Professor Christiansen served 41 years as a member of the Faculty of Chemical Engineering at the University of Utah. In 1947, he became the founder and first chairman of the Department of Chemical Engineering, and served as department chairman until 1975. Dr. Christiansen was internationally recognized for his pioneering research in non-Newtonian fluid mechanics and rheology. He continued to be active in teaching and research until the time of his death; he was Principal Investigator of a current NSF grant in rheology of polymer melts and was supervising three graduate students.

Professor Christiansen's service to the University, the College of Engineering, and the Department of Chemical Engineering is unparalleled in its length and was always characterized by a genuine concern for the long-range well-being of students, faculty, and the institution. He chose to remain an active member of the faculty well beyond the age when most choose to retire.

In 1977 the University of Utah recognized his many research contributions by presenting him the University's Distinguished Research Award. He was a Fellow of the American Institute of Chemical Engineers (AIChE) and of the Utah Academy of Sciences, Arts, and Letters. He served AIChE on numerous national and local committees, was elected a national director from 1965-68, and was twice nominated as a candidate for President. He was a founding member of the Great Salt Lake Section of AIChE and served as its second chairman in 1956. The national organization of the American Institute of Chemical Engineers honored him with their Founders Award in 1978.

He was a member of many honorary and professional societies including Sigma Xi, Tau Beta Pi, The Society of Rheology, and the American Society for Engineering Education. He served as Chairman of the Chemical Engineering Division of the American Society for Engineering Education in 1975-76 and on many national committees in both the Society of Rheology and the American Society for Engineering Education.

He received the B.S. Degree in Chemical Engineering from the University of Utah in 1937 and the M.S. and Ph.D. Degrees in Chemical Engineering from the University of Michigan in 1939 and 1945, respectively. From 1941 until 1943, he was in charge of the development and design of process equipment for the manufacture of viscose rayon and nylon at the E. I. duPont de Nemours & Co., and from 1943 to 1945 he was a design supervisor with the Manhattan District Project which developed the first nuclear reactor system. He served as a member of the Faculty of Chemical Engineering at the University of Idaho from 1946-47 and moved to the University of Utah in 1947 to establish a separate Department of Chemical Engineering.

Aside from his professional activities, he was a naturalist with interests in breeding Arabian horses, hardy varieties of English walnut trees, and the propagation of figs, dates, and bananas. He frequently enjoyed hiking and fly fishing with his children. He is survived by his wife, Susan Mann Christiansen, and six children--David, Los Alamos, NM; Gale Haslam, Lawrence, KS; Grant, Brigham City, UT; Phillip, Potsdam, NY; Richard, Littleton, CO; and Lisa Kiester, Gainesville, GA. He was preceded in death by a daughter Susan C. Christiansen.



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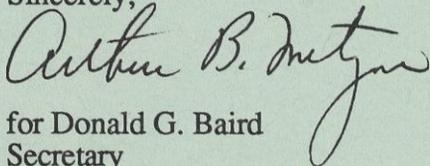
R. F. Landel
Jet Propulsion Laboratory, 67-201
4800 Oak Grove Drive
Pasadena, CA 91109
(818) 254-4402

March 17, 1988

Dear Member:

At the recent Executive Meeting of the Society of Rheology it was proposed that we raise the "sustaining member" rate from \$200 to \$300. The present rate is less than the rate charged for corporations and libraries for the *Journal of Rheology*. Sustaining members are primarily corporations which receive in addition to the *Journal of Rheology* the *Bulletin* and abstracts. It is recommended by the executive committee to vote in favor of raising the rate of sustaining members.

Sincerely,


for Donald G. Baird
Secretary

*** B A L L O T ***

The "sustaining member" rate should be raised from \$200 to \$300.

_____ YES _____ NO

Return the ballot to:

Margaret Ensley
American Institute of Physics
335 East 45th Street
New York, NY 10017

Member Society of the American Institute of Physics
335 East 45th Street, New York, NY 10017

Application for Membership in the SOCIETY OF RHEOLOGY

I wish to apply for membership in THE SOCIETY OF RHEOLOGY dating from January 19 _____.

Name _____
(Please print)

Mail Address _____

Telephone Number _____

E Mail Number _____

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
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
Rational Mechanics	J
Rubbers and Elastomers	K
Solid Polymers	L
Suspensions	M
Theory of Viscoelasticity	N
Other _____	O

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 \$40 for Regular Annual Dues (\$25 for Student and Retired Members) and mail to:

THE SOCIETY OF RHEOLOGY
c/o American Institute of Physics
335 East 45th Street
New York, New York 10017

\$300. The by-laws require that a vote of the membership is needed to make the increase official. [A ballot is included in this Bulletin-Ed.]

Appointment of an Assistant Treasurer

The idea of having an assistant treasurer has been deferred as Ed Collins feels it is not necessary at this time.

Committee Activities

John Dealy reported for Stu Kurtz that the Bingham committee was progressing with a decision on the next Bingham Medalist. There was discussion that the Bingham committee should include justification for their selection as well as two choices to the executive committee. However, this action is not called for in the by-laws and no further action was taken.

Suggestions of how the membership committee might proceed to increase the membership included: 1) ask members to list the names of several people interested in rheology and send it to the committee; 2) obtain names of non-members from the abstracts of recent meetings; 3) have other societies distribute our membership brochure; 4) buy mailing lists of related societies. J. Dealy will communicate these ideas to the committee and ask them to formulate a definite plan.

It was suggested that one of the present SOR officers be named a delegate to the international committee on rheology (subsequent to the meeting A. Metzner was appointed as the delegate to the International Committee).

American Institute of Physics

K. F. Wissbrun, who represents the SOR on the AIP Board of Governors, reported on Institute matters. The SOR has recommended against the proposed move of the AIP headquarters to Washington, D.C. because of the need to keep the closest possible coordination between the publication services and the administration. A. B. Metzner urged the SOR to report on rheological matters in the annual edition of Physics Today dedicated to reports on special topics.

The executive committee unanimously elected K. F. Wissbrun to represent the SOR on the AIP Board of Directors for the next three years.

New representatives to the AIP Committee on Public Policy and Committee on International Relations must be named. [Ed.: K. F. Wissbrun has been named to the CIR and G. B. McKenna to CPP.]

Upcoming Annual Meetings

C. Beatty gave a report on the local arrangements for the 60th annual meeting to be held in Gainesville, FL in February of 1989. The Holiday Inn was determined to be the best site

for the meeting. Jim O'Reilly is the program chairman for the meeting.

J. Dealy reported that the 61st annual meeting to be held in Montreal in October of 1989 has been scaled down. The poster session has been eliminated, and the number of sessions has been reduced. The following financial formula has been agreed upon: any profits or losses will be shared between the SOR and the Canadian Rheology Group according to the ratio of registrations from the U.S. and Canada, with those from neither country being split equally between the two. The meeting will be called "The 61st Annual Meeting of the Society of Rheology, in Conjunction with the Annual Meeting of the Canadian Rheology Group and the First Inter-American Conference on Rheology". Contacts have been made with other western hemisphere rheological groups and an international coordinator has been named. The "Inter-American" aspect of the meeting will make it possible to request funds from the Canadian government to pay for travel expenses of speakers from other countries.

The 62nd annual meeting will be held in October 1990 in Santa Fe, NM, as according to the local arrangements chairman, A. Kraynik, the facilities are better than in Albuquerque. This meeting will be held in conjunction with the Society of Engineering Science. M. Shaw is the program chairman.

A. B. Metzner reported on a communication he received from the biorheologists proposing improved collaboration between the two groups. As a first step toward this collaboration, J. Dealy will ask M. Shaw to examine the possibility of holding a jointly sponsored biorheology symposium at the 1990 meeting.

Annual Meeting Policy

It was suggested that the guidelines for the local arrangements and program be updated. There is a need to broaden the scope of the program by bringing in speakers who can cross the barriers between disciplines, and organizing symposia on emerging areas of applications of rheology. E. Collins will contact several of the previous local arrangement and program chairmen to obtain their input as to how the guidelines could be improved.

Xth INTERNATIONAL CONGRESS

Repeating our earlier announcements, the Xth INTERNATIONAL CONGRESS ON RHEOLOGY will be held at the University of Sydney, Australia, Aug. 14-20. If anyone wishes last minute information they should contact the meeting chairman, Professor R. I. Tanner, Department of Mechanical Engineering, University of Sydney, Sydney, N.S.W. 2006, Australia. Telephone: (02) 692-222 Telex: AA 26169 FAX: 61 2 692 2012.

The editor's office has one copy of a final program and we would be pleased to share it with anyone having a need for it. Please call us.

XIth INTERNATIONAL CONGRESS

The location and dates for the XIth Congress, in 1992, will be fixed, as usual, by the International Committee on Rheology at their next meeting, which will take place in Sydney. The U.S. delegate, A. B. Metzner, would appreciate advice from the membership so that he may reflect our corporate wishes rather than only his own. Where would you like to see the next Congress be? Please write or telephone before the end of July. The ICR has received firm invitations from the societies in Yugoslavia, China and Belgium to hold this meeting in each of their countries; a tentative offer has also been received from Spain. Other countries whose member societies have not yet hosted a Congress are Argentina, Austria, Canada, Czechoslovakia, India and Israel.

There is a related issue. The ICR has been operating under a rule which states "a Congress will not be held in a country which has already hosted one such meeting if there is a viable offer available from any other country". This rule is to be discussed in Sydney; your delegate's personal view is that it is far too restrictive and will vote for its repeal unless instructed otherwise. Why should we not hold a meeting in England, for example, just because one was held there 3 or 4 decades ago, a meeting which would have been attended by very few of today's active rheologists?

The Member Societies of the International Committee on Rheology are as follows (with foundation date and approximate 1984 membership):

1. The Society of Rheology (USA) (1929) - 1150
2. The British Society of Rheology (1940) - 600
3. Nederlandse Reologische Vereniging (1950) - 120
4. Deutsche Rheologische Gesellschaft (1951) - 260
5. Swedish Society of Rheology (1956) - 150
6. The Australian Society of Rheology (1959) - 75
7. Arbeitsgruppe Rheologie im Verein Oesterreich. Chemiker (1959) - 70
8. Groupe Francais de Rheologie (1964) - 300
9. Rheology Group of the Czechoslovak Chemical Society (1968) - 105
10. Societa Italiana de Reologia (1971) - 100
11. The Society of Rheology, Japan (1973) - 610
12. Belgian Group of Rheology (1974) - 100
13. Sociedad Mexicana de Reologia (1975) - 80
14. Israel Society of Rheology (1981) - 65
15. Grupo de Reologia de Espana (1981) - 50
16. Canadian Rheology Group/Groupe Canadien de Rheologie (1982) - 85
17. Asociacion Argentina de Reologia (1983) - 100
18. Indian Society of Rheology (1984) - 35

The two new societies who have applied for membership in 1988 and who will presumably have been admitted are:

19. The Chinese Society of Rheology
20. The Slovene Society of Rheology

THE NORTH AMERICAN SOCIETY OF BIORHEOLOGY. This new society was organized in August 1986 during the 6th International Congress on Biorheology in Vancouver, with H. Meiselman as President and S. Sutura as President-Elect. They will participate in the 61st Annual Meeting of the Society of Rheology, in conjunction with the Annual Meeting of the Canadian Rheology Group and the First Inter-American Conference on Rheology, in Montreal, October 1988. They will also, of course, be involved in the 7th International Congress on Biorheology, which will take place in Nancy, France, August 1989. Contact Professor J. F. Stoltz, Centre de Transfusion Sanguine, Brabois, 54500 Vandoeuvre les Nancy, France, for information on the International Congress.

PEARSON RECEIVES AWARD OF THE HIGH-POLYMER PHYSICS DIVISION OF THE AMERICAN PHYSICAL SOCIETY. The John H. Dillon Medal for 1988 was awarded to Dale S. Pearson (University of California, Santa Barbara) for his "unique contributions to the understanding of polymer rheology and viscoelastic processes". In an early series of experiments he showed that entanglements play an important role in the network elasticity of rubber. In more recent theoretical and experimental work he has extensively studied the molecular basis for the rheology of polymeric liquids. This work has led to the understanding of relaxation phenomena and diffusion in linear and branched polymers.

Pearson received his B.S. (1964) from Iowa State University, his M.S. (1971) from the University of Akron and his Ph.D. in materials science and engineering (1978) from Northwestern University. In 1978 he became a member of the technical staff in the materials science and engineering division of Bell Labs (Murray Hill). In 1983 he went to the Exxon Corporate Research Laboratories (Annandale, New Jersey) as a research associate, and in 1987 he became a professor in the department of chemical and nuclear engineering and in the materials department at the University of California at Santa Barbara.

ANNOUNCEMENTS

Individuals interested in attending a one-week COMPOSITE MATERIALS SHORT COURSE at M.I.T., July 25-29, 1988

should contact the Summer Session Office at that institution, 617-253-2101.

A DOUGH RHEOLOGY AND BAKED PRODUCTS TEXTURE WORKSHOP is being offered by the American Association of Cereal Chemists, in Chicago, during the week of August 8, 1988. Contact Leslie Schoenecker, 3340 Pilot Knob Road, St. Paul, MN 55121 or 612-454-7250.

The 17th INTERNATIONAL CONGRESS OF THEORETICAL AND APPLIED MECHANICS will be held in Grenoble, France, August 21-27, 1988. Information may be obtained from Dr. R. M. Christensen, Lawrence Livermore Laboratory, P. O. Box 808 L-338, Livermore, CA 94550 for U.S. authors. Others contact Professor D. Caillerie, Institut de Mecanique de Grenoble, Domain Universitaire-B. P. 68, 38402 Saint Martin D'Herès Cedex, France.

RHEOLOGICAL MEASUREMENTS, with applications to Polymers, Suspension and Processing is the subject of a one-week course at University of Minnesota, September 12-16, 1988. Contact Jan Becker, 107 Armory, 15 Church St. S.E., University of Minnesota, or call 612-626-1358.

CONUNDRRA RHEOLOGICA is the subject of the British Society of Rheology meeting in Egham, Surrey, September 7-9, 1988. Contact: P. C. Anderson, BP Research Centre, Sunbury-on-Thames TW16 7LN, U.K. This meeting is listed also as the Dr. G. W. Scott Blair Memorial Conference.

The SOCIETY OF RHEOLOGY, JAPAN, will hold its 36th Rheology Symposium in Nagaoka on October 5-7. Information is available from:

Professor Toshiro Masuda
Secretary, SRJ
Research Center for Medical Polymers and Biomaterials
Kyoto University
Sakyo-ku, Kyoto 606, Japan

The 73rd Annual Meeting of the **American Association of Cereal Chemists** will be held October 9-13 in San Diego. Call the association for further information (612-454-7250).

The 23rd Annual Colloquium of the Groupe Francais de Rheologie will take place October 19-21, 1988, in Talence, on the subject RHEOLOGIE ET ENDOMMAGEMENT DES SOLIDES. Contact M. le Professeur Jean-Luc Lataillade, Laboratoire de Mecanique Physique, Universite de Bordeaux 1, 351, cours de la Liberation, 33405 TALENCE Cedex, Tel. 16 56 80 84 50.

An international conference/showcase on HANDLING AND PROCESSING OF RHEOLOGICALLY PROBLEMATIC MATERIALS will be held January 31-February 2, 1989, in Chicago. For further information contact Cahners Exposition Group, 312-299-9311.

The 12th Annual Meeting of THE ADHESION SOCIETY will be held February 19-22, 1989, on Hilton Head Island, South Carolina. The meeting chairman is Dr. Donald Hunston (301-975-6837).

The spring meeting of **American Institute of Chemical Engineers**, April 2-6, 1989, in Houston, will include several sessions on flow, behavior and processing of polymeric fluids and on properties of polymers. Contact: A. J. Giacomin, Texas A&M University, College Station, Texas 77843-3123. Telephone: 409-845-1251.

A IUPAC symposium on Polymer Blends will be held in Prague, July 17-20, 1989, at the **Institute of Macromolecular Chemistry, Czechoslovak Academy of Sciences**. Their mailing address is 16206 Prague, Czechoslovakia.

MACROMOLECULES '89, the 2nd Euro-American Symposium on the theme "Functional Polymers and Biopolymers" will be held at Oxford University, England, September 4-8. Information is available from Mrs. Jane Vogl, Polytechnic University, 333 Jay Street, Brooklyn, NY 11201. Telephone: 718-260-3125.

The 1989 Annual Meeting of the **BRITISH SOCIETY OF RHEOLOGY** will be held September 12-15, probably at University of Warwick. The theme is "Rheology of Food, Pharmaceutical and Biological Materials". Contact Roy Carter, Royal Ordnance R&D Centre, Waltham Abbey, Essex EN9 1AY, England. Telephone: 0992-713030.

The THIRD CONFERENCE OF EUROPEAN RHEOLOGISTS and THE GOLDEN JUBILEE MEETING OF THE BRITISH SOCIETY OF RHEOLOGY will be held in Edinburgh, Scotland, September 3-7, 1990. Contact Dr. C. J. S. Petrie, Department of Engineering Mathematics, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, NE1 7RU, England.

Statement of Receipts and Disbursements
Year Ended December 31, 1987

Balance in Account - December 31, 1986*			\$ 72,704.18
RECEIPTS (January 1 - December 31, 1987)			
Dues Collections - 1986	\$ 40.00		
- 1987	14,539.11		
- 1988	24,644.91	\$39,224.02	
Sales of Mailing Lists:	209.54		
Interest	3,695.27		
Journal Page Charges	8,122.29		
Short Course (Atlanta)	4,512.50		
Tulsa Meeting	4,334.43		\$ 60,098.05
TOTAL			<u>\$132,802.23</u>
DISBURSEMENTS (January 1 - December 31, 1987)			
Charge for Dues Billing & Collection (\$2.50/item Billed-Annual Charge)		\$ 2,920.00	
Charge for Preparation & Maintenance Record @ \$3.00 per Member		3,621.00	
Financial Handling Charge (5/8 of 1%)		350.00	
Member Society Dues @ \$2.00 per Member		2,500.00	
Renewal Billing: Letters, Flyers, Labels & Postage		1,497.52	
The Journal of Rheology: Vol. 30, 1-7 & Mailing		17,398.58	
Editorial Charges (JoR)		7,455.28	
OTHER:			
Administrative Services (AIP)		2,100.00	
Postage		327.02	
United Parcel Service		22.81	
Xerox Charges		12.82	
Membership Labels for Mailing		17.69	
Composite Materials Short Course Announcement in June Physics Today		66.00	
Ballot Mailing		387.01	
New Letterhead		91.89	
Executive Meeting Expenses		544.53	
Secretarial Services		267.87	
Santa Monica Meeting Expenses		387.54	
Short Course (Atlanta)		2,197.22	
Commercial Press Bulletins + Abstracts		2,670.90	
Banking Services		53.19	
Bingham Award Expenses		756.20	
Council of Scientific Presidents Dues		75.00	
Liability Insurance		100.00	\$ 45,820.07
Balance in Account December 31, 1987**			<u>\$ 86,982.16</u>

*Adjusted for final 1986 Variance
**Not Adjusted for final 1987 Variance

Dr. Edward A. Collins
Treasurer
March 1, 1988