

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Volume 36 No. 2



May, 1967

38th ANNUAL MEETING OF THE SOCIETY OF RHEOLOGY, INC.

Sheraton Park Hotel
Washington, D. C.
October 23-25, 1967

Abstracts: The maximum allowable length of abstracts is 500 words. Abstracts should be typewritten, double-spaced, and include, just below the title, the name and address of the author; in case of multiple authorship, the name of the author who is to present the paper should be underlined. For a paper to be considered for presentation, two copies of the abstract, *postmarked no later than August 1, 1967*, should be mailed to the chairman of the program committee.

Acceptance and Presentation of Papers: The Program Committee will review all abstracts submitted before the August 1 deadline, and select those most appropriate for presentation at the meeting. Authors will be notified of the outcome on or before September 1, 1967.

Each speaker will have at least twenty minutes for his presentation (more if the size of the program permits). Discussion of papers will be scheduled separately.

Standard facilities available in each meeting room will consist of projectors for both 2" x 2" and 3 1/4" x 4 1/4" slides, plus a blackboard. Speakers are urged to rely on slides as much as possible. If other equipment is required, notification to this effect should be included in a covering letter accompanying the abstract at the time of its submission.

Publication: Authors are urged to consider publishing papers presented at the meeting in the Transactions of the Society of Rheology Inc. Manuscripts will be eligible for inclusion if submitted to the editor, R. R. Myers, Chemistry Department, Kent State University, Kent, Ohio, 44240. Acceptance for publication will be decided by the editor, in consultation with referees appointed by him for each manuscript. Brevity will be an important consideration. Presentation at a meeting is not a prerequisite for publication.

Program Committee: A. Peterlin (Chairman), Camille Dreyfus Laboratory, Research Triangle Institute, Post Office Box 490, Durham, North Carolina 27702.

M. H. Birnboim, 4350 Lydia Street, Pittsburgh, Pennsylvania 15207.

A. C. Pipkin, Division of Applied Mathematics, 182 George Street, Brown University, Providence, Rhode Island 02912.

Host Committee: Local arrangements are being handled by A. B. Bestul, Rheology Section, National Bureau of Standards, Washington, D.C.

NOTICE OF WINTER MEETING

February 5-8, 1968, Vacation Village Hotel, Mission Bay, San Diego, California 92109.

J. F. Johnson (Chairman), Richmond Laboratory, California Research Corporation, Richmond, California 94801.

M. Goldstein, 1222 Kensington Road, Teaneck, New Jersey 07666.

M. C. Shen, North American Aviation Science Center, 1049 Camino Dos Rios, Thousand Oaks, California 91360.

BINGHAM MEDAL COMMITTEE

T. L. Smith (Chairman), Stanford Research Institute, Menlo Park, California 94025.

J. H. Elliott, Hercules Experiment Station, Hercules Powder Company, Wilmington 99, Delaware.

J. D. Ferry, Department of Chemistry, University of Wisconsin, Madison, Wisconsin 53706.

L. E. Nielsen, Monsanto Company, 1700 South Second Street, St. Louis, Missouri 63177.

L. J. Zapas, National Bureau of Standards, Washington, D.C. 20234.

NOMINATING COMMITTEE

J. T. Bergen (Chairman), Research and Development Center, Armstrong Cork Company, Lancaster, Pennsylvania 17604.

A. Eisenberg, Department of Chemistry, University of California, Los Angeles, California 90024.

E. A. Kearsley, 17 Far West Building, National Bureau of Standards, Washington, D.C. 20013.

NOMINATION OF OFFICERS

1967-68

<i>President</i>	- - - - -	Thor L. Smith
<i>Vice President</i>	- - - - -	Hershel Markovitz
<i>Secretary</i>	- - - - -	John C. Miller
<i>Treasurer</i>	- - - - -	Shiro Matsuoka
	(Vote for one)	Alden B. Bestul
<i>Editor</i>	- - - - -	Raymond R. Myers
<i>Members-at-Large of the Executive Committee</i>	- - - - -	Paul Blatz
	(Vote for two)	Jerald Ericksen
		Roger Porter
		Stephen Prager

This is not a ballot

RHEOLOGY BULLETIN
Raymond R. Myers, Editor
Department of Chemistry
Kent State University
Kent, Ohio, 44240

EXECUTIVE COMMITTEE MEETING

Hotel Traymore
Atlantic City, New Jersey

October 30, 1966

1. Present were R. S. Marvin, T. H. Smith, R. R. Myers, A. Lewis, R. Landel, N. Tschoegl, M. Shen, J. Brodnyan, R. Coulehan, J. H. Elliott and J. C. Miller.
2. The minutes of the previous meeting were approved as distributed to the Executive Committee.
3. The Secretary reported that the Society had received a Federal Tax Exemption from the Bureau of Internal Revenue.
4. The Treasurer made a brief report and estimate of the 1967 budget. A more favorable balance is expected at the end of 1967.
5. Local Arrangements Chairman, J. Brodnyan, reported the Hotel Traymore had made all the physical arrangements for the meeting and that the Hotel's help made the arrangements fairly easily.
6. The President announced that Mitchel Shen and A. Bestul would be the Local Arrangements Chairmen for the Winter and Fall meetings, respectively, in 1967.
7. The Committee approved a \$5.00 and \$10.00 registration fee for the Winter meeting.
8. The Membership Committee Chairman, R. Coulehan, reported that we had 741 members as of July 1. F. D. Dexter and J. H. Elliott will be additional members of the Membership Committee.
9. The Fall Meeting in Washington will be held October 23-25, 1967.
10. It was the consensus of the meeting that a new roster should be attempted by January 1.
11. S. Prager's resignation from the Committee because of an extended visit to Europe was accepted. G. J. Dienes was appointed Member-at-Large to the Committee.
12. The Secretary discussed the proposed incorporation of the Society in New York State. The reasons given for the incorporation were the Society's rather extensive involvement in publishing and the liability of the Society for publishing the Transactions. It was moved, seconded and passed that the Society incorporate as a non-profit corporation in New York.
13. The Executive Committee voted unanimously to submit a few necessary changes in the Constitution for incorporation to the Business Meeting, Nov. 1, 1966, for approval of a mail ballot to the members. The Committee voted to authorize the President to appoint a committee of five to incorporate the Society.
14. The proposed contract for publishing the Transactions with Interscience was discussed. The Committee decided not to change the name of the Transactions. To help publicize the fact that the Transactions will accept manuscripts without presentation at the meetings, instructions to authors will be included in the Transactions.
After discussion on the contract, it was moved, seconded and passed that the contract was approved in principle.
15. The Committee voted to accept Interscience's suggestion that the Transactions become a quarterly with Volume 11.
16. A motion to make the page charge to authors \$15.00 was seconded and passed. The charge will be collected by Interscience, and approval of a manuscript by the Editor will not depend on payment of the page charge.
17. The President pointed out that the Editor's job had become difficult and suggested that an editorial board be set up to approve manuscripts for publication. Action on the proposal was deferred for additional discussion at a later meeting.
18. The President requested suggestions for the Nominating Committee and Bingham Medal Committee. The Bingham Committee will have one member of the Executive Committee in its membership. The President will appoint an ad hoc committee

to review the requirements for the Bingham medal and the origin of the requirements.

19. The Secretary reported the results of the meeting time survey sent to the members which gave 110 replies. No significant desire to change in meeting times were deduced from the replies. Some evidence in favor of a slightly earlier Fall meeting date was apparent.

20. The Fall Meeting for 1968 was tentatively set for the Pocono Mountains with Atlantic City as the alternate choice.

Respectfully submitted,
J. C. Miller
Secretary

ANNUAL BUSINESS MEETING

Traymore Hotel

Atlantic City, New Jersey

November 1, 1966

The meeting was opened at 4:15 P.M. by President Marvin. The minutes of the previous meeting were accepted as read. President Marvin gave a brief summary of the discussions of the Executive Committee and the proposed plan for publishing the Transactions.

The Secretary presented his report on the activities of the Society in 1966. A motion to accept the report passed.

The Treasurer reported the state of the finances for the Society and pointed out that the costs of publishing were seriously depleting the funds of the Society. The report was accepted unanimously.

J. T. Bergen presented the reasons for the Executive Committee deciding to incorporate the Society. The Society will now be in the publishing business and as an unincorporated Society we have a nebulous legal position where the Society officers and members might be liable for losses. As a corporation, our legal responsibilities will be clear.

After discussion, upon motion duly made, seconded and passed, it was:

Resolved, that the President be and he hereby is empowered to appoint a committee of five or more members to incorporate the Society as a New York Membership Corporation and that the committee and the officers of the Society be and they hereby are authorized

to take all actions necessary or appropriate to effect such incorporation.

Resolved, that, effective upon the date of the incorporation of the Society as a New York Membership Corporation, the By-Laws of the Society shall comprise the Constitution and Rules. The present Constitution and By-Laws shall be amended as follows:

a. Article I of the Constitution shall be amended to read:

ARTICLE I—Name

The name of this organization shall be "The Society of Rheology, Incorporated."

b. Section 2 of Article IV of the Constitution shall be amended to read:

Section 2

The governing body of the Society shall be its Board of Directors, which shall be called the "Executive Committee."

c. In the Title and in each Article and Section of the present By-Laws of the Society, the word "By-Laws" shall be amended to read "Rules".

Resolved, that, within thirty days of this meeting, the Secretary submit the foregoing resolutions to the membership for vote by letter ballot and that, if two-thirds of the vote of those voting in the letter ballot approve the resolutions, they shall become effective immediately upon certification of approval by the Secretary to the Executive Committee and to the membership in accordance with their terms, as set forth in Article VIII of the Constitution.

R. R. Myers, Editor of the Society, presented the contract suggested by Interscience and the formula by which the Society would reimburse Interscience. It was explained that in order to publish a quarterly and to establish a financial arrangement which would not depend on the amount of annual dues, a page charge to the authors would have to be initiated. Professor Myers moved that the page charge for 1966 be set at \$15. The motion was seconded, and after discussion on the amount of the page charge versus the estimated payment to Interscience, the motion was passed.

W. R. Willets moved that it was the sense of the meeting that the Executive Committee should review costs each year and set the page charge appropriately.

T. H. Smith announced the Winter meeting would be held in Santa Barbara February 6-8, 1967 and the Fall meeting for 1967 would be in the Sheraton-Park Hotel in Washington, D.C. October 23-25, 1967.

A discussion arose in which those present at the business meeting expressed a desire to return to the smoker. Presentation of the Bingham Medal to the medalist should be done in a more formal manner than at the smoker.

Dr. Marvin asked for a show of hands on Atlantic City as a meeting place. About 35 hands were raised. A show of hands on large cities as meeting places produced about 15.

A motion that it was the sense of the meeting to go to the Poconos in 1968 was defeated.

The meeting was adjourned at 6:00 P.M.

Respectfully submitted,
J. C. Miller

EXECUTIVE COMMITTEE MEETING

Miramar Hotel-Motel
Santa Barbara, California
February 5, 1967

PRESENT

Members: R. S. Marvin, Chairman
T. L. Smith
R. F. Landel
R. R. Myers

Guests: J. L. White
N. W. Tschoegl
M. C. Shen
I. L. Hopkins

Meeting was called to order by President Marvin at 2:30 p.m. R. R. Myers was asked to serve as secretary in the absence of J. C. Miller. Items on R. S. Marvin's agenda distributed prior to the meeting were covered:

1. Transactions: Contract with Interscience is in the process of revision; certain deletions were suggested by AIP attorneys and are acceptable to Interscience. The 90-day period for amendment of the constitution expires on February 28 and indications are strong that amendment will be ratified.
2. Bingham Medal: A committee comprising Thor Smith, Chairman, John Elliott, John Ferry, L. E. Nielsen, and Louis Zapas will select the 1967 medalist and will propose guidelines for future selections.

3. Program Committees for October 1967 and February 1968: President Marvin asked the committee for suggestions, including a clarification of how far in the future the Society president should name program committee chairmen. It was agreed that the appointments should be made one year in advance.

4. Registration Fee for October 1967 Annual Meeting: The committee voted to permit the local arrangements chairman to set the fee at a figure needed to meet anticipated costs up to \$10 for members and \$15 for non-members. This fee will cover a visit to the NBS and the smoker.

Items not appearing on the agenda which were covered at the meeting include:

1. Nominating Committee: J. T. Bergen, Chairman.
2. 1967 Annual Meeting Local Arrangements: A. Bestul.
3. 1967 Program Chairman: To be appointed.
4. 1968 Winter Meeting Location: Vacation Village, San Diego, California. Week following winter Gordon Conference on polymers.
5. Charter Flight to Japan in October 1968; Thor Smith estimates 100 fairly positive fares, and a break-even point of 130. World Airways charter costs \$60,000; a regularly scheduled airline charges \$90,000 from the west coast. With a full plane, one can count on \$450 from the east coast.

The meeting adjourned at 6:15 p.m.

Respectfully submitted,
R. R. Myers
Secretary pro tem

EDITOR'S NOTE

Results of the ballot, transmitted by Secretary Miller on April 5, 1967, were as follows:

Resolution for incorporation passed 390-9.

Resolution for amending the By-Laws, Article I passed 388-11.

The committee to incorporate the Society met on May 2, 1967.

R. R. Myers

ANNOUNCEMENTS

1. Effective with Volume 11, the Transactions of The Society of Rheology, Inc. will institute a \$15.00 page charge. The author will be asked to accept this page charge by a form sent with the galley proof; the question of page charges will not involve the editorial office.

2. The British Society of Rheology will hold a conference on Non-Newtonian Flow Through Pipes and Passages, September 19-21, 1967 at Shrivenham.
3. The British Society of Rheology has struck a Gold Medal for Applied Rheological Research in honor of Markus Reiner's 80th birthday.
4. The American Institute of Chemical Engineers will meet in St. Louis, Missouri February 18-21, 1968, at which time a session on Structural and Molecular Rheology will be chaired by M. C. Williams, Department of Chemical Engineering, University of California, Berkeley, California 94720.
5. Copy for the Transactions is accepted any time during the year. Please keep this fact in mind as your manuscripts near completion.

REPORT OF THE SECRETARY FOR 1966

1. *Membership*

Society membership continues to grow at a satisfactory rate. Robert Coulehan, the present Membership Chairman, has increased the total to 750.

2. *Publications*

Three Bulletins have been published this year and mailed to the membership. The first half of the Transactions Volume 10 has been mailed to the membership. Volume 10, No. 2 is not expected until early 1967.

3. *Meetings*

Two general meetings of the Society were held in 1966. The Winter meeting in Monterey, California at the Naval Postgraduate School was arranged by Rodney Beyer. The Fall meeting was held at Atlantic City with J. Brodnyan as local arrangements chairman.

4. *Executive Committee Meetings*

The Executive Committee met twice during the year. At Monterey, future meetings, costs of the Transactions and timing of future meetings were discussed. In

Atlantic City the major topics were publication of the Transactions as a quarterly, incorporation of the Society, meeting sites and institution of a page charge.

5. *Federal Income Tax Exemption*

A Federal Income Tax Exemption was obtained for the Society this year. The exemption is provisional until the incorporation is complete which will provide for the distribution of funds in the case of Society dissolution.

6. *Meeting Schedule*

A survey of the membership to determine the suitability of present meeting times showed the meeting schedule to be generally satisfactory. A slightly earlier Fall meeting might be more suitable to the membership.

7. *Incorporation of the Society*

Proceedings for the incorporation of the Society in New York State were begun. This action appears necessary because of our involvement with Interscience Division of John Wiley as publishers of the Transactions.

8. *American Institute of Physics*

All mailings, dues collection, accounting, etc. were made by American Institute of Physics.

R. S. Marvin attended two Governing Board Meetings of the Institution during the year. Present at the Annual Meeting of the Corporate Associates and Society Officers were R. S. Marvin, J. C. Miller, and R. R. Myers.

9. *Acknowledgements*

The Secretary is grateful for the cooperation of the Society Officers, committees, and the American Institute of Physics staff in the operation of the Society.

The Secretary wishes to acknowledge the cooperation of Union Carbide management in providing minor expenses, secretarial help, and facilities necessary to his duties.

Respectfully submitted,
John C. Miller
Secretary

AMERICAN INSTITUTE OF PHYSICS, INCORPORATED

for

THE SOCIETY OF RHEOLOGY, INC.

Statement of Receipts and Disbursements

At December 31, 1966

Balance in Account — January 1, 1966			\$ 8,127.42
<i>Receipts (January 1 - December 31, 1966)</i>			
Dues Collections:			
1965 Dues and 1966 Dues		\$ 1,788.88	
1967 Dues		<u>7,238.19</u>	9,027.07
Interest on U. S. Government Bond*			38.74
Transfer of Funds from West Coast Checking Account			535.05
Profit from Atlantic City October 1966 Meeting			<u>295.87</u>
Total Receipts			\$18,024.15
<i>Disbursements (January 1 - December 31, 1966)</i>			
Charge for Dues Billing and Collection	\$317.32		
Charge for Maintenance of Society List	516.81		
Contribution for Support of AIP for 1966	<u>947.32</u>	\$1,781.45	
Bulletins:			
Winter Bulletin	\$109.45		
Spring Bulletin	<u>71.53</u>	180.98	
Meetings:			
Winter Meeting — Monterey, California	\$ 65.93		
Fall Meeting — Atlantic City, N. J.	<u>295.96</u>	361.89	
Symposium on Biomedical Fluid Flow		14.78	
Constitution and Amendment		93.23	
Brochure		89.91	
Membership Roster		171.50	
Editorial Expenses — R. R. Myers:			
Secretarial Services	\$609.71		
Office Expenses	<u>75.19</u>	684.90	
Secretarial Duties — E. Wolf:			
Welcoming Letters	\$ 52.18		
Miscellaneous Correspondence	<u>40.49</u>	92.67	
Transactions V10	175.33		
Other:			
Addressing	22.08		
File	62.50		
Letterheads	13.62		
Telephone	7.11		
Bingham Medal	<u>8.16</u>	113.47	
Total Disbursements			<u>3,760.11</u>
Balance in Account, December 31, 1966			<u>\$14,264.04</u>

*Bingham Fund: \$1,000.00 U.S. Government Bond 3 7/8% — Due May 15, 1968