

RHEOLOGY BULLETIN

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Vol. 68 No. 2



July 1999

**THE SOCIETY OF RHEOLOGY
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Nominations for the 2000 Bingham Medal

Nominations are invited for the 2000 Bingham award. These should be submitted before January 14, 2000 to the next chair of the Bingham award Committee, Professor A.J. McHugh, at Department of Chemical Engineering, University of Illinois, Urbana, IL 61801. Award guidelines may be found at <http://www.umche.maine.edu/sor/awards/bingham/rules.htm>

**WILLIAM B. RUSSEL
1999 BINGHAM MEDALIST**

The Bingham medal of the Society for 1999 will be awarded at the Madison meeting to Professor Bill Russel of Princeton University. A write-up appears inside this issue of the Bulletin.

**71st ANNUAL MEETING
MADISON, WI
OCTOBER 17 - 21, 1999**

The 1999 annual meeting of the Society of Rheology will be held at the Monona Terrace Convention Center in Madison, Wisconsin. The meeting registration form may be downloaded from the Society's web page at <http://www.umche.maine.edu/sor/> Information on area hotels and details of the technical program may also be found at this web address. Exhibitors at the meeting will find everything they need to know at http://www.umche.maine.edu/sor/annual_meeting/1999Oct/default.htm. Additional information can be obtained by contacting the local arrangements chair:

A. Jeffrey Giacomin
Rheology Research Center
University of Wisconsin
Madison, WI 53706
(608) 262-7473; Fax: (608) 265-2316
e-mail: giacomin@enr.wisc.edu

RHEOLOGY SHORT COURSE

A two-day short course on Optical Rheometry will be offered in Madison, October 16-17, 1999. The instructor is Professor G.G. Fuller of Stanford University. A complete course description and the course registration form are included in this issue of the Rheology Bulletin.

**1999 JOURNAL OF RHEOLOGY
PUBLICATION AWARD**

The winners of the 1999 Journal of Rheology Publication Award are T.C.B. McLeish and R.G. Larson for "Molecular constitutive equations for a class of branched polymers: the pom-pom polymer," *Journal of Rheology*, **42**, 81-110 (1998).

RHEOLOGY BULLETIN
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<http://www.umche.maine.edu/sor/>

1999 BINGHAM MEDAL GOES TO WILLIAM B. RUSSEL

The hallmark of Professor William B. Russel's contributions to rheology is integration, and the integration has occurred along several axes. One is an intellectual axis. He began his professorial career at Princeton with a thorough grounding in classical fluid mechanics, received from graduate study at Stanford and postdoctoral work at Cambridge. To this he added a comprehensive knowledge of the thermodynamics and statistical mechanics of colloids. This intellectual integration was facilitated through collaborative integration with colleagues, most notably chemical physicists such as Hall and colloid chemists such as Buscall. He also integrated his outlook on a fundamental/application axis through active interest in programs at Rohm and Haas, Exxon, and elsewhere. The unifying theme of this multidimensional integration is an understanding and control of macroscopic rheology through knowledge of interparticle forces and the related phase behavior over a range of shear rates or frequencies. Russel and his students have accomplished this by combining detailed measurements of model colloidal and polymeric systems with appropriate theory.



Professor William B. Russel

The style of Russel's research as well as his capacity to be a role model have had much to do with the pre-eminent position he holds in the colloid science community. His dedication and intellectual integrity have inspired many of his students to prominence. His skill as an experimentalist as well as a theoretician is evident from many of his most important papers. His approachable personality has led to important collaborations with colleagues at Princeton as well as abroad. Finally, his influence as a guiding hand and interim director of the Princeton Materials Institute has had much to do with the focus of that organization on the physics of "soft" materials and their rheology.

Russel has made major contributions in at least four areas of suspension and polymer rheology: 1.) the rheology of charged dispersions, 2.) the effects of soluble polymer on phase behavior and rheology, 3.) the elasticity and consolidation of colloidal gels, and 4.) the connections between structure and rheology of concentrated dispersions. The research of Russel and coworkers includes the first quantitative connection between rheology and equilibrium phase transitions due to attractions in dispersions. In addition, Wagner and Russel were among the first to exploit scattering techniques for detecting non-equilibrium microstructure of concentrated dispersions under shear. Russel's research on hydrophobically modified water soluble polymers has been similarly ground-breaking. In general, Russel's research has paralleled the growth of modern colloid rheology. His influence has been so pervasive that no serious description of any of the four areas listed above would fail to refer to his work. Professor Russel is perhaps the most influential colloid scientist at work today.

Bill Schowalter

Erratum

A mistake has been printed in the contribution of P. Dontula and C.W. Macosko: Yield Stress in Orbitz™, in the Rheology Bulletin 68(1), 5-6 (1999).

The buoyant (or gravitational) force is $\Delta\rho g \frac{4}{3} \pi R^3$ (the gravitational acceleration g was omitted). The restoring force due to yield stress is $\pi\tau_y R^2$. A balance between the two gives an estimate of the maximum density difference between a particle of radius R and the liquid in order for the particle to remain stationary. With particles 5 mm in diameter, this density difference is 1.2 kg/m³ (not 12 kg/m³). Air bubbles smaller than 6 μm (not 60 μm) will remain stationary in Orbitz™.

The authors thank Dr. Jin Kon Kim for bringing this error to their attention.

Dr. Skip Rochefort, Department of Chemical Engineering, Oregon State University, also brought to the attention of the authors his poster (along with high school student Jason Hower) presented at the 1998 Annual Meeting of the Society of Rheology in Monterey, CA. They measured the viscosity of four different bottles of Orbitz™ with a constant-stress rheometer. Viscosities of two samples fell sharply at a shear stress comparable to that measured by Dontula and Macosko (about 0.04 Pa), and the viscosities of the other two samples fell sharply at about twice that value.

CONSTITUTIONAL CHANGES PROPOSED FOR THE SOCIETY OF RHEOLOGY

An *ad hoc* committee has been drafting proposed changes to the Constitution and Rules of the Society of Rheology. The most important of changes *PROPOSED* by the *ad hoc* committee are:

- 1.) THE BINGHAM MEDAL WILL NO LONGER BE AWARDED ONLY TO NORTH AMERICANS.
- 2.) THE NUMBER OF MEMBERS-AT-LARGE ON THE EXECUTIVE COMMITTEE WILL BE INCREASED FROM TWO TO THREE.

In order for these proposed changes to become part of the Constitution of the Society of Rheology, they, as well as others contained in the draft revised constitution, must be voted on in a letter ballot of the membership of the Society of Rheology. As currently proposed, major issues (including those above) will be separated out into approximately 8 different issues to be voted on. All members of the Society of Rheology are asked to look over the proposed constitutional changes (see enclosed flyer or on the Web at <http://www.umche.maine.edu/sorconst/>) and give feedback to the *Ad Hoc* Committee on Constitutional Reform. A full discussion of the proposed changes will take place at the Society Business Meeting in Madison in October.

The *Ad Hoc* Committee on Constitutional Reform has been drafting changes to the Constitution and Rules of The Society of Rheology for the last three years. This committee, composed of Faith Morrison (chair), Arthur Metzner and Jeffrey Giacomini, solicited input from the SOR membership, deliberated, and reported to the Executive Committee in March on proposed changes to the SOR governing documents. The proposed changes fall into five categories (see enclosed draft of the proposed, revised Constitution):

1. Major, substantive changes of policy; these include changes to the criteria used to award the Bingham Medal and adding an additional member to the Executive Committee.
2. Minor, but substantive changes that make the Constitution and Rules conform to current practice or which simplify the operation of the Society.
3. Changes to make the Constitution and Rules gender neutral.
4. Changes to make the Constitution and Rules more self-consistent (legalistic changes that do not change policy or practice).
5. Changes to improve the grammar and punctuation used in the Constitution and Rules.

The processes for amending the Constitution and Rules are slightly different, but both processes require that the membership, at a regularly scheduled annual meeting, first vote to conduct a letter ballot on the proposed amendments. The Executive Committee has proposed that such a vote take place at the Madison Meeting in October 1999.

The final ballot to be discussed in Madison will be developed by the Secretary and the *Ad Hoc* Committee on Constitutional Reform after the membership has had an opportunity to review the proposed revisions to the Constitution and Rules. The ballot will be a multi-part ballot so that members will have the opportunity to vote on approximately 8 different issues. The proposed constitutional revisions are posted on the World-Wide Web at <http://www.umche.maine.edu/sorconst/>, which is accessible from the SOR homepage. This page includes a draft ballot and a color-coded summary of the various changes by category.

Please contact the *Ad Hoc* Committee on Constitutional Reform with any suggestions or comments on the proposed changes to the Constitution and Rules. The purpose of this reform effort is to make the Constitution and Rules of The Society more accurately reflect the wishes of the membership. In order for this exercise to be meaningful, we need the widest possible participation of the membership. Please contact the committee by e-mailing Faith Morrison (fmorriso@mtu.edu) or by writing to her at the following address:

Faith Morrison, Associate Professor
Department of Chemical Engineering
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295
Fax: (906) 487-3213

THE FULL SET OF PROPOSED CONSTITUTIONAL CHANGES IS ON THE WEB AT <http://www.umche.maine.edu/sorconst/>

RHEOLOGY BULLETIN AUTHOR GUIDELINES

The Rheology Bulletin publishes papers on the applied aspects of Rheology which are intended for the non-specialist. Appropriate topics include the application of rheological principles to a specific system, instrumentation for rheological measurements, description of interesting rheological phenomena, and the use of well-established rheological techniques to characterize products, processes or phenomena. Papers describing historical aspects of the practice of rheology and how these have influenced current trends are welcome. Also welcome are papers that address the present and changing status of rheological education. Consultation with the Editor prior to manuscript submission is encouraged.

CHANGE OF ADDRESS

If you are moving, please inform Janis Bennett (516) 576-2403, Fax: (516) 576-2223, or Carolyn Gehlbach (516) 576-2404 at

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

MINUTES OF THE EXECUTIVE COMMITTEE MEETING MARCH 13-14, 1999

The meeting was called to order at 7:00 p.m. in the Renaissance Hotel, Los Angeles, California. Executive Committee Members in attendance included: Ron Larson, Gerry Fuller, Monty Shaw, Kurt Wissbrun, Don Baird, Morton Denn, and Andy Kraynik. Invited guests included: Janis Bennett, Andrea Chow, Jeff Giacomini, Faith Morrison, and Susan Muller. The minutes of the October 4, 1998 Executive Committee Meeting, which appeared in the January 1999 Rheology Bulletin, were approved as read.

The entire evening was devoted to discussing revisions of the Constitution and Rules of the Society, which will be presented to the membership at the Annual Business Meeting in Madison on October 19. Faith Morrison, who chaired the Ad Hoc Committee on Constitutional Reform led the discussion; other committee members included Jeff Giacomini and Art Metzner. The Society is grateful to Faith, Jeff, and Art for their diligence in this important matter. The Saturday evening session was adjourned at 10:00 p.m.

The Sunday morning session was called to order at 8:00 a.m. Jeff Giacomini discussed local arrangements for the annual meeting in Madison, Wisconsin, October 17-21, 1999. Don Baird described preparations for a Winter meeting in Hilton Head, South Carolina, February 11-15, 2001. Ron Larson read a report provided by Carl Schulteisz outlining plans for the regular annual meeting in Bethesda, Maryland, October 21-25, 2001. The Committee voted to accept a proposal submitted by Chris Macosko to host the 2002 Fall Meeting in the Twin Cities, Minnesota. The International Congress on Rheology

will convene in Cambridge, U.K., August 20-25, 2000. Discussion on meeting expenses and receptions followed.

Ron Larson read a report submitted by Bill Van Arsdale, who chairs the Membership Committee. The Society had 1779 members as of March 1999. Monty Shaw delivered the Treasurer's report. Details of our sound financial position can be found in the Rheology Bulletin. Monty warned of higher AIP expenses in the upcoming year and also discussed insurance issues. Ron Larson led discussion relating to the Journal of Rheology on-line. We decided not to permit the CD-ROMs of back issues of the Journal to be loaded onto local area networks (LANs) unless the organization was an institutional subscriber. Ron Larson read a report submitted by Webmaster Albert Co on the Society of Rheology Home Page. Jeff Giacomini, Associate Editor for Finance, reported on non-member subscriptions to the Journal. Morton Denn provided the Editor's report for the Journal of Rheology, which continues in good health. The possibility of establishing a permanent site for the Editorial office (not the Editor) was discussed. Susan Muller, who chairs the Education Committee, disclosed plans to offer a Student Poster Presentation Award at Society Meetings. Compensation for instructors of Society short courses was also discussed. On advice of the Bingham Award Committee, the possibility of posthumous Bingham Awards was discussed. It was decided that the Bingham Medalist must be living when selected. The medal is also to be awarded for work in the most recent ten years. The full guidelines for the Bingham Award will be posted on the Web. We voted to accept a proposed amendment to the AIP Constitution that clarifies the intent of Article IX on Services and Charges.

Following a brief Executive Session, the meeting was adjourned at 12:00 noon.

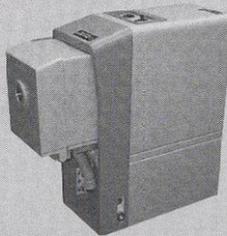
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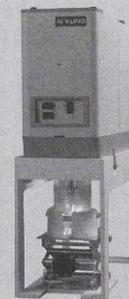
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The Treasurer He shall be the disbursing officer of The Society and shall approve all expenditures by The Society upon authorization of the Executive Committee

The Treasurer He may be required to give bond for the faithful discharge of his duties of the office of Treasurer, to the extent as may be required by the Executive Committee

The Treasurer He shall prepare an annual budget and present it to the members at the Annual Meeting

The Treasurer He shall prepare an annual report on the state of the finances of The Society in accordance with ARTICLE VII of the Constitution

Section 5

The Editor shall be responsible to the Executive Committee for carrying out the publication policy of The Society

He The Editor shall have the technical direction of The Society's publications journals, as defined in ARTICLE VII of the Rules

Section 6

The Executive Committees shall be empowered to make working rules of order and to create additional standing and ad hoc committees for the control and operation of The Society All rules and regulations and committee appointments so made shall terminate with the expiration of tenure of office of the officers promulgating them, unless continued by incoming officers constituting the succeeding Executive Committee

In the event that an officer of The Society dies or resigns before the completion of his term of office while in office, the Executive Committee shall appoint a successor to complete his unexpired term of the officer, subject to the provision stipulated in Section 2 of ARTICLE I of the Rules that the Vice-President shall succeed if the Office of President becomes vacant

If The Executive Committee shall determine the date and place of the Annual Meeting and any other meetings of The Society which that shall be called in accordance with ARTICLE VI of the Constitution

The Executive Committee recommends the formation of the dissolution of Divisions as stipulated in ARTICLE VIII of the Constitution

The Executive Committees shall have the power to overrule or modify the action of any officer of The Society

ARTICLE II - Quorum

A quorum of The Society shall be the number present at a regularly scheduled business session of The Society A quorum of the Executive Committee, and of all other Committees, shall be a majority of said committee

ARTICLE III - Dues and Privileges

Section 1

Regular members Members in good standing of The Society ("members") shall be live natural persons and shall pay annual dues of \$40, payable in advance Each member shall receive the official publications of The Society

Section 2

Corporate Associates shall be an organization with an active interest in the science of rheology The dues for the Corporate Associates shall be established by the Executive Committee

Section 3

Accepted applications for membership in The Society received prior to June 30, shall be considered as for the current year, and back numbers of the current volume of the The Society's Journals, hereinafter provided for in ARTICLE VII of the Rules, will be furnished to said members Applications accepted for membership after June 30, shall be applied to the following year, and Journals will start with the first issue of the following year unless applicants specifically request the application to be applied to the current year

Members delinquent in dues three months after the official date of renewal shall be declared suspended not in good standing and their names removed from the official roster of The Society Suspended Members not in good standing or resigned members may be reinstated without payment of back dues; by action of the Membership Committee

Retired or otherwise unemployed members of The Society may, upon application to the Secretary, remain as members of record of The Society without the payment of the Annual Dues, provided that they have been regular members for a period of at least 10 years at the time of the application Such members of record shall be accorded all privileges of membership except that they will not receive as part of their membership, either printed or electronic, subscriptions to the Journals of The Society Unemployed members who have been regular members for a period of 5 years at the time of application may, for a maximum period of 3 years, retain all privileges of membership without payment of dues Applications for waiver of dues for unemployed members shall be reviewed by The Secretary, with input from the Executive Committee, and shall be granted at the Secretary's discretion

Unemployed or retired members with less than 10 years of membership may elect to pay dues of 50% of the dues current at the time of the application In either case, members in the retired or unemployed category will receive the Bulletin and/or any other official news publications of The Society, but shall not receive any technical journals published or sponsored by The Society, except as they may elect to subscribe to on an individual basis

ARTICLE IV - Membership Committee

There shall be a standing membership committee Membership Committees of at least three members appointed by the President The Chairman of the Membership Committee shall receive and pass upon all applications for membership with the advice of the Membership Committee, and shall notify the Secretary of the action taken upon the applications

The Membership Committee will act on the status of members not in good standing as provided for in ARTICLE III of the Rules

ARTICLE V - Nominating Committee and Election Procedure

A Nominating Committee shall be appointed biennially and shall function in accordance with the provisions of ARTICLE V of the Constitution

ARTICLE VI - Representatives

Section 1

As a Member Society of the American Institute of Physics, The Society shall be entitled to nominate candidates for directorship on the Governing Board of the Institute, to the number of and under the circumstances authorized by ARTICLE V of the Constitution of the American Institute of Physics, Incorporated

On the basis of a membership census, The Society shall nominate one director to the Governing Board of the American Institute of Physics who shall be the President of The Society or his officially appointed representative of the President If the The Society's representative on the Governing Board of the American Institute of Physics is not an elected member of the Executive Committee, he or she The Society's representative shall be a non-voting participant at all meetings of the Executive Committee

When the membership of The Society attains such a number as to entitle it to more nominees to the Governing Board of the American Institute of Physics they shall be, in order, the Secretary, the Vice-President, the Treasurer and the Editor or other members of The Society appointed by the President in the event that the aforementioned officers decline to serve

Section 2

The terms of office of directors representing The Society on the Governing Board of the American Institute of Physics shall be set for two-year periods, which periods shall commence at the time of their nomination and election at the next annual meeting of the American Institute of Physics following the election of officers by The Society

Section 3

The President shall appoint The Society's representative to those organizations in which The Society is entitled to representation The term of appointment shall be the minimum term recommended by the organization to The Society of Rheology

The President shall appoint an official representative of The Society to attend technical meetings, inaugurations, or dedications Upon recommendation of the President, the Executive Committee shall determine the expense allowance of official representatives

ARTICLE VII - Publications

Section 1

The Society will publish technical journals designed to increase and disseminate knowledge of Rheology

The Editor – or an Assistant Editor designated by him – shall assist encourage authors of papers presented at the Annual Meeting in obtaining publications of to submit their papers for publication in the journals of The Society of Rheology

Section 2

The Society shall publish or choose a publication which shall officially contain news of The Society and an official, semi-annual news bulletin, hereafter referred to as the Bulletin. The Bulletin may also contain other matters of rheological interest

Section 3

The Editor shall have the authority to appoint assisting, contributing, and publishing editors to be responsible for the development of the different aspects of the publications/journals of The Society

ARTICLE VIII - Bingham Award Awards

Section 1

The Society shall award a medal, to be called "The Bingham Medal," and a prize of \$2500, for outstanding contributions to the field of rheology to an individual who is a resident of the North American Continent.

The Bingham Medal shall be awarded, usually on an annual basis, but in any event not more often to an individual or to a team of up to two individuals working together who have made outstanding contributions to the subject of Rheology. A monetary prize of an amount determined by the Executive Committee, subject to the provision that this amount may not be adjusted more than twice in any five-year period, will accompany the medal. The Bingham Award Committee (provided for in Section 2 of this ARTICLE) shall make selection of the medalist. Selection of the medalist shall be made by The Bingham Award Committee, subject to approval by the Executive Committee. The Bingham Medal shall be awarded presented at the Annual Meeting.

Section 2

The President shall, each year, appoint sufficient members for a term of three years to The Bingham Award Committee, such that The Committee is composed of seven persons, members may not be appointed to consecutive terms. In addition, the President shall appoint one of the seven members to act as Chairman of The Committee for that year. The guidelines to be used for selection of a medalist by The Committee shall be submitted by the Chairman of The Bingham Award Committee to the Executive Committee for approval if such guidelines differ from the guidelines previously approved.

Section 3

The Editor, two Members-at-Large of the Executive Committee chosen by the President, and at least two members appointed annually by the Editor shall serve as the Journal Publication Award Committee. The Editor will act as Chair of the Committee. The Journal Publication Award Committee shall, annually, select for special recognition at the Annual Meeting the best paper published in the journals of The Society during the preceding two years. A monetary award may accompany the Journal Publication Award at the discretion of the Executive Committee subject to the provision that this amount may not be adjusted more than twice in any five-year period.

Section 4

At the discretion of the Executive Committee, The Society may present a Distinguished Service Award to an individual to recognize exceptional service to The Society by that individual. The Distinguished Service Award will be awarded infrequently.

ARTICLE IX - Amendments to the Rules

The Rules may be amended by majority vote of the members returning a letter secret and secured ballot after the members attending any regular meeting of The Society, or the Executive Committee, have voted to submit the proposed amendment to letter ballot. Letters ballots shall be sent to the membership by the Secretary. The Secretary shall make ballots available to the membership within thirty days after the vote directing such a ballot. Ballots shall be returned to the Secretary or to the designee of the Secretary, and to be valid must be received by them within ninety days after the vote directing the ballot. Amendments so approved shall become effective immediately upon certification of approval of the Secretary to the Executive Committee and to the membership.

THE FULL SET OF PROPOSED CONSTITUTIONAL CHANGES ARE ON THE WEB AT

<http://www.umich.maine.edu/sorcons/>

7

Draft SOR Ballot for Constitutional Amendments

The ballot for the vote to amend the SOR Constitution will be constructed as a multi-part ballot. Since many changes have been proposed to the SOR Constitution and Rules, we will be balloting on groups of proposed changes. The proposed groups of changes are as follows:

- 1 Gender neutrality issues
- 2 Grammar/punctuation changes
- 3 Legalistic clarifications
- 4 Minor Substantive changes
- 5 Adding one additional At-Large Member to the Executive Committee
- 6 Eliminate North American residency as an eligibility criterion for the Bingham Medal
- 7 Revise the eligibility criterion for the Bingham Medal to allow up to two rheologists working together to receive the Bingham Medal in a single year
- 8 Remove the amount of the monetary award for the Bingham Medal from the Rules and allow the amount of the monetary award accompanying the Bingham Medal to be determined by the Executive Committee, subject to the constraint that the amount not be changed more than twice in a five-year period.

DRAFT BALLOT

Members will be asked to vote yes or no on each of the 8 issues.

- 1 The Society of Rheology shall adopt gender-neutral language throughout its Constitution and Rules. The changes to the Constitution and Rules shall be those highlighted in orange on the web copy of the revised Constitution and Rules (needs 2/3+ to pass).
- 2 The Society of Rheology shall adopt the grammar/punctuation changes highlighted in red on the web copy of the revised Constitution and Rules (needs 2/3+ to pass).
- 3 The Society of Rheology shall adopt the legalistic clarification changes highlighted in green in the web copy of the revised Constitution and Rules (needs 2/3+ to pass).
- 4 The Society of Rheology shall adopt the minor substantive changes highlighted in purple in the web copy of the revised Constitution and Rules and summarized on web (needs 2/3+ to pass).
- 5 The Society of Rheology shall increase the number of Members-At-Large of the Executive Committee from two (2) to three (3). If this proposed change passes, the phrase "but in any case at least two" will be stricken from Article IV, Section 3 of the Constitution, and the following sentence will be added to the end of Article IV, Section 3 of the Constitution: "There shall be at least three Members-at-Large." In addition the following changes will be made:
 - a. Article V, Section 2 of the Constitution: The number of nominees for Member-At-Large of the Executive Committee required to be identified by the Nominating Committee will be increased from 2 to 5.
 - b. Article V, Section 3 of the Constitution: The maximum number of candidates that a valid ballot may support for Member-At-Large of the Executive Committee will be increased from 2 to 3.
 - c. Article VIII, Section 3 of the Rules: If the minor substantive changes ballot passes and the ballot to increase the membership of the Executive Committee passes, the phrase "two Members-at-Large of the Executive Committee" in Article VIII, Section 3 of the Rules will be changed to "two Members-at-Large of the Executive Committee chosen by the President".
- 6 The Society of Rheology shall eliminate North American residency as an eligibility criterion for the Bingham Medal. If this proposed change passes, the words "who is a resident of the North American Continent" will be stricken from Article VIII, Section 1 of the Rules (needs 50%+ to pass).
- 7 The Society of Rheology shall revise the eligibility criteria for the Bingham Medal to allow up to two rheologists working together to receive the Bingham Medal in a single year. If this proposed change passes, the words "to an individual who is" in the wording of Article VIII, Section 1 of the Rules will be changed to "to an individual or to a team of up to two individuals working together who are" (needs 50%+ to pass).
- 8 The Society of Rheology shall remove the amount of the monetary award for the Bingham Medal from the Rules and allow the amount of the monetary award accompanying the Bingham Medal to be determined by the Executive Committee, subject to the constraint that the amount not be changed more than twice in a five-year period. If this proposed change passes, the words "and a prize of \$2500," in Article VIII, Section 1 of the Rules will be changed to "a monetary prize of an amount determined by the Executive Committee, subject to the provision that this amount may not be adjusted more than twice in any five-year period, will accompany the medal. The Bingham Medal shall be awarded" (needs 50%+ to pass).

8

The Society of Rheology

Presents

A Two-Day Short Course on

Optical Rheometry of Complex Fluids and Interfaces

by

Gerald G. Fuller
Stanford University

Dates: Saturday & Sunday, October 16 & 17, 1999. The short course is held in conjunction with the 71st Annual Meeting of the Society of Rheology, October 17-21, 1999. The course will begin at 8:30 am, Saturday, October 16, 1999.

Location: Grainger Auditorium, Engineering Hall, Room 1610, College of Engineering, University of Wisconsin at Madison, 1415 Engineering Drive, Madison, Wisconsin 53706

COURSE DESCRIPTION

The nonlinear rheology of complex liquids is linked to the coupling of their microstructure to hydrodynamic forces. Optical methods in rheology can offer an important means of establishing the link between structure and flow properties for a wide range of materials that include polymer liquids, suspensions and dispersions, liquid crystals, and surfactants. This course introduces optical techniques from the basic foundation of Maxwell equations to the design of measurements of *in situ* optical properties. The course will be driven by applications of these methods to solve current, technological and scientific problems in rheology. The methods that will be discussed will include:

- Optical polarimetry: flow-induced birefringence and dichroism from the ultraviolet to the infrared.
- Light scattering: small angle and wide angle total intensity light scattering.
- Fluorescence and Raman scattering: polarization dependent measurements of orientation.
- Brewster angle microscopy: polarized light reflectance method for flowing interfaces.

The underlying principles and design of these techniques will be discussed. Attention will be given to the pragmatic issues related to incorporating these measurements into flow geometries so that the desired microstructural information can be extracted. The following applications will be used to highlight the use of these methods:

- Segmental orientation of flowing polymer solutions and melts, and liquid crystals.
- Flow-induced morphology of emulsions, block copolymers and polymer blends.
- Spatially resolved stress measurements in complex, non-Newtonian flows.
- Flow-induced structure in surfactant solutions.
- Non-Newtonian rheology of complex interfaces.

About the instructor:

Gerald G. Fuller is Professor and Chairman of the Department of Chemical Engineering at Stanford University. He is well known for his developments of new methods in rheo-optics and is author of the book *Optical Rheometry of Complex Fluids* published by Oxford University Press. Professor Fuller is a Fellow of the American Physical Society and received the Bingham Medal from The Society of Rheology in 1997.

Registration Information:

The fee for the two-day course is \$375 prior to September 17, 1999. For registration after September 17, the fee will be \$475. Student rates are \$188 prior to September 17 and \$238 after September 17.

Purchase of Professor Fuller's textbook, *Optical Rheometry of Complex Fluids*, is optional; those wishing to purchase it through the short course for \$68 must do so by September 17. Cancellations received in writing by September 17, 1999 will be subject to a \$25 administrative charge. No refunds will be granted after that date.

Send the short course registration form and payment (check payable to UW-Extension, money order, Mastercard, or Visa) to:

Rheology 71st Annual Meeting
Attn: Pat Gaitan
The Pyle Center
702 Langdon Street
Madison, WI 53706-1487
Fax: (608)265-3163

Reservations for lodging should be made by the participant. Downloadable hotel & short course registration forms are available at the Society of Rheology website.

REGISTRATION FORM

The Society of Rheology Short Course
Optical Rheometry of Complex Fluids and Interfaces by Professor Gerald G. Fuller
October 16 & 17, 1999 —Madison, Wisconsin

Name: _____ Badge Name: _____

Affiliation: _____ Address: _____

City, State: _____ Zip, Country: _____

Telephone: _____ e-mail: _____

Fax: _____

Registration Fee: Short course registration includes a set of course notes which will be the primary materials used by the students during the class. Purchase of Professor Fuller's textbook is optional; those wishing to purchase it through the short course must do so by September 17. Cancellations received in writing by **September 17, 1999** will be subject to a \$25 administrative charge. No refunds will be granted after that date.

	Fee Before 9/17/99	Fee After 9/17/99
_____ Short course (member)	\$375	\$475*
_____ Short course (student)	\$188	\$238*
_____ <i>Optical Rheometry of Complex Fluids</i> (optional book)	\$68	not available

* Although every effort will be made to provide course materials for all participants at the start of the course, those registering late may not receive course materials on time.

Method of Payment:

_____ Check or money order _____ Mastercard _____ Visa
(payable to UW-Extension)

Cardholder Name: _____

Account #: _____ Expiration Date: _____

Signature (required for credit card transaction): _____

Return this registration form together with payment to:

Rheology 71st Annual Meeting, Attn: Pat Gaitan, The Pyle Center, 702 Langdon Street, Madison, WI 53706-1487. Fax: (608)265-3163.

Early registrations will be confirmed with a printed receipt by mail. Late registrations will receive a printed receipt at the short course. Forms with credit card information may be faxed to (608) 265-3163. Reservations for lodging should be made by the participant. Attendees will pay their own room, tax and incidentals incurred by them at the hotels. The federal tax identification number of The Society of Rheology is 13-620-3476. **The course will begin at 8:30 am, Saturday, October 16, 1999.**

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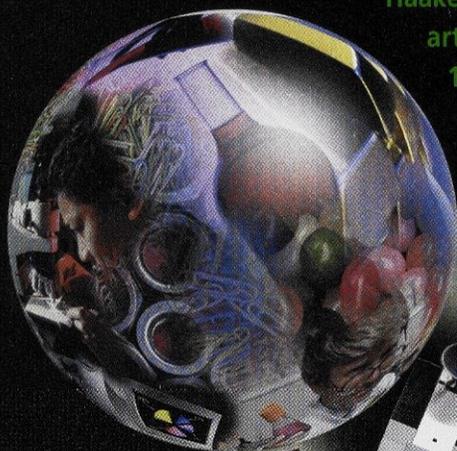
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- CAPILLARY RHEOMETERS
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- PVT SYSTEMS
- WATER BATHS/CIRCULATORS

Name: _____

Title: _____

Firm: _____

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City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

E-Mail: _____

Another Contact: _____

Phone Number: _____ Fax: _____

FAX TO: 201-265-1977

**THE SOCIETY OF RHEOLOGY
CONSTITUTION AND RULES**

Proposed Changes made by the *SJR Ad Hoc Committee on Constitutional Reform*

Faith A. Morrison, Chair
A. Jeffrey Giacomini
Arthur B. Metzner

Please send comments or inquiries to the email addresses above
or to the committee at the addresses below:

Faith Morrison, Associate Professor
Department of Chemical Engineering
Michigan Technological University

1400 Townsend Drive

Houghton, MI 49941-1295

fmmorris@mtu.edu

FAX: 906-487-3213

Telephone: 906-487-2050

Leave message: 906-487-3132

The *Ad Hoc Committee on Constitutional Reform* is looking for any and all feedback on these Constitutional issues. The membership of The Society of Rheology will vote at the Business Meeting in October in Madison whether or not to conduct a vote on proposed constitutional amendments. The SOR Secretary, with our help, will be constructing the actual ballots for this vote based on input we receive either by email, postal mail, fax or at the SOR Business Meeting. To send a message to the committee, email us or write to us at the address above.

Text proposed to be deleted is written in strike-through characters. New text is underlined. Occasionally text appears that is both strike-through and underlined. This text is new text proposed by one of the 8 proposed constitutional ballot items, but negated by a second ballot item. A fully color-coded version of this document and of the proposed ballot is available on the web at <http://www.umche.maine.edu/sorconst/>. Additional information about the proposed changes may also be found on the web page listed above.

Proposed Revised CONSTITUTION

ARTICLE I - Name

The name of this organization shall be The Society of Rheology, Incorporated, hereinafter referred to as The Society.

ARTICLE II - Purpose

The object of this The Society shall be the advancement of Rheology and its applications. Rheology is here defined as the science of the deformation and flow of matter. The objects shall be promoted (a) by meetings, (b) by a publication policy designed to increase and disseminate knowledge of Rheology Rheology, hereinafter provided for in ARTICLE VII of the Rules, and (c) by other appropriate means.

ARTICLE III - Membership

Any person or institution interested in the purposes of The Society may apply for membership provided an application, made out in due form, is submitted to the Chairman of the Membership Committee or to the designate of the Chair, hereinafter provided for in ARTICLE IV of the Rules

ARTICLE IV- Officers and Executive Committee

Section 1

The officers of The Society shall consist of a President, a Vice-President, a Secretary, a Treasurer, and an Editor.

Section 2

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

Section 3

The Executive Committee shall consist of the officers of The Society, the most recent living Past-President of The Society, and Members-at-Large, and one representative from each Division as provided for in ARTICLE VIII. If there are more than two divisions, the number of Members-at-Large shall equal the number of Divisional Representatives, but in any case at least two. There shall be at least three Members-at-Large.

Section 4

The terms of the officers and of the members of the Executive Committee shall be two years or until their successors are elected. The terms shall start at the beginning of the last day of the Annual Meeting held subsequent to the date of their election, hereinafter provided for in ARTICLE VI, and shall terminate at the beginning of the last day of the Annual Meeting in the year of expiration of their terms of office.

If for any reason the Annual Meeting is postponed beyond the end of the election calendar year in which it would normally be scheduled, the incoming officers and members of the Executive Committee will take office at noon on December 31 of said election year.

Section 5

The Executive Committee shall be the legal representative of The Society. It shall have the power to expend the funds of The Society, or to invest the same, but shall not incur indebtedness beyond the assets of The Society. It shall transact all business of The Society not otherwise provided for specifically in the Constitution and Rules of The Society.

ARTICLE V - Nomination and Election of Officers

Section 1

At a suitable time prior to an election, a Nominating Committee consisting of three members of The Society shall be appointed by the President. The President shall appoint a Nominating Committee consisting of three members of The Society. The Nominating Committee shall operate under the guidelines outlined in Article V of the Rules. One of the three members of this Committee shall be designated by the President to act as Chairman. If for any reason the President cannot take this action, the Executive Committee shall appoint the members and Chairman of the Nominating Committee.

Section 2

The Nominating Committee shall, through its Chairman, report to the Secretary of The Society at least one nominee but no more than two nominees for each of the offices named in Section 1 of ARTICLE IV of this Constitution, and at least two five nominees for Members-at-Large of membership on the Executive Committee. Nominees will be members in good standing of The Society as provided for in ARTICLE III of the Rules.

At least one hundred forty-five (145) days prior to the date of the Annual Meeting at which the results of an election are to be announced an election is to be held, the Secretary shall inform the members of The Society of the list of nominees reported to him by the Nominating Committee. For a period of forty-five (45) days following the date of such notification, additional nominees may be named by petition forwarded to the Secretary and signed by at least fifteen (15) members in good standing of The Society. Upon receipt of such petition, the Secretary shall, after acceptance of such nominations by the nominees, add such names to the ballot prepared by him. Where more than one nomination for each office has been made, the complete list of nominees comprising the ballot shall be arranged in alphabetical order, where more than one nomination for each office has been made. A statement of qualifications of the candidates for Editor shall be circulated with the ballot.

Section 3

At least ninety (90) days prior to the Annual Meeting at which the results of an election are to be announced an election is to be held, the Secretary shall forward make available to each member in good standing of The Society a complete ballot, prepared as provided in Section 2 of this ARTICLE. The ballot shall, in addition, contain a notice that the voter may vote for any qualified persons other than the listed nominees, and spaces shall be provided for recording such votes.

Ballots shall be returned to the Secretary or to the designate of the Secretary, and to be valid must be delivered or postmarked not later than thirty (30) days prior to the Annual Meeting at which the results of the election is to be held. Ballots marked so as to indicate a vote for more than one officer nominee for any one office or for more than two three nominees for Member-at-Large shall be void in its entirety.

Section 4
The Secretary or the designator of the Secretary shall transmit the ballots unopened to an Election Committee appointed by the President. This Committee shall meet at a time and place directed by the President and opened and opened count all ballots cast by members in good standing.

At the Annual Meeting, the President shall announce the results of the election as determined by the Election Committee. The results of the election as determined by the Election Committee shall be announced by the President at the Annual Meeting. If the Annual Meeting is postponed or abandoned, the President shall direct the Secretary to report the election results to the members of The Society by mail or by other means prior to December 15.

If there is a tie vote, the President shall order a ballot to be taken at the Annual Meeting to decide which of the candidates who have received the same number of votes shall be chosen. If for any reason the Annual Meeting is not to be held that year, the President shall immediately order another vote of the membership ballot by mail, allowing thirty days for return of the ballots.

ARTICLE VI - Meetings

Section 1

An Annual Meeting of The Society for the purpose of conducting technical sessions or symposia and to transact business shall be held each year. The Executive Committee shall announce the time and place at least six months prior to the meeting.

Section 2

Additional meetings may be held as shall be determined by majority vote of the Executive Committee.

Section 3

Notwithstanding Section 1 of this ARTICLE, the Executive Committee may determine the existence of extraordinary conditions, requiring postponement or abandonment of the Annual Meeting in any single year. If the Committee determines a postponement, it shall fix the time and place for the next meeting as soon as possible.

ARTICLE VII - Reports

The Secretary of The Society shall report to the membership at the Annual Meeting on the activities of The Society. The Treasurer of The Society shall report to the membership at the Annual Meeting on the financial condition of The Society. Abstracts of these reports shall be sent to the membership.

ARTICLE VIII - Divisions

Section 1

The Executive Committee may, upon petition by members of The Society, recommend the formation of a Division within The Society charged with the advancement and diffusion of the knowledge of a specific subject or subjects in rheology. Such petition shall include proposed Bylaws and definitions of the areas of interest of the Division, for approval by the Executive Committee.

Section 2

The officers of each Division shall be a Chairman, a Vice-Chairman and a Secretary-Treasurer, who shall be elected or shall assume their posts in such manner as the Bylaws of the Division shall provide. There shall be a council of each Division consisting of the officers and such other members as may be elected by the Division. Said Secretary-Treasurer shall keep the Executive Committee informed of the activities and needs of the Division. A Divisional Representative to the Executive Committee shall be selected by each Division following the Bylaws of the Division.

Section 3

The times and places of the meetings of a Division shall be chosen in consultation with subject to the approval of the Executive Committee.

Section 4

The formation or dissolution of a Division shall occur after the recommendation of the Executive Committee and the approval of a

majority of the membership voting in a mail vote secure and secret vote. The vote shall be taken within 90 days of the recommendation of the Executive Committee and shall be supervised by the Secretary.

Section 5

Dissolution may be recommended by the Executive Committee upon evidence of operation of the Division in a manner or level of activity inconsistent with the general purpose of The Society. Notice of intent to recommend dissolution shall be sent to Council members of the Division at least six (6) months before such recommendation is submitted to a vote of the membership, so that remedial action may be taken by the Division to make a recommendation for dissolution unnecessary.

ARTICLE IX - Amendments to the Constitution

Amendments to this Constitution may be made by a 2/3 vote of those voting in a letter secret and secure ballot submitted to the membership after the members attending a regular meeting of The Society have voted to submit such amendments to a letter ballot. Letter ballots shall be sent to the membership by the Secretary. The Secretary shall make ballots available to the membership within thirty days after this meeting. Ballots shall be returned to the Secretary or to the designator of the Secretary, and to be valid must be received by them within ninety sixty days after this meeting. Amendments so approved shall become effective immediately upon certification of approval by the Secretary to the Executive Committee and to the membership, except that amendments which change the status of officers shall become effective when the new officers are declared elected.

ARTICLE X - Meetings Policy Committee

A Meetings Policy Committee is to be established consisting of the least and program chairmen and a chairman. Local Arrangements Chair and the Meeting Program Chair, and other members, all to be appointed by the President with concurrence of the Executive Committee. The chairman shall be a non-voting member of the Executive Committee. The Meetings Policy Committee shall be responsible for organizing the meetings of The Society.

RULES

ARTICLE I - Duties of Officers and Executive Committee

Section 1

The President of The Society shall exercise general care and supervision over the affairs of The Society subject to the direction and approval of the Executive Committee, and shall do and perform all acts usually incident to the office of President.

Section 2

The Vice-President shall assist the President in the performance of the latter's duties. In the event of the absence of the President, or his inability to the President to serve, the Vice-President shall act in his stead. The Vice-President shall perform such other duties as are assigned to him by the President or by the Executive Committee.

Section 3

The Secretary shall keep the records of The Society, including minutes of all meetings, appointments, committees, and membership files.

The Secretary shall be responsible for the official correspondence of The Society.

The Secretary shall prepare an annual report of the activities of The Society in accordance with ARTICLE VII of the Constitution.

The Secretary shall be responsible for the printing preparation, distribution, and collection of letter ballots which may be presented to the membership for vote. In particular, he shall be charged with responsibility for the issuance and receipt of ballots for the membership vote on officers as defined in ARTICLE V of the Constitution, for the issuance and tabulation of ballots on the formation and dissolution of a Division as specified in ARTICLE VIII of the Constitution, and for the issuance and tabulation of ballots on proposed amendments to the Constitution and Rules as specified in ARTICLE IX of the Constitution, and in ARTICLE IX of the Rules, respectively.

Section 4

The Treasurer shall account for all monies of The Society.

The Society of Rheology
Assets and Liabilities
December 31, 1998

Units: USD

ASSETS

Cash in checking account	3,118
Due from AIP	727,018
	730,136

LIABILITIES and RESERVES

Deferred subscription revenue	96,690
Deferred membership dues	44,863
Publication reserve	300,000
Student travel grant reserve	10,000
Annual Meeting reserve	35,000
Operating reserve	70,000
	556,553

Net available funds	173,583
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The Society of Rheology
Statement of Revenues and Expenses for 1998,
Revised 1999 Budget and Proposed 2000 Budget

Units: USD

	1997 <u>Actual</u>	1998 <u>Budget</u>	1998 <u>Actual</u>	1999 <u>Budget</u>	2000 <u>Budget</u>	
1.						
2.	REVENUES					
3.	Dues	51,017	58,000	83,903	59,000	61,000
4.	Interest	30,399	35,000	36,527	37,000	38,000
5.	Journal of Rheology	231,133	244,100	296,676	229,600	210,100
6.	Mailing List Sales	337	1,300	6	300	300
7.	Bulletin Advertising	425	0	1275	850	850
8.	Annual Meeting	-1032	5,000	2417	5,000	5,000
9.	Short Course	3950	5,000	8351	4,000	4,000
10.	TOTAL REVENUE	316,229	348,400	429,155	335,750	319,250
11.						
12.	EXPENSES					
13.	AIP Dues Bill & Collect.	0	0	8,304	8,500	9,000
14.	AIP Adm. Services	9,000	7,000	9,000	9,000	9,000
15.	AIP Mem. Soc. Dues	6,000	5,800	7,000	7,600	7,800
16.	AIP Financial Handling	4,146	4,500	4,300	3,600	3,700
17.	AIP Phys. Olympiad	0	1,500	1,500	1,500	1,500
18.	Misc. Contributions	0	0	0	1,000	1,000
19.	Renewal Billing	2,744	2,000	4,242	4,500	5,000
20.	Journal of Rheology	187,825	295,970	299,354	233,600	244,750
21.	Bulletins and Abstracts	11,801	10,000	19,170	13,000	13,000
22.	Short Courses	3,100	5,000	4,773	3,000	3,000
23.	Bingham Award	5,360	2,500	5,885	6,000	6,000
24.	Executive Cmt. Meetings	4,037	7,500	7,045	7,000	7,500
25.	Pres. Discretionary Fund	964	1,500	0	1,500	1,500
26.	Treas. Discr. Fund	0	1,500	0	1,500	1,500
27.	Progr. Chm. Discr. Fund	553	2,000	3,000	2,000	2,000
28.	Secretarial Services	0	1,000	0	1,000	1,000
29.	Mailing	3,137	2,000	40	4,000	4,000
30.	Office Expense	1,197	4,000	469	2,000	2,000
31.	Banking Services	81	250	129	250	250
32.	Liability Insurance	169	170	250	1803	1903
33.	Membership Directory	0	13,500	10,150	7,000	7,000
34.	Membership Brochure	150	1,500	741	0	0
35.	Accountant	1,635	1,500	1,597	1,700	1,800
36.	Student member travel	8,287	5,000	5,500	6,000	7,000
37.	Adv. Dep. for future mtg.	0	1,500	0	3,000	3,000
38.	Miscellaneous	1,072	3,000	216	2,500	2,500
39.	TOTAL EXPENSES	251,258	380,190	392,665	332,553	346,703
40.						
41.	Net Income	64,971	-31,790	36,490	3,197	-27,453
42.	ASSETS (excl. reserves)	169,000		173,583		

Notes: Line 13 due to AIP policy change; see JOR sheet Line 15 for corresponding reduction.

Journal of Rheology

Statement of Revenues and Expenses, Revised 1999 Budget and Proposed 2000 Budget

Units: USD

1.	1997 Actual	1998 Budget	1998 Actual	1999 Budget	2000 Budget (1)
2.					
3. Subscriptions	200,617	215,100	211,036	195,050	182,400
4. Reprints	9,243	6,700	8,406	9,800	7,800
5. Advertisements	18,581	21,000	18,241	18,000	18,000
6. Electronic publishing (2)	0	0	55,286	5,000	0
7. Miscellaneous	3,182	1,300	1,127	1,750	1,900
8. TOTAL REVENUES	231,623	244,100	294,096	229,600	210,100
9.					
10. Advertising/Marketing	9,710	14,400	8,839	9,800	8,500
11. Reprints, Single Copy	8,054	8,400	8,437	8,300	7,800
12. Paper, Printing	35,109	37,200	40,596	38,000	46,000
13. SOR Editorial	43,502	45,000	46,617	45,000	49,000
14. Production	55,751	73,600	72,818	75,950	79,000
15. Fulfillment	16,023	15,120	7,876	8,250	7,900
16. Distribution	19,676	18,550	20,671	20,300	22,050
17. Electronic publishing (2)	0	83,700	92,861	28,000	24,500
18. TOTAL EXPENSES	187,825	295,970	298,715	233,600	244,750
19. Profit	43,798	-51,870	-4,619	-4,000	-34,650

Notes:

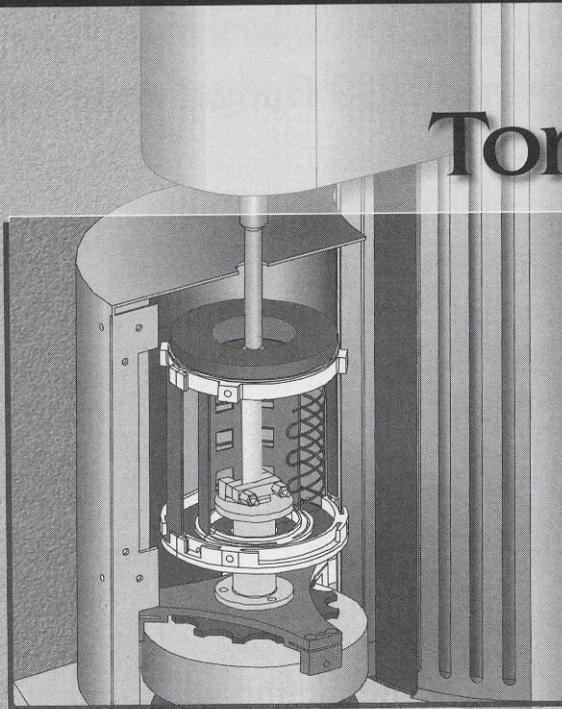
(1) As opposed to providing the 1997 budget, we have chosen to use the 5th column to present a glimpse of the 2000 budget to illustrate the serious effect of falling journal sales. The 1999 budget represents an update from that presented at the annual meeting due to changes in AIP billing costs, mainly in line 15.

(2) Line 6, of 1998 Actual is from 1998 CD sales; JORO has no income. 1999 Budget assumes sales of 40 CD's and a spillover of costs. 2000 Budget assumes CD sales will end and that JORO expenses will remain at contract levels, with no income.

INNOVATIONS IN RHEOLOGY

AR1000 Rheometer
now with

Torsional Analysis of Solids



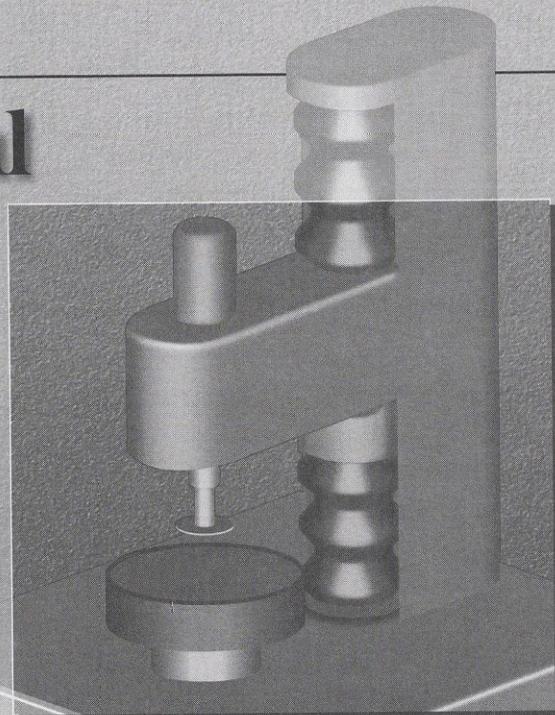
- Extends AR1000 Capabilities to include Analysis of Solids to ASTM specifications
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