

Rheology Bulletin

What is Rheology Anyway?

*An answer for your
baffled family and friends*

Highlights:

ICR2004 Seoul
SOR Lubbock
Rheology News
Student Corner
Society Business
Calendar of Events

Executive Committee

President
Susan J. Muller

Vice President
Andrew M. Kraynik

Secretary
A. Jeffrey Giacomini

Treasurer
Montgomery T. Shaw

Editor
Morton M. Denn

Past-President
William B. Russel

Members-at-Large
Wesley R. Burghardt
Timothy P. Lodge
Lynn M. Walker

Bulletin goes to new format!

What do you think of our *new format*? Have a news item or opinion to share?

Send them to the *Bulletin*. See end of the issue for the editor's address.

Table of Contents

ICR2004 Seoul Korea 4

Every four years the international rheology community gathers; the XIVth International Congress on Rheology will take place this summer in Seoul Korea

Bingham Medal Awarded to Marrucci 6

Giuseppe Marrucci was awarded the Bingham Medal, The Society's highest honor, at the Pittsburgh SOR meeting

What is Rheology Anyway? 8

New *Bulletin* editor Faith Morrison gives a layman's introduction to rheology

Lubbock 2005 10

The 76th Annual Meeting of The Society of Rheology will take place in February 2005 in Lubbock, Texas USA

Rheology News 12

Xpansion Instruments announces new extensional-flow attachment for conventional shear rheometers; Bohlin now part of Malvern Instruments; first tailings rheology workshop held in Melbourne

Student Corner 13

Travel grants for Lubbock;
Student Poster Competition in
Lubbock; Using the SOR
website for your job search

Society Business 15

The 2003 JOR Publication
Award was announced in
Pittsburgh; Flory wins poster
contest; Deadline for Bingham
Medal nominations is January
2004; The secretary's and
treasurer's reports on The
Society.

Events Calendar 22

Schedule of upcoming meet-
ings, workshops, and symposia
on rheology

Standing Committees

Membership Committee

Patrick T. Mather, chair
Michael Graham
Nino Grizzuti
Faith A. Morrison
James Oberhauser

Education Committee

Norman J. Wagner, chair
Robert J. Butera
Andrea Chow
H. Martin Laun
Jan Vermant

Meetings Policy Committee

Andrew M. Kraynik, chair
Wesley Burghardt
Gerry G. Fuller
A. Jeffrey Giacomini
Greg McKenna
Robert L. Powell
William B. Russel

Bingham Award Committee

Daniel J. Klingenberg, chair (2001-2004)
Jeff Byars (2001-2004)
Gary Leal (2002-2005)
Gareth McKinley (2003-2006)
Paula Moldenaers (2003-2006)
William Tuminello (2002-2005)
Kurt Wissbrun (2002-2005)

Webmaster

Editor, Rheology Bulletin

JOR Associate Editor for Business

Representative to AIP

Representative to AIP Committee on Public Policy

Delegate to International Committee on Rheology

Albert Co

Faith A. Morrison

A. Jeffrey Giacomini

Arthur B. Metzner

Kalman Migler

Andrew M. Kraynik



It's an International Congress Year:

Rheology 2004

**22-27 August 2004
Seoul South Korea**

Every four years rheologists assemble for the International Congress on Rheology to share new discoveries and to renew working relationships with their colleagues worldwide. In 2004, the Fourteenth International Congress on Rheology will take place in Seoul Korea on August 22-27. Details and registration materials for ICR2004 may be found on the conference web site www.icr2004.or.kr.

Chaired by Professor Jae Chun Hyun from the Department of Chemical and Biological Engineering, Korea University, Seoul, ICR2004 features

symposia on 14 topics including nanorheology & microfluidics, and foods & biomaterials. Four plenary lectures will be presented; the invited plenary speakers are Prof. David V. Boger from the University of Melbourne, Australia, Dr. Sangtae Kim of Purdue University, USA, Prof. Ronald G. Larson of the University of Michigan, USA, and Prof. Manfred H. Wagner of Technische Universität Berlin, Germany. The Congress will take place in the COEX Convention Center, a modern international

convention and exhibition center located in the southern metropolitan area of Seoul.

As is traditional at the International Congress on Rheology, a variety of social events have been arranged, including a cultural performance at the Seoul Arts Center on the evening of Monday, August 23. On Wednesday afternoon an excursion to several royal palaces will be followed by dinner at the Everland Rose Garden.

The Congress banquet will take place on Thursday, August 26. An extensive exhibit of rheological equipment and related products and services will be open at the COEX Convention Center throughout the Congress.

Seoul is located in the central part of the Korean Peninsula and is home to 10 million people, with an additional 10 million residing in its surrounding communities. Seoul is split into two parts by the Han River. The older section is to the north, and the presidential residence and five royal palaces are all located in the more-

ICR 2004 Symposia

Computational rheology
 Flow instability
 Foams, emulsions & surfactants
 Foods & biomaterials
 Materials
 Microstructural modeling
 Nanorheology & microfluidics
 Non-Newtonian fluid mechanics
 Polymer melts
 Polymer solutions
 Rheometry & experimental methods
 Solids & composites
 Suspensions & colloids
 General papers

Rotational rheometers

- Triple mode operation: strain, stress and rate
- DSP servo motor control
- Torque rebalance transducer
- Digital sampling technology
- Entry Level & Research Grade instruments
- Stress relaxation
- Solids and fluids testing



Capillary rheometers

- Rosand dual bore technology
- Shear & extensional viscosity
- PVT measurement
- Slot die option
- Die swell measurement
- Melt strength
- Floor and benchtop models



 **BOHLIN INSTRUMENTS** 

Now part of Malvern Instruments

On-site demonstrations • Training • Contract Testing
 ☎ (732) 254-7742 ☎ (732) 254-1577
 sales@bohlinusa.com www.bohlin.com

established northern district. The newer, southern district is home to the Olympic stadium, convention centers, and modern shopping malls; the COEX Convention Center is in the southern section of the city. All of the city of Seoul is serviced by a modern subway system and other forms of public transportation.

Early registration for delegates and accompanying persons will be open through 30 April 2004.

Registration fees are US \$600 for delegates (US \$680 after 30 April), US \$150 (US \$200 after 30 April) for students, and US \$350 for accompanying persons.



Pino Marrucci Receives Bingham Medal in Pittsburgh

In the July 2003 *Bulletin* The Society announced that the Bingham Award Committee and the SOR Executive Committee had chosen Giuseppe (Pino) Marrucci as the recipient of the 2003 Bingham Medal of The Society of Rheology. Marrucci received his award and the \$5,000 prize at the 75th Annual Meeting of The Society of Rheology in Pittsburgh, PA USA on 13 October 2003.

In selecting Marrucci for the award, the Bingham Award Committee singled out Marrucci for the extraordinary breadth and depth of his contributions to the science of rheology.

Marrucci has made many notable contributions to the study of entangled



Colleagues of Bingham medalist Pino Marrucci help Pino and Adriana celebrate at the 2003 SOR Meeting in Pittsburgh. From left, Davide Hill, Nino Grizzutti, Pino Marrucci, Adriana Marrucci, Mario Minale, and Pier Luca Maffettone.

polymers, including incorporating chain stretch and convective constraint release (CCR) in

constitutive models. In the field of liquid crystals and liquid crystalline polymers, Marrucci and collaborator



An SOR tradition is to gather all past Bingham medalists to pose for a photo with the current recipient. Present in Pittsburgh were (back row) Alan Gent, Mort Denn, Guy Berry, Kurt Wissbrun, Arthur Metzner, Bill Russel, (first row) Bill Schowalter, Bob Bird, Pino Marrucci, Bill Graessley, Ron Larson, and John Dealy.

Pier Luca Maffetone explained the source of the mysterious negative first normal stress difference that appears in shearing flows of nematic polymers (director tumbling) and later Marrucci and Greco developed a theory for the structure of a defect core that can be applied to flowing liquid crystals.

In addition to his modeling efforts, Marrucci also

contributed to the engineering side of rheology. Marrucci has produced a simplified differential version of the Doi-Edwards equation and other simplified equations useful in engineering analysis, and in collaboration with Mort Denn he has contributed to studies of filament breakup and to the study of the rheology of suspensions.

Marrucci is currently Professor of Chemical Engineering at the University of Naples. Marrucci joins a distinguished roster of 55 prior awardees that stretches back to the first Bingham medalist, M. Mooney in 1948.

When the hotel clerk at The Society of Rheology Meeting asks me “What *is* rheology anyway?”

I have a ready answer I could use: “Rheology is the study of deformation and flow.” This is true, but such an answer would not usually be followed by a light-bulb moment for the friendly staff member.

Instead, I say, “Rheology is the study of the flow of materials that behave in an interesting or unusual manner. Oil and water flow in familiar, normal ways, whereas mayonnaise, peanut butter, chocolate, bread dough, and silly putty flow in complex and unusual ways. In rheology, we study the flows of unusual materials.”

“Oh,” the desk clerk replies. “Interesting. I thought it might have something to do with religion or something – *rheology-theology* – it’s so similar.”

“True. It’s a common mix-up. Especially for me, since my name is Faith.” We both smile.

I have even had the experience of explaining rheology to the guests at a wedding reception. “Oh, you’re writing a book, says Patankar, a theatre director and friend of the bride. What is it about?”

“It’s a college textbook called *Understanding Rheology*.” Then the predictable question.

“What’s rheology?”

Since we had time before the dancing resumed and Patankar appeared to be truly

interested, I went beyond the desk-clerk version and explained a bit more about rheology.

“You know how with mayonnaise, when you first open the jar there’s a little curl of mayo at the top, left over from when the jar was filled, months or years ago. Or when you open a partly used jar of mayonnaise, how the shape of the top surface is distorted by whoever last made a sandwich.”

“True,” said Patankar.

“Well, compare that observation with the behavior of honey. The top surface of honey in a jar is always smooth. Within a

What is *Rheology* Anyway?

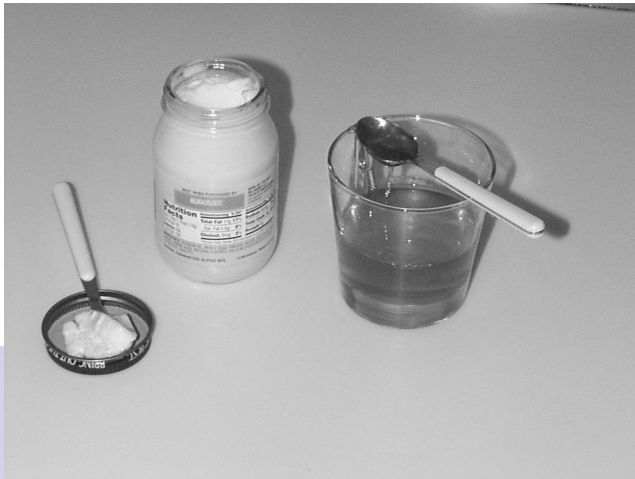
An answer for your
baffled family and friends.

few seconds of serving yourself from a honey jar, the surface is flat again – it is able to flow and become flat quite rapidly, while the mayo, even after months, fails to flow, and retains the last shape carved into it by a knife.”

“That *is* odd,” Patankar concurs. “What’s the difference between mayo and honey? If anything, honey seems thicker to me than

mayonnaise, so the honey should have a harder time flowing than the mayo.”

“Good observation. You’ve just noticed a key point about studying unusual flow behavior. Normal fluids can be different in the sense that some are thicker than others – in scientific terms some fluids have higher



Profound differences in rheological properties are noticeable in foods such as mayonnaise and honey.

Faith A. Morrison

viscosities than others. But other than having different viscosities, all normal or Newtonian fluids (air, water, oil, honey) follow the same scientific laws. On the other hand, there are also fluids that do not follow the Newtonian flow laws. These non-Newtonian fluids, for example mayo, paint, molten plastics, foams, clays, and many other fluids, behave in a wide variety of ways. The science of studying these types of unusual materials is called rheology

– *rheo*- from the Greek word for ‘flow’, and *-ology* meaning ‘study of’.”

“Wow,” said Patankar. “You just taught me something about rheology!”

I smiled. “Not so unfamiliar is it? Want to read my book?”

“No thanks,” he said with a smile. “Just a taste of rheology is enough for me.”

Anyone who has cooked or baked or played in a sandbox or in a bubble bath has experimented with rheology. The scientists who study the mathematical relationships that describe the behavior of non-Newtonian fluids are called rheologists, and 1700 of them from around the world are members of The Society of Rheology (SOR; on the web at www.rheology.org/sor/), a founding member society of the American Institute of Physics. The Society of Rheology was officially formed on December 9, 1929, the outgrowth of a burgeoning interest in the behavior of colloidal materials, including interest in the flow behavior of newly discovered synthetic rubbers and polymers.

The object of The Society of Rheology is the advancement of rheology and its applications, and to that end the SOR sponsors yearly meetings and publishes the *Journal of Rheology* and the *Rheology Bulletin*. The *Journal of Rheology*, a peer-reviewed scholarly publication, appears six times per year.

The SOR is an all-volunteer society, and it has always attracted many able members interested in maintaining the high quality of its journal and of its activities. Membership in The Society of Rheology is open to anyone whose work and interests lie within

the field of rheology. Dues are \$40/year for regular members and \$25/year for students.

Dr. Faith A. Morrison is Associate Professor of Chemical Engineering, Michigan Technological University. She is the author of *Understanding Rheology* (Oxford, 2001), is currently the editor of the *Rheology Bulletin* and member and past chair of the SOR Membership Committee.

Lubbock Feb 2005: 76th Annual SOR Meeting Hosted by Texas Tech

The 76th Annual Meeting of the Society of Rheology will be held in Lubbock, TX USA from 13-17 February 2005; the associated optional short course will be offered on 12 and 13 February. Plan to attend to make this 76th a meeting to remember until we reach the 100th! All sessions will be held at the Lubbock Memorial Civic Center which is a one-block walk from the conference hotel, the newly renovated Holiday Inn Hotel and Towers (806-763-1200). Other nearby hotels include the Four Points Sheraton (806-747-0171) and the La Quinta Inn Civic Center (806-763-9441).

As usual, the meeting will begin with a reception in the hotel on Sunday evening. There will be a Society Luncheon on Monday, and the Bingham Award will be presented at a dinner on Tuesday evening. We will hold the poster session on Wednesday evening. Additional details on the meeting, and the technical program listing, will be published in the July 2004 *Bulletin*. Anyone interested in serving on

the program committee to help organize sessions is invited to contact Wes Burghardt (see below).

The conference hotel can be reached by hotel shuttle or taxi; it is about 12 minutes from the airport. Lubbock International Airport is served by American Express, Delta, Continental, and Southwest Airlines. Coming from Europe, the East Coast of the USA, or the Midwest of the USA, one generally flies through Dallas or Houston. Coming from the West Coast of the USA it is often best to use Southwest on a one-stop from either Los Angeles or Oakland through Las Vegas, El Paso, or Albuquerque.

A block of rooms will be available at the Holiday Inn Hotel and Towers for the participants in the meeting. Attractions in the Lubbock area are readily reached from the hotel and can be found at the web site www.lubbocklegends.com.

The meeting organizers are:

Technical Program

Wesley R. Burghardt
Department of Chemical Engineering
Northwestern University
Evanston, IL 60208
(847) 467-1401
(847) 491-3728 (fax)
w-burghardt@northwestern.edu

Local Arrangements

Gregory McKenna
Department of Chemical Engineering
Texas Tech University
P. O. Box 43121
Lubbock, TX 79409-3121
Phone (806) 742-4136
Fax (806) 742-3552
greg.mckenna@coe.ttu.edu

A **Higher** Level



TA Instruments proudly introduces the Rheometrics Series **Rheometers** that now includes the ARES and the world's best selling rheometer, the AR 2000. Our Q Series™ **Dynamic Mechanical Analyzers** now feature the RSAIII DMA, along with the Q800 DMA. Only TA Instruments can offer the optimum technology for any application or budget. Combined with our expanded worldwide sales, service, and support staff, come see how TA Instruments performs at...

A Higher Level

A Higher Level  Innovation  Customer Support  Technology  Training

www.tainstruments.com



Rheology News

Xpansion Instruments Announces New Extensional- Flow Capability

High-strain extensional flow on your in-house shear rheometer? That's the claim of Xpansion Instruments for their new Sentmanat Extension Rheometer (SER).

The SER is a small instrument that fits onto the TA ARES rotational rheometer; versions for other commercial shear rheometers are in the works. The SER's patented technology uses dual wind-up drums driven by the shear rheometer to produce a horizontal elongational flow in polymer melts and elastomers.

The SER was first developed for use in characterizing uncured elastomers and is also adaptable for solids tensile testing, tear testing, peel testing, as well as friction testing. Sample size is

just a few milligrams. For more information go to www.xinst.com.

Malvern Instruments acquires Bohlin

Malvern Instruments Ltd (Malvern UK) has acquired Bohlin Instruments Ltd (Cirencester UK). The acquisition was completed on 31 October 2003. Bohlin's managing director Richard Hall has joined the Malvern Instruments board and will lead the company's rheology team.

First Tailings Rheology Workshop Held in Melbourne

The Australian Centre for Geomechanics (ACG) presented the First Minerals Processing and Tailings Rheology Workshop in Melbourne Australia on 17 May 2003 in conjunction with the

University of Melbourne. The workshop attracted over 50 professionals and researchers from around the world.

The workshop explored the rheology of slurry operations and minerals processing. A keynote lecture was given by David Boger of the University of Melbourne; other speakers were Mark Cogill and Nikk Vagias of Rio Tinto Technical Services, Peter Scales of the University of Melbourne, Lionel Pullum, a consulting engineer with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), and ACG Senior Consultant, Richard Jewell.

The workshop included practical sessions involving rheological measurements and experience with a pilot-plant. Sponsors of the workshop were ACG, Rio Tinto Technical Services, Rheology Solutions, and Outokumpu Technology. Workshop proceedings are available on CD ROM (contact Josephine Ruddle acg@acg.uwa.edu.au).



Student Travel Grants for Lubbock 2005

The Society of Rheology offers student travel grants to partially support the costs of attending Society meetings. Graduate student members whose faculty advisor is also a member of SOR are eligible. The travel grants cover a maximum of four days of lodging at the conference hotel, which means they can be worth over US \$400. Grants are available on a first-come, first-served basis until the budgeted funds are exhausted. Only one application per faculty advisor will be accepted for each meeting. Details are available on the web at www.rheology.org/sor/annual_meeting/2003Oct/student.htm; an update of application procedures will be posted closer to the date of the Lubbock meeting.

US \$200 Prize for Poster at Lubbock

The 5th Society of Rheology Student Poster Competition will take place at the February 2005 SOR meeting in Lubbock, Texas USA. Students who are first-authors on a poster and who plan to be making the presentation at the meeting are eligible to enter the competition for the US \$200 prize.

Entering the Poster Competition is straightforward; abstracts are submitted on the web, as usual, for the Lubbock meeting. In addition,

students who wish to enter the competition will submit either a two-page extended abstract describing their research or a PowerPoint pre-print of the poster. Eight or nine finalists will be notified by the chair of the poster session that they have been selected as finalists, and during the session these posters will be judged by a three-member committee. Announcement of the award will be made at the end of the poster session.

Job Hunting? Start at the SOR Web Site

Student members of the SOR have all the same privileges as regular members, including access to the members-only web site of the SOR: www.rheology.org/sormbr/. The SOR online member listing can be searched by name or by affiliation, pinpointing rheologists within a company for your cover letters. This site is also quite useful for refreshing your memory on contacts made at SOR meetings.

The Rheology Index (www.rheology.org/sorindex/), another service of The Society of Rheology, provides a convenient place to browse the websites of corporations and laboratories worldwide that will be interested in hiring rheologists.





Tough like Arnold, Smart like Albert.

Conceived in Germany. Built in Austria. And generating exceptional data all over the world – that's the Physica MCR. The culmination of years of research and engineering, the MCR brings together exceptional temperature control extraordinary strain resolution, and advanced analysis software, all in one compact, robust package.

So say "Hasta la vista, Baby!" to your old, obsolete rheometer, and ask for a demonstration of the new Physica MCR. You'll be back.

1-800-722-7556 • www.paarphysica.com



Society Business

News

Publication Award goes to Minnesota/Denmark/Northwestern Team

The Society of Rheology bestowed its 2003 *Journal of Rheology* Publication Award to a team of researchers working on microemulsions. Kasiraman Krishnan, Bryan Chapman, Frank S. Bates, Timothy P. Lodge, Kristoffer Almdal, and Wesley R. Burghardt shared the award for their paper “Effects of shear flow on a polymeric bicontinuous microemulsion: equilibrium and steady state behavior” which appeared in the *Journal of Rheology* in 2002 (*J. Rheol.*, 46, 529-554 (2002)). The award, which consists of a certificate and US \$1000 shared among the

coauthors, was presented to Kasiraman Krishnan, Wesley R. Burghardt, and Tim Lodge on behalf of all the coworkers at the SOR Annual Meeting in Pittsburgh in October 2003.

The *Journal of Rheology* Publication Award Committee annually selects an outstanding paper published in the *Journal of Rheology* during the preceding two years for special recognition at the annual meeting. The 2003 Publication Award Committee consisted of Journal Editor Morton Denn, two at-large members of the ExCom, and two former winners. The Publication Award, first presented in 1994, is currently sponsored by TA Instruments of New Castle, Delaware.



Polymer-Glass Paper Wins Poster Contest

Anny Flory’s poster “Torque and normal force measurements in polymer glasses” was awarded top honors in the 4th Student Poster Competition held in Pittsburgh as part of the Annual Meeting. Coauthor of this work was Greg McKenna. The SOR sponsors a student poster competition to encourage student presentations and participation in the meeting and to recognize excellence. Flory received a US \$200 prize and a certificate.

The rules for the Poster Contest are listed on the web and in this issue of the *Bulletin* on page 13. The 2003 award recipient was selected from nine finalists by a committee composed of poster session chair Surita Bhatia, Norman Wagner, and Alex Levine. Flory and McKenna are from Texas Tech University’s Department of Chemical Engineering.

Nominations Invited for the 2004 Bingham Award

Nominations for The Society's highest honor, the Bingham Medal, should be submitted before 15 January 2004 to the chair of the Bingham Award Committee:
Daniel Klingenberg
Dept. of Chemical and Biological Eng., Univ. of Wisconsin, 1415 Engineering Drive
Madison, WI 53706
klingen@engr.wisc.edu

Rules and some guidelines governing the Award are on the web at www.rheology.org/sor/awards/bingham/nom2004.htm.

Secretary's Report

The Constitution of The Society of Rheology mandates that the Secretary prepare and present an annual report on the activities of The Society. This report, in the form of minutes of the

Executive Committee Meeting and minutes of the Business Meeting, appears below.

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

Sunday, October 12, 2003

Bill Russel called the meeting to order at 8:37 a.m. in the Brighton Room III of the Sheraton Station Square Hotel in Pittsburgh. Committee members in attendance were Susan Muller, Lisa Mondy, Monty Shaw, Jeffrey Giacomini, Bill Russel, Don Baird and Bob Powell. Invited guests were Andy Kraynik, Janis Bennett, Albert Co, Kalman Migler, Savvas Hatzikiriakos, Rakesh Gupta, Norm Wagner, Art Metzner, Greg McKenna, Guy Berry and Faith Morrison. The minutes of the previous meeting were read and approved, with two corrections. On p. 3, 3rd paragraph, "April 9, 2002" was corrected to "April 9, 2003", and on p. 4, 2nd line, "Abstract" to "Abstracts".

Faith Morrison, Chair of the Membership Committee, reports that at the end of September 2003 we had 1703 members (1374 regular and 250 student, 38 retired, 12 of record and 29 Society of Physics Students (high school)). This is already up from 1626 at year end 2002. Morrison also reports that 17% of our student membership chose to become regular members upon graduation.

For Mort Denn, Editor, Bill Russel reported that the *Journal of Rheology* is healthy. Articles over the period October 1, 2002 – September 30, 2003: 158 submitted, 43 accepted, 64 rejected, 4 withdrawn and 47 pending. Mean time for acceptance: 118, mean time for rejections 36. Average days to publication: 244, and average days to send reviews to authors: 75. Bill Russel then led a discussion on the Editor's honorarium.

Treasurer, Monty Shaw, presented the Statement of Revenues and Expenses for The Society of Rheology and for its *Journal of Rheology*. The financial position of The Society is sound, though our 2004 budget does conservatively project a

Secretary's Report

deficit. The Executive Committee passed a motion to accept these reports.

Jeffrey Giacomini, Editor for Business, reported that the *Journal of Rheology On-Line* is healthy, attracting roughly 15,000 non-image requests from 1,700 unique hosts each month. Of the 2,600 articles archived, about 2,300 articles (1,000 unique) are downloaded each month.

Jeffrey Giacomini also noted a correction needed in the Society's Greek motto, and thus in its logo, which misquotes Heraclitus. A motion was passed to correct this.

Albert Co reported on the election, which was again conducted electronically. This year 564 members voted versus only 301 in our last election. We attribute the increase to personalized reminders from the webmaster. Members from 38 nations voted in about the same proportion (1/3) as domestic members.

Albert Co also led a discussion on web submission of technical papers for the Pittsburgh meeting. Everything went swimmingly.

Rakesh Gupta, outgoing Editor of the

Rheology Bulletin, described a smooth transition to our new Editor, Professor Faith Morrison of Michigan Technological University. Morrison then led a discussion about her plans for the *Bulletin*.

Janis Bennett, our Society liaison with the American Institute of Physics (rheology@aip.org) reminds individual subscribers that they cannot access the *Journal of Rheology On-Line* (JOROL), which is only available through the institutional subscription. Janis Bennett led a discussion on electronic journal editorship.

Kalman Migler, our Society representative at the annual meeting of the AIP Committee on Public Policy, reported on AIP policy.

Member-At-Large, Bob Powell, reported on the Student Travel Grant program; 25 students applied by the deadline and 5 after. Following 2 withdrawals, all 23 of the on-time applicants (from 12 states and 3 foreign countries) were granted 4-night hotel stays at the Pittsburgh meeting.

Bob Powell, member of the Ad-Hoc Committee on the 2008 International Congress on Rheology, reported that the meeting is scheduled for August 3-8, 2008, at Doubletree and Marriott hotels in Monterey, California. By the new ICR rules, this meeting must take place in the Americas. Savvas Hatzikiriakos reports that the Canadian and Mexican societies of rheology support this proposal. Migler reports that the European Society of Rheology has also endorsed this.

Norm Wagner, Chair, reported on the Education Committee activities. For the Pittsburgh short course titled "Rheology and Micro-rheological Measurements of Associating Complex Fluids" by Prud'homme, Russel, and Harden, 34 students registered. Wagner led a discussion on titles for the next short course, to be held at the Lubbock meeting. Possible titles include "Fundamentals of rheology", "Electrophoresis of Polyelectrolytes", "Rheology of polyelectrolytes", "High Shear Rate Rheology",

Secretary's Report

“Rheo-Optics”, “Coatings”, “Flow-Enhanced Crystallization”, “Numerical Methods in Rheology”. Contact Norm Wagner (wagner@che.udel.edu) with suggestions.

Art Metzner, a member of the AIP Publishing Policy Committee and the AIP Executive Committee and our voting member of the AIP Governing Board, led a discussion on the effects of bundling our journal with other AIP journals.

Guy Berry, Co-Chair of the Local Arrangements Committee for the Pittsburgh meeting, reports that almost everything is going swimmingly. Greg McKenna, Chair of the Local Arrangements Committee for the Lubbock meeting, reports that everything is in order for February 12-17, 2005. Savvas Hatzikiriakos, Chair of the Local Arrangements Committee for the Vancouver meeting, reports that everything is developing nicely for October 16-21, 2005. Albert Co, Chair of the Local Arrangements Committee for the meeting in Portland, Maine, reports that everything is

progressing nicely for October 8-13, 2006.

Jules Magda presented a proposal to host the October 2007 Annual Meeting in downtown Salt Lake City, Utah. Jeffrey Giacomini then updated his proposal to host this same meeting in Madison, Wisconsin.

The meeting went into Executive Session at 4:13 pm. A motion was passed to have the Executive Committee review the amounts for the Editor’s Honorarium, the Student Travel Grant, the fee for the short course instructor and the short course registration fee in each year of the International Congress.

Giacomini exited. A motion was then passed to accept Jules Magda’s proposal to host the Annual Meeting in Salt Lake City on October 21-25, 2007. A motion was also passed to invite Jeffrey Giacomini to host the October meeting in Madison, Wisconsin in 2009. The Executive Session was adjourned at 5:14 p.m. ♦

MINUTES OF THE BUSINESS MEETING

Tuesday, October 14, 2003

Bill Russel called the meeting to order at 5:30 p.m. in the Grand Station Room III of the Sheraton Station Square Hotel in Pittsburgh. Read by the Secretary, a motion was passed to accept the minutes of the previous business meeting in Minneapolis.

Bill Russel reported that Susan Muller was elected president, Andy Kraynik, Vice-President, and as Members-At-Large, Tim Lodge, Lynn Walker and Wes Burghardt. Re-elected were Jeffrey Giacomini as Secretary, Mort Denn as Editor, and Monty Shaw as Treasurer.

Bill Russel announced that, as of the start of this business meeting, there were 370 registrants to the Pittsburgh meeting. Each officer report and each committee report presented at the Executive Committee meeting (see above) was presented and accepted at the business meeting. Gerry Fuller led a discussion on plans for the ICR 2008.

The meeting was adjourned at 6:32 p.m. ♦

Secretary’s Report

Journal of Rheology
Report to the membership, October 2003

(All amounts: USD)	2004 Budget	2003 Budget	2003 Projection	2002 Actual	2002 Budget
RECEIPTS					
Subscriptions	187,000	209,000	193,913	215,712	195,250
Reprint Sales	5,500	6,500	5,524	5,467	7,000
Ad Sales	32,000	35,000	33,166	33,615	25,000
CD sales (net)	0	0	0	0	0
JCR® revenue	13,000	4,300	15,007	11,869	4,300
Miscellaneous	1,000	1,500	1,000	1,622	1,500
TOTAL RECEIPTS	238,500	256,300	248,610	268,284	233,050
DISBURSEMENTS					
Ads	9,000	9,000	7,629	9,755	9,000
Reprints, Single Copy	5,400	6,532	6,589	6,010	9,000
Paper, Printing	38,000	39,484	34,562	36,147	33,000
SOR Editorial	49,897	47,000	46,388	46,116	45,000
Production	73,500	78,400	73,075	72,863	76,400
Fulfillment	6,300	8,300	6,749	6,922	8,700
Distribution	20,500	21,031	19,055	18,397	27,000
Electronic publishing	48,000	44,000	48,547	41,115	42,500
Miscellaneous	5,600	6,100	5,759	7,511	2,900
TOTAL DISBURSEMENTS	256,197	259,847	248,353	244,834	256,500
Net	-17,697	-3,547	257	23,450	-23,450

Treasurer's Report

The Constitution of The Society of Rheology mandates that the Treasurer prepare and present an annual report on the state of the finances of The Society. This report is presented at the Business Meeting of The Society, which takes place at the Annual Meeting.

*On 14 October 2003
Treasurer Montgomery T.*

Shaw presented his report to The Society. This report appears below.

To the Membership:

The documents above and below constitute the Report of the Treasurer to the Membership at the 75th Annual Meeting of The Society. One change asked for and approved at that meeting—the budgeted *Journal of Rheology* page count for 2004—has been

incorporated in the version above. In spite of reducing the page count, the picture for the *Journal* is not rosy; we are anticipating a loss of about \$18,000 for 2004. An event that could ameliorate this would be a sharp economic recovery with a concomitant increase in subscriptions and advertising revenue, but this is judged to be unlikely. For the future, we can of course increase the institutional subscription rate, although the members may wish to

Treasurer's Report

The Society of Rheology
Receipts and Disbursements

	Budget 2004	Budget 2003	Projection 2003	Actual 2002	Budget 2002
RECEIPTS					
Dues	55,000	60,000	58,000	55,966	68,000
Interest	9,000	14,000	9,056	14,062	32,000
Journal of Rheology	238,500	256,300	240,000	268,284	233,050
Mailing List Sales	1,000	500	1,311	1,135	500
Donations	0	0	0	0	0
Bulletin Advertising	2,000	2,000	2,338	2,023	2,500
Annual Meeting (net)	0	0	15,061	4,752	0
Short Course (net)	0	0	13,578	1,298	0
TOTAL RECEIPTS	305,500	332,800	339,343	347,516	336,050
DISBURSEMENTS					
A/P Dues Bill & Collect.	7,000	6,000	6,101	10,362	6,500
A/P Adm. Services	9,500	9,500	9,500	9,500	9,500
A/P Mem. Soc. Dues	7,500	7,500	7,585	7,528	7,500
Contributions and Prizes	3,000	3,000	1,700	2,011	
Journal of Rheology	256,197	259,847	248,353	244,834	256,600
Bulletin	4,000	7,000	3,302	3,640	7,000
Bingham Award	7,500	7,500	5,000	5,000	6,500
Executive Com. Meetings	9,000	7,500	10,407	5,996	7,500
Pres. Discretionary Fund	1,500	1,500	0	0	1,500
Trans. Discr. Fund	1,500	1,500	0	0	1,500
Progr. Com. Discr. Fund	2,000	2,000	2,000	708	2,000
Office Expenses	6,000	2,000	6,000	5,948	
Banking Services	100	100	88	88	200
Liability Insurance	6,000	4,000	4,400	4,199	9,600
Membership Broch. & Appl.	200	200	0	0	200
Accountant	2,200	2,200	1,920	1,900	1,900
Student member travel	600	5,000	15,000	3,366	4,000
Annual meetings, future	3,000	3,000	1,000	0	3,000
Websites	1,000	1,000	500	832	
Miscellaneous	1,500	1,500	0	0	1,500
TOTAL DISBURSEMENTS	329,397	331,847	322,857	305,847	330,000
<i>Net</i>	<i>-23,897</i>	<i>953</i>	<i>16,487</i>	<i>41,669</i>	<i>6,050</i>

Treasurer's Report

The Society of Rheology, Inc.
 Balance Sheet
 (all amounts, USD)

	August-03	2002	2001	2000
Assets				
Cash in checking account	14,334	466	9,374	9,400
CD's	0	0	0	18,000
Balance in AIF account	853,135	915,334	843,151	827,040
Total Assets	867,469	915,800	852,525	851,440
Liabilities and Net Assets				
Liabilities				
Deferred subscription revenue	60,969	162,363	96,465	138,600
Deferred member dues	19,124		41,003	43,300
Total Liabilities	80,092	162,363	137,468	181,900
Net Assets				
Publication reserve	450,000	450,000	450,000	450,000
Student travel grant reserve	10,000	10,000	10,000	10,000
Annual Meeting reserve	70,000	70,000	70,000	36,000
Operating reserve	70,000	70,000	70,000	70,000
Unrestricted	179,376	153,437	115,057	104,640
Total Net Assets	779,376	753,437	715,057	669,640
Total liabilities and net assets	867,469	915,800	852,525	851,440

read about recent lively discussions of this issue in the January 2003 *Bulletin*. Other possibilities under current consideration include increases in advertisement rates, introduction of personal subscriptions to the online version, and separate partial funding of cost of the *Journal* to members via a split dues system. Costs are very difficult to reduce while holding the quality of the *Journal* at its

present high level but will continue to be scrutinized.

The overall budget for The Society is presented in the table on the previous page; the projected loss for 2004 reflects that for the *Journal*, along with decreasing interest rates on our savings. This loss of about \$15 per member is not sustainable for more than a few years before our unrestricted assets (see

Balance Sheet above) are exhausted. As this is not prudent, the Executive Committee will be discussing all aspects of income and disbursement at their upcoming meetings.

Respectfully submitted,
 Montgomery T. Shaw
 Treasurer



Treasurer's Report

CALENDAR OF RHEOLOGY CONFERENCES AND COURSES

2004

2-4 February 2004

TA Instruments Users Meeting & Symposium, San Antonio, Texas USA

3-4 June 2004

Merging Experiment with Theory in Rheology Short Course, University of Massachusetts, Amherst USA

6-11 June 2004

Rheological Measurements Short Course: Application to Polymers, Suspensions and Processing, University of Minnesota, Minneapolis, Minnesota USA

20-24 June 2004

20th Annual Meeting of the Polymer Processing Society, Akron, Ohio USA

27-29 June 2004

4th International Meeting of the Hellenic Society of Rheology (HSR 2004), Athens Greece

2-6 August 2004

Nordic Rheology Conference 2004, Reykjavik Iceland

22-27 August 2004

XIVth International Congress on Rheology, Seoul Korea

September 2004 (tentative)

The 5th International Symposium on Binder Rheology and Pavement Performance, location TBA

7-10 Nov 2004

Regional Meeting of the Polymer Processing Society, Florianopolis Brazil

2005

12-13 February 2005

SOR Short Course on Rheology (topic TBA), Lubbock, Texas USA

13-17 February 2005

76th Annual Meeting of The Society of Rheology, Lubbock, Texas USA

Spring 2005 (tentative)

2nd Annual European Rheology Conference AERC 2005, location TBA

27-29 June 2005 (tentative)

13th European Conference on Clinical Hemorheology, Siena Italy

Sept 2005 (tentative)

12th International Congress of Biorheology and 5th International Conference on Clinical Hemorheology, China

15-16 October 2005

SOR Short Course on Rheology (topic TBA), Vancouver Canada

16-20 October 2005

77th Annual Meeting of The Society of Rheology, Vancouver Canada

2006

27-29 April 2006

3rd Annual European Rheology
Conference AERC 2006,
Hersonissos Crete

7-8 October 2006

SOR Short Course on Rheology
(topic TBA), Portland, Maine USA

8-12 October 2006

78th Annual Meeting of The Society
of Rheology, Portland, Maine USA

2007

Spring 2007 (tentative)

4th Annual European Rheology
Conference AERC 2007, location
TBA

October 2007

SOR Short Course on Rheology
(topic TBA), Salt Lake City, Utah
USA

October 2007

79th Annual Meeting of The Society
of Rheology, Salt Lake City, Utah
USA

2008

August 2008 (tentative)

XVth International Congress on
Rheology and 80th Annual Meeting
of The Society of Rheology,
Monterey, California USA

2009

October 2009

81st Annual Meeting of The Society
of Rheology, Madison, Wisconsin
USA

The *Rheology Bulletin* is the news and information publication of The Society of Rheology (SOR), and is published twice a year in January and July. Subscription is free on membership in The Society of Rheology. Society web site:

www.rheology.org/sor/

Change of address information for the *Bulletin*, questions on membership status in The Society of Rheology, or problems with access to the SOR website should be addressed to:

Janis Bennett

American Institute of Physics, Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502
(516) 576-2403
(516) 576-2223 (fax)
rheology@aip.org

Letters to the Editor are welcome. Please send by email to fmorriso@mtu.edu or by regular mail to:

Faith Morrison

Editor, *Rheology Bulletin*
Department of Chemical Engineering
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295

Organizations interested in advertising in the *Rheology Bulletin* must be advertisers in the *Journal of Rheology*. Advertising inquiries for the *Journal of Rheology* should be addressed to:

Kancy Kuhle

Advertising Department
American Institute of Physics, Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502
(516) 576-2440
(516) 576-2481 (fax)

Bulletin advertising rates are: quarter page: \$110; half page: \$212.50; full page: \$425. Contact the editor to arrange *Bulletin* advertising.

*In upcoming issues of
the Bulletin:*

Dough Rheology

- an expert in the field introduces us to this ancient, complex rheological fluid

Blood Rheology

- two international societies support the study of blood flow

**Technical Program for
Lubbock 2005**

Tips on Instrument Care

**An Invitation to Join
The Society of Rheology**

Dedicated to advancing the science of rheology: the study of deformation and flow of matter

The Society of Rheology was founded in 1929 to foster the study of the mechanical properties of deformable materials.

The SOR is one of five founding members of the American Institute of Physics, which provides administrative services to the Society.

Visit our web site www.rheology.org/sor/
Apply for membership online.



The Society of Rheology
American Institute of Physics
Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502