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(2013-2015)

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On the cover. Peering into a colloidal gel, from the research group of Roseanna Zia, Cornell University. Dynamic simulation of the structural evolution of 750,000 attractive hard spheres. Particles are colorized continuously from red to white to blue, with red indicating few contacting neighbors, and blue indicating many (Zia, R.N., Landrum, B.J., and Russel, W.B. "Coarsening in colloidal gels: micromechanics and rheology." *J. Rheol.*, Special Issue: The Rheology of Colloidal Gels, 2014.).

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Faith A. Morrison A. Jeffrey Giacomin

Eric Shaqfeh Gerald G. Fuller



Running an SOR meeting is a

lot of work – just ask Marie-Claude Heuzey (École Polytechnique de Montréal; SOR Local Arrangements Chair), who put on a fantastic meeting in Montréal in October. Why do folks volunteer to do it? The answer heard most often: Who wouldn't want to throw a party for 300-500 friends and colleagues! Still, it is inspiring to see how readily Society of Rheology members come forward and offer to host the annual meeting. Our heartfelt thanks!

The 85th Annual Meeting of the Society of Rheology was held at the Hilton Montréal Bonaventure convention hotel located in downtown Montréal, Québec, Canada, 13-17 October 2013. The Bonaventure is an unusual hotel: a small lobby with a dedicated elevator whisks visitors up several stories to the hotel proper, which operates on several floors above train tracks leading to the Gare Centrale. Incorporating lush gardens, the hotel makes visitors forget that they are not at ground level: the swimming pool and wan-



Marie-Claude Heuzey was the Local Arrangements Chair for the 85th Annual meeting, held in Montréal.



lecture by Gareth H. McKinley (Massachusetts Institute of Technology), talks all day, and the Society Business meeting wedged in at lunch time. McKinley spoke on "Power-law gels, Scott-Blair and the fractional calculus of soft networks." The evening awards reception was sponsored by Xpansion Instruments, and, after the Bingham banquet, Jonathan Rothstein (University of Massachusetts) feted, or perhaps roasted, the 2013 Bingham medalist in front of friends and family.

Wednesday's full day of talks was capped with the poster session, including a full reception sponsored by Anton Paar USA. The poster session was busy, yet relaxed and enjoyable; the

(continues, page 23)

dering verdant paths are enticingly visible from many corridors on the main floor. Descending a long escalator, one arrives on the floor where the meetings rooms are situated. Chic and compact, the Bonaventure was a perfect fit for the SOR.

The technical program for Montréal was organized by Wesley Burghardt (Northwestern University) and Daniel Klingenberg (University of Wisconsin, Madison). There were 290 contributions (217 papers and 73 posters), down from 328 initial submissions, likely due to the U.S. government shutdown and related travel ban. *Polymer Melts and*

Blends and *Suspensions and Colloids* were the most popular sessions, with 46 and 40 papers each.

The social program kicked off on Sunday evening with a welcoming reception at the Bonaventure hosted by TA Instruments. On Monday there were sessions all day, and at day's end the American Institute of Physics sponsored an *Industry/Faculty/Student Forum and Mixer* organized around the topic, "Rheology in the Real World." Bo Hammer from AIP, working with Anne Grillet (Sandia National Laboratories) and Gerry Fuller (Stanford University) from SOR, planned the event and made sure it came off well. The Montréal forum was the second time AIP/SOR have run such an event, and it is proving to be popular. Students are eager to hear about the practical applications of rheology, and faculty/industrial scientists are happy to share their enthusiasm for applied rheology.

Tuesday was a busy day, with the 2013 Bingham award



Above, Bingham medalists Eric Shaqfeh, Gerry Fuller, Ralph Colby, Chris Macosko, Greg McKenna, Tom McLeish, John Brady; in front: Ron Larson, John Dealy, Gareth McKinley, Andy Acrivos, and Mort Denn. Below, Metzner awardees Charles Schroeder, Patrick Underhill and Johnathan Rothstein.





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SOR/AIP/Publishing/Open-Access

Faith A. Morrison Editor, Rheology Bulletin

In 1931 the Society of Rheology joined with the leadership of the American Physical Society and three other physics-based societies to form the American Institute of Physics. The purpose of this new organization was the "advancement and diffusion of knowledge of the science of physics and its application to human welfare." In a practical sense, the purpose of AIP was journal publishing and membership recordkeeping for the member societies. For members who know the U.S. tax code, AIP is a 501(c)(3) not-for-profit membership corporation. SOR designates a person to sit on AIP's Board of Governors, and I currently have that role. A more complete history of AIP is available on their website: www.aip.org/aip/history.html.

For the SOR in 2013, our primary relationship with AIP is still journal publishing and membership billing and recordkeeping. AIP Publishing LLC, wholly owned by AIP, publishes the *Journal of Rheology* and maintains the electronic version of the *Journal*. AIP also manages the sale of advertising in both *JOR* and the *Rheology*

Bulletin. In addition to advertising, the other SOR revenue streams are royalties (payments made to have access to our journal), membership dues, library subscriptions, consortium fees, and interest on funds in reserve.

Historically, library subscription revenue has been the dominant revenue source for the *JOR* and the Society of Rheology. The revenue model is changing, however, due to the advent of electronic publishing, the formation of subscription consortia to reduce costs to libraries, and the influence of the open-access movement.

At the Business Meeting in Montréal, there surfaced member concerns about the impact of open access regulations on *JOR* and on SOR authors, and SOR President Greg McKenna formed an *ad hoc* committee to look into this issue for the membership. In concert with these efforts, I asked AIP Executive Director and CEO Fred Dylla to write for the *Bulletin* a publisher's perspective on open access (see accompanying article). The *ad hoc* committee's work and the article by CEO Dylla are both part of the ongoing dialog on publishing and revenue that are integral parts of SOR governance. Members interested in contributing to the discussion are encouraged to contact the *ad hoc* committee members or any member of the SOR Executive Committee (see pages 2-3 for a listing).

A Harmonious Balance for Public Access

H. Frederick Dylla
Executive Director and CEO of the
American Institute of Physics (AIP)

The issue of public access to scholarly publications is becoming increasingly discussed among the physical sciences community, because of its complexity and the contentious debate surrounding it. Access is good for science and it's good for scholarship; that much all stakeholders can agree upon. Nearly a decade after the appearance of the first open access journals whereby journals are published online outside of subscription paywalls—usually because of an author-paid fee—most journals are still funded through library subscriptions. Since much of basic research is funded by public funds, there has been increasing demand for some means of providing the public with access to publications that report on research that was publicly funded. But if not implemented pragmatically, public access can do more harm than good. This latter assertion is where the controversy comes in, and where our community must apply its most astute communication skills to make it universally understood.

Scientific progress occurs within a cycle as interconnected and self-sustaining as the spokes of a wheel, each relying on the others to carry its share so that the carriage it supports can continue to advance. When one spoke is compromised, the burden is felt throughout. Looking at the incubator for science, it's





Clearinghouse for the Open Research of the United States

clear that there are many facets that rely on each other to thrive. Researchers and scholars need reliable information on which to base future research. The more of this information they have, the more effective they will be in advancing science. This information largely comes in the form of scholarly publications that have gone through peer review and which are fed content by researchers themselves. Scholarly publications are produced by publishers, which manage the peer review and invest heavily in improving, making discoverable, preserving, and delivering articles to the research community and the public. The result is improved productivity in science and science education and advanced interdisciplinary research. Scientific associations relying on journal revenue further support the community, bringing members together for collaboration and engagement.

The ability of publishers to recover their investments incentivizes innovation and the development of industry-wide interoperability standards and infrastructure. If all content were free, publishers could not deliver the value they bring to the process (broken spoke), and scholarly manuscripts would diminish in substance and discoverability (another broken spoke); those non-profit associations that support their constituencies with revenues from their journals would falter, with negative impacts on the science community (yet another compromised spoke). Ultimately, science itself suffers (broken wheel).

The trick is in devising the greatest possible public access while maintaining the added-value that publishers bring to the process and keeping in mind the financial pressures put on libraries and research institutions. Publishers have for the last several years been working to diversify their business models to respond to the increased demands for public access, but not quickly enough, as governments in the United States and Europe are pursuing measures to hasten the public access movement.

In 2011, the government of the United Kingdom accepted the Finch Commission report, advising unfettered open access to all scholarly publications resulting from government-supported research either through direct funding of open access journals or after an embargo period for articles behind subscription pay walls. Although the report was hailed as revolutionary, widespread discourse continues over how to implement the recom-

mendations. On February 22, 2013 the White House Office of Science and Technology Policy (OSTP) issued a memorandum on "increasing access to the results of federally funded scientific research." This directive is the result of the America COMPETES Reauthorization Act of 2010, one section of which directed OSTP to work with the federal agencies that fund science and their stakeholders (such as publishers) to develop and implement policies that promote access to the results of agency-funded research.

In late spring, the Professional and Scholarly Publishing Division of the Association of American Publishers offered to the US federal funding agencies and other stakeholders an initiative of the scholarly publishing community to help them meet the public access requirements issued by OSTP. CHORUS, or the Clearinghouse for the Open Research of the United States, is a public-private partnership which aims to greatly increase public access to peer-reviewed publications resulting from federally funded research. Since then, CHORUS has incorporated as a non-profit organization.

CHORUS had its origins almost a year ago when a small group of publishers began a pilot project with four funding agencies to solve the initial problem of identifying those articles that resulted from federal research funding. This project, called FundRef, was done under the aegis of CrossRef, a nonprofit organization formed by publishers in 2000 to promote electronic access to scholarly literature by establishing identification standards. Widespread adoption of these standards interlinks the worlds' online publication platforms—4300 publishers use CrossRef's methodology, and more than 2000 libraries can access key identification information for nearly 60 million manuscripts from 27,000 scholarly journals. With the simple addition of metadata fields to reveal funding sources for all of these articles, federal agencies can easily track the bulk of published literature that results from their agency's funding. This is important to the agencies, and to us, because it will help demonstrate the value of their investment in research.

CHORUS builds on the FundRef protocols and provides a straightforward means of public access for the entire community of researchers, institutions, funding agencies, and the public. Using FundRef (continues, page 22)



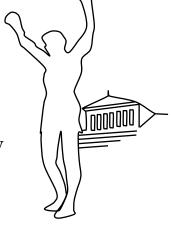
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Fanatic about Philly;-)

86th Annual Meeting of the Society of Rheology



On 18 October 1924, a Plasticity Symposium was held at Lafayette College in Easton, Pennsylvania. This first meeting led to two subsequent plasticity symposia, and at the third of these the Society of Rheology was born (Doraiswamy, D. "The Origins of Rheology: A Short Historical Excursion," Rheology Bulletin 71(1):7-17, 2002). Now, 90 years later and an hour and a half from Easton, the Society of Rheology convenes once again, this time for the 86th Annual Meeting of the Society.

Historical Philadelphia and the Loews Hotel in the art deco PSFS Building (Philadelphia Savings Fund Society) will host The Society of Rheology during the week of 5-9 October 2014. Home of the Continental Congress, the Liberty Bell, the Declaration of Independence, and, well, the United States of America, Philadelphia is also an art-lover's dream, hosting the Rodin Museum, the unique and eclectic Barnes Foundation,

and Rocky's favorite, the Philadelphia Museum of Art. Bring your family and make a week of it. Full details of the social program will appear in the July *Bulletin*.

The rheology technical program for the 86th Annual Meeting, arranged by Maryam Sepehr and Amy Shen (see accompanying listing), presents us with five parallel tracks of twelve symposia that span modern rheology

from food processing to self-assembly. The short courses for the Philadelphia meeting are: a 2-day course on *Rheology of Colloidal Suspensions* (Instructors: Jan Mewis and Norman J. Wagner) and a 1-day course on *Rheol-*

ogy of Foods (Instructors: Peter Fischer, Rakesh Gupta, Mahesh Padmanabhan).

Philadelphia is easy to get to, with Philadelphia International Airport providing service for most major airlines. Frontier Airlines flies in and out of Trenton as well. Octobers in Philadelphia are beautiful with the onset of autumn and associated foliage color changes, temperatures ranging from 50-75 °F (10 – 25 °C)—plan to bring sweaters and jackets.

To have an closer look at Philadelphia, the following website is quite helpful: www. visitphilly.com. Your host in Philadelphia is Michael Mackay from the University of Delaware. See you in Philly!



Independence Hall, the birthplace of the United States of America, is one of only 20 World Heritage sites in the country. Photo by G. Widman for Visit PhiladelphiaTM



Michael Mackay Local Arrangements Chair

Materials Science and Engineering Chemical and Biomolecular Engineering University of Delaware mem@udel.edu

Sessions

Technical Program for Philadelphia

Organizers

Maryam Sepehr Chevron Oronite Company LLC 100 Chevron Way, 71-7406 Richmond CA 94802 nvgj@chevron.com

Amy Shen
University of Washington
Department of Mechanical Engineering
Seattle, WA 98195
amyshen@uw.edu

Plenary Speakers

Susan Muller

Department of Chemical & Biological Engineering, University of California, Berkeley Research interests: Flow of Biological Fluids in Micro-Fluidic Devices, Genetic Engineering of Protein Polymers

Savvas Hatzikiriakos

Department of Chemical & Biological Engineering, University of British Columbia Research Interests: Polymer Rheology and Polymer Processing, Nonlinear viscoelasticity

1. Suspensions and Colloids

Jacinta Conrad University of Houston jcconrad@Central.uh.edu

Saeid Savarmand Sun Chemical ssavarmand@gmail.com

2. Blends, Composites, and Multiphase systems

Arezoo Adekani University of Notre Dame aardekan@nd.edu

Florian Nettesheim DuPont

Florian.Nettesheim@dupont.com

3. Polymer Solutions and Melts

Hiroshi Watanabe Kyoto University hiroshi@scl.kyoto-u.ac.jp

Deepak Doraiswamy SABIC

deepak.doraiswamy@gmail.com

4. Emulsions, Foams, and Interfacial Rheology

Jan Vermant
KU Leuven

jan.vermant@cit.kuleuven.be

Sascha Hilgenfeldt

Illinois at Urbana-Champaign sascha@illinois.edu

5. Self-assembly and Flow-induced Systems/Gels

Eric Furst

University of Delaware furst@udel.edu

Anne Grillet

Sandia National Laboratories amgrill@sandia.gov

6. Biomaterials and Biological Systems

Randy Ewoldt

Illinois at Urbana-Champaign ewoldt@illinois.edu

Kelly Schultz Lehigh University schultz@lehigh.edu

Technical Program for Philadelphia

(continued)

7. Solids and Glasses

Tom Engels DSM tom.engels@dsm.com

Jim Caruthers Purdue University caruther@purdue.edu

8. Non-Newtonian Fluid Mechanics and Stability

Bamin Khomami University of Tennessee-Knoxville bkhomami@utk.edu

Sarah Hormozi Ohio University hormozi@ohio.edu

9. Computational Rheology

Mike Graham University of Wisconsin graham@engr.wisc.edu

Jagadeeshan Ravi Prakash Monash University ravi.jagadeeshan@monash.edu

10. Confined and Coupled Systems

Patrick Anderson Eindhoven University of Technology p.d.anderson@tue.nl

Cari Dutcher University of Minnesota cdutcher@umn.edu

11. Food Rheology

Rakesh Gupta West Virginia University rakesh.gupta@mail.wvu.edu

Mahesh Padmanabhan Mondelez International (formerly Kraft Foods) mahesh.padmanabhan@mdlz.com

12. Poster Session

John Dorgan Colorado School of Mines jdorgan@mines.edu

Seher Ozkan Ashland Inc. sozkan@ashland.com



Large amplitude oscillatory shear was the topic of a well attended short course at the 85th Annual Meeeting in Montréal. Short course instructors were Randy Ewoldt (University of Illinos at Urbana-Champaign, and Jeff Giacomin (Queen's University at Kingston).

Society Business



NEWS

Society of Rheology Treasurer Transition in 2015

SOR Treasurer Monty Shaw, in office since October 1997, has announced that he will not seek re-election in 2015. Shaw's service to the Society for these 16 years (it will be 18 years by the time he steps down) have been exemplary. Candidates interested in serving the Society as Treasurer are invited to contact Shaw to learn more about the position. See the Society's web page for Shaw's contact information.

Society of Rheology Rules Revision Passes

On 18 December 2013, in accordance with Article IX of the Rules of the Society, the Secretary, Albert Co, certified the results of the Rules Revision ballot that was conducted in the months prior. The membership approved the amendments, and the following changes are now made to the Rules of The Society of Rheology:

Remove Article VI (entitled "Representatives") of the rules entirely; Article VII (entitled "Publications") of the rules is now Article VI; Article VIII (entitled "Awards") of the rules is now Article VII; Article IX (entitled "Amendments to the Rules") of the rules is now Article VIII.

The purpose of the changes was to eliminate direct reference to "Representatives" that the Society of Rheology may appoint to serve on behalf of the Society. These provisions misrepresented the Society's relationship with the American Institute of Physics. Under the revision, the provisions of the rules that permit the President and Executive Committee to conduct the business of the Society will operate for appointing representatives or designees to appropriate positions. All appointments made by the President or Executive Committee expire with the terms of office of

the officers that made the appointments. The complete Constitution and Rules of the Society of Rheology are on the web at www.rheology.org/sor/info/Constitution.htm.

Travel Grants Offered for Philadelphia

The SOR is supporting student travel to the Philadelphia 86th Annual Meeting of the Society of Rheology through its *Student Meeting Travel Grant Program*, administered by SOR ExCom member-at-large Norm Wagner. Rules for the program and submission instructions will be available closer to the registration deadlines, but they will be similar to those in place for Montréal: *www. rheology.org/sor/annual_meeting/2013Oct/student.htm*. The award is open to student members whose advisor is also an SOR member. Prior recipients of SOR travel awards are not eligible. See the web for details.

World News:

Curator of 'Pitch Drop' Experiment Dies

On 27 August 2013 the *Wall Street Journal* reported on the passing of Professor John Mainstone, the curator of the "Pitch Drop" rheology experiment (see cover photo, *Rheology Bulletin*, vol. 76(2) July 2007; a photo of Mainstone is included there on page 2). Under the heading "World News," the WSJ noted that Mainstone, 78, passed away without ever seeing a droplet of pitch fall from his apparatus.

The pitch drop experiment was a hobby of Mainstone's, which he inherited in 1961 from physics colleague Thomas Parnell. In 1927 Parnell heated up some coaltar pitch and sealed it into a funnel. Parnell gave the material three years to level, with no opportunity to flow out. In 1930 he cut off the bottom of the funnel and allowed the very viscous fluid to flow. Eight droplets formed over the decades between 1930 and the present; neither Mainstone nor anyone else has ever been there for any of these momentous events, despite webcams and other technology being trained on the drop. A pitch drop in Dublin did drip on camera this year, however.

The video of the Dublin pitch drop may be seen at *youtu.be/yCj5krgpX9M*.

Bingham Award 2014 Nominations Sought

Nominations are invited for the 2014 Bingham Award of The Society of Rheology. Prior award winners are listed on the web: www.rheology.org/sor/awards/bingham/.

The Bingham Award is presented annually to an individual who is a resident of North America or a member of the Society who has made outstanding contributions to the field of rheology. The award consists of a medal, a certificate, and a \$10,000 honorarium. Additional information and guidelines for preparing a nomination can be found on the SOR website at www. rheology.org/sor/awards/Bingham/nom2014.htm.

Nomination materials should be submitted electronically as pdf files by 1 February 2014 to the chair of the Bingham Award Committee, Jan Vermant:

Jan Vermant
Department of Chemical Engineering
KU Leuven, University of Leuven
jan.vermant@cit.kuleuven.be

Award announcement will precede the 86th Annual Meeting of the Society of Rheology in Philadelphia, PA USA (5-9 October 2014), and the medal will be presented at that meeting.

Nominations Sought for Sixth Metzner Early Career Award

It's exalted company: Jonathan P. Rothstein (2009), University of Massachusetts; Suzanne Fielding (2010), Durham University; Richard Graham (2011), University of Nottingham; Charles M. Schroeder III (2012), University of Illinois at Urbana-Champaign; Patrick T. Underhill (2013), Rensselaer Polytechnic Institute.

Nominations are now invited for the 2014 Metzner Award of The Society of Rheology.

The Metzner Early Career Award is given, at most annually, to a member of the Society who is younger than 35 (on January 15th of the year the award is to be given) and has distinguished him/herself in rheological research, rheological practice, or service to rheology. The award

consists of a plaque and a \$7,500 honorarium. Additional information and guidelines for preparing a nomination can be found on the SOR website at www.rheology. org/sor/awards/Metzner/nom2014.htm.

Nomination materials should be submitted electronically as pdf files by 1 February 2014 to the chair of the Metzner Award Committee, Nina Shapley:

Nina Shapley
Department of Chemical and Biochemical Engineering
Rutgers University
nshapley@rci.rutgers.edu

All nomination packages must be accompanied by a letter of support from a nominator. Award announcement will precede the 86th Annual Meeting of the Society of Rheology in Philadelphia, PA USA (5-9 October 2014).

Montréal Poster Contest Honors Five

It has become the custom at annual SOR meetings to conduct a poster competition to encourage student and post-doctoral participation in the meeting and to recognize excellence. The student/postdoc poster competition in October 2013 was organized by Patrick Underhill (Rensselaer Polytechnic Institute) and Christopher White (NIST).

Participants in the competition submitted a PDF of their poster ahead of the meeting and passed a first round of judging to become one of the eight finalists. The posters of the finalists were visited by a panel of judges on the day of the poster session and were judged based on originality of research, quality of the work, scientific impact, and quality of the presentation.

In Montréal three graduate student prizes were awarded and two postdoctoral prizes. The highlighted presentations are listed here. Prize money in Montréal was provided by the Canadian Society of Rheology. All awardees of the poster prizes over the years are listed on the Society of Rheology website (www.rheology.org/sor/awards/).

A. Kate Gurnon (1st Place, Graduate Student)

Spatiotemporal structure evolution and metastable states in shear banding wormlike micelles probed using LAOS and small angle neutron scattering

A. Kate Gurnon¹, Carlos R. Lopez-Barron², Lionel Porcar³, and Norman J. Wagner¹

¹Chemical and Biomolecular Engineering, University of Delaware; ²ExxonMobil Chemical Company, Baytown, TX; ³ILL, Grenoble, France



President of the Canadian Society of Rheology Marianna Kontopoulou (top left and bottom right) and Poster Session Co-chair Patrick Underhill (top right and bottom left!) congratulate the winners of the poster competaions: Above, graduate students: A. Kate Gurnon, Folarin Latinwo,and Brendan C. Blackwell; Below, postdoc awardees Simon Rogers and Sarah Hormozi.



Brendan C. Blackwell (2nd Place, Graduate Student)

Thixotropic-viscoelastic rheological fingerprints in strain-control and stress-control LAOS
Brendan C. Blackwell and Randy H. Ewoldt
Mechanical Science & Engineering, University of Illinois at Urbana-Champaign

Folarin Latinwo (3rd Place, Graduate Student)

Nonequilibrium work relations for dilute polymer solutions

Folarin Latinwo and Charles M. Schroeder Chemical and Biomolecular Engineering, University of Illinois at Urbana-Champaign

Sarah Hormozi (1st Place, Postdoc)

Frozen-in patterns in yield stress fluid
Sarah Hormozi, Geoffrey Dunbrack, Amir Maleki
Zamenjani, and Ian Frigaard
Mechanical Engineering Department, The University of
British Columbia

Simon Rogers (2nd Place, Postdoc)

The sequencing of dynamic rheological measurements $\operatorname{Simon} A$. Rogers

Chemical and Biomolecular Engineering, University of Delaware

2013 Journal of Rheology **Publication Award Presented**

Although known as the Bingham Banquet to many, the annual dinner of the attendees of the Society of Rheology Annual Meeting also serves as the venue in which the *JOR* Publication Award is presented. In Montréal, the 2013 award was presented to Roseanna N. Zia (Cornell University) and John F. Brady (California Institute of Technology) for their paper "Microviscosity, microdiffusivity, and normal stresses in colloidal dispersions" *J. Rheol.* 56(5), 1175-1208 (2012). Both authors were present at the event and were able to be congratulated by the membership.

European Rheology: AERC2014

The 9th Annual European Rheology Conference AERC2014 will take place from 8-11 April 2014 in Karlsruhe, Germany. The chairs of the meeting are Norbert Willenbacher and Manfred Wilhelm, both from Karlsruhe Institute of Technology.





Journal of Rheology Editor Ralph Colby presents the 2013 Publication award to Rosanna Zia and John Brady during the annual meeting banquet in Montréal. The plenary lectures will be given by:

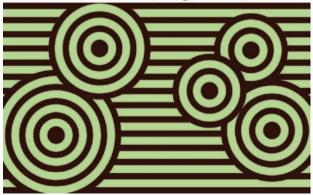
S. Herminghaus (MPI, Goettingen, Germany)
D. Vlassopoulos (Forth and University of Crete, Greece)
E. J. Windhab (ETH, Zurich, Switzerland)
Fourth Plenary speaker: 2013 Weissenberg Awardee

For more information, please visit the conference website *rheology-esr.net*. Abstracts for presentations were due 13 December 2013.

World Rheology: When is the next International Congress on Rheology?

The memories of Lisbon still warm us, but in a few short years we can add additional pleasant experience of the next International Congress on Rheology scheduled to take place 8-13 August 2016, in Kyoto, Japan (ICR-2016).

XVIIth ICR, Kyoto, 2016



ICR-2016 is co-organized by the Society of Rheology, Japan, the Japanese Society of Biorheology and the Japanese Society of Polymer Processing in collaboration with the Institute for Chemical Research, Kyoto University, Japan Department of Macromolecular Science, Osaka University, Japan Graduate School of Science and Engineering, Yamagata University, Japan, and the Kyoto Convention Bureau.

Mark your calendars! More infomation will be posted on the conference website as it becomes available (*icr2016.com*/).

Minutes of the ExCom Meeting

Sunday, 13 October 2013 Montréal, Québec, Canada

Attending: Jeffrey Giacomin, Greg McKenna, Albert Co, Monty Shaw, Ralph Colby, Shelley Anna, Gareth McKinley, Norm Wagner, Faith Morrison, Anne Grillet, Andy Kraynik, Jason Maxey, Mark Cassar (AIP), Gerry Fuller, Michael Mackay, Maryam Sepehr, Amy Shen, Wesley Burghardt, Marie-Claude Heuzey, Kalman Migler (via Skype).

President Jeffrey Giacomin called the meeting to order at 9:00 a.m. in Salon Fundy, Hilton Montréal Bonaventure, Montréal, Québec, Canada.

The minutes of 10 February 2013 meeting were read by Secretary Albert Co. A motion to approve the minutes passed.

Monty Shaw reported on the financial status of the Society and *JOR*. Shaw showed spreadsheets of receipts and disbursements. Several entries were discussed. The information on royalties was not supplied by Copyright Clearance Center; Mark Cassar of AIP will look into this. Shaw was told by AIP that they would be collecting member society dues this year and the usual amount of about \$9,000 was put back in the budget. Shaw reviewed the Pasadena meeting costs; the Pasadena meeting made \$15,500. The ExCom was gratified by the healthy performance. A motion to approve the treasurer report passed.

Shaw announced that he will serve out his term for the next two years but he would like to be replaced after that. He suggested that an individual who is interested in the treasurer's job work with him to see what it entails. Shaw estimates that the Treasurer's job takes 5 weeks of full time work every year, spread out over the year. The ExCom thanked Monty Shaw for decades of important work for the Society.

Ralph Colby gave the *JOR* editor report. It was suggested to e-mail color cover art and table of contents to members. Various graphs showing *JOR* statistics were shown. The acceptance rate for 2012 is 47%. For 2013 the total number of pages is expected to be over 1800. The *JOR* is maintained at about 300 pages per issue. The current impact factor of JOR is 2.978; the five-year impact factor is 3.093. The article influence score is 1.252. A motion to approve the editor report passed.

Anne Grillet reported for the Education Committee. The LAOS short course has 40 registrants and the LAMMPS short course has 20 registrants. It was suggested that SOR advertises the short courses in *JOR*. The short courses for the Philadelphia (October 2014) meeting are: a 2-day course on *Rheology of Colloidal Suspensions* (Instructors: Jan Mewis and Norman J. Wagner) and

a 1-day course on *Rheology of Foods* (Instructors: Peter Fischer, Rakesh Gupta, Mahesh Padmanabhan). Students can take the first day of the suspension course and then the food rheology course. Concern about costs for travel expenses for instructors was brought up. A motion to approve the courses passed.

Albert Co will put the historical list of short courses on the web.

Grillet reported that K-12 outreach had been discussed in the Education Committee. Gareth McKinley suggested that Ph.D. students might run the K-12 events of annual meetings (on Thursday) and also recommended a Franklin Institute event in Philadelphia. Faith Morrison suggested that a session/event be held in the Philadelphia meeting to bring together people with a common interest in organizing K-12 events at SOR meetings. The Education Committee will take these suggestions under advisement.

Albert Co gave the webmaster's report. The Society now holds three domain names: rheology.org, socieityofrheology.org, and rheology.com; entering the www URL of any of the three domain names lead to the SOR web site. The turnout for the 2013 election was good, with 39.9% of the members voting. Meeting attendance is a bit variable. It was very high for Madison (2009), Santa Fe (2010) and Cleveland (2011); it was down for Pasadena (Winter 2013) and slightly higher for Montréal (Fall 2013). Co discussed upcoming changes to the website to bring it up to HTML5 standards and to incorporate responsive design.

Michael Mackay reported on the local arrangement of the Philadelphia (October 2014) meeting. All is going as planned. The exhibit space traffic flow issue and the layout of plenary lectures were discussed.

Wesley Burghardt reviewed issues related to the Montréal technical program; the presence of commercial products in titles was something of an issue this year. Albert Co will add a warning banner to the abstract submission site.

Marie-Claude Heuzey reviewed budgets and statistics of the Montréal meeting. All is well. The banquet has a high attendance of 245.

Mark Cassar of AIP showed data on *JOR* institutional subscription, consortia access subscription and full-text download. Fulfillment migration is planned to be fully implemented by July 2014.

Gerry Fuller reported for the Ad Hoc Committee on Constitutional Reform (with Norm Wagner and Randy Ewoldt). Questions arose on how Article VI in our rules treats SOR's relationship with the AIP board. The way

it is written in Article VI does not make it clear that the duty of a SOR designee sitting on the AIP board is to AIP. It is not correct that the SOR designee "represents" SOR to the AIP. Fuller asked Eva Adams, who oversees matters of corporate affairs for the AIP, to review the existing wording and what the committee had come up with. Adams, consulting with AIP lawyers, came back with a revision of the committee's draft. The committee put the suggested draft before the ExCom but warned that additional changes may be needed due to some issues related to AIP Publishing LLP. Faith Morrison suggested removing Article VI in its entirety. After extended discussion the ExCom voted (with one abstention) to submit the proposed amendments, i.e., deleting Article VI and renumbering the remaining articles appropriately, to ballot by the membership. This proposal will be brought to the members at the business meeting for feedback and discussion.

Fuller reported on the process for deciding the location of the International Congress on Rheology. The 2016 ICR is set for Kyoto; the 2020 ICR will return to the Americas. There is interest from both the Canadian and Brazilian societies to host the meeting. Norm Wagner moved, with Gareth McKinley seconded, that an advisory committee be formed to offer assistance to Societies in the Americas planning for the 2020 ICR. After some discussion, the motion was withdrawn.

Fuller reported a positive trip to Hungary. There is a plan to form a rheology group there. Fuller became aware of a rheology group in Poland and of some interest in forming one in Turkey.

Maryam Sepehr and Amy Chen presented the proposed sessions for the Technical Program for the Philadelphia (2014) meeting. A motion to accept the proposed sessions passed.

Andy Kraynik reported for John Brady that the Pasadena (February 2013) meeting had a positive balance. He also reported the status of the Tampa (February 2017) meeting for Donald Baird. The contracts with the Grand Hyatt Tampa Bay were signed. There was nothing new to report for either the Baltimore (October 2015) meeting or the Denver (October 2017) meeting.

Jason Maxey reported on the status of the Houston (October 2018) meeting. Contracts have been signed with the Westin Galleria Houston. The meeting-room layout was shown. The ExCom suggested that Andy Kraynik be involved in the negotiations for audio-visual services (AV). We have used the company PSAV for AV at several meetings, and Kraynik has experience in dealing with the company.

The meeting entered into executive session at 4:20 pm.

The meeting was adjourned at 4:33 pm.

Submitted by Albert Co, Secretary

Minutes of the Business Meeting

Tuesday, October 15, 2013 Montréal, Québec, Canada

President Jeffrey Giacomin called the meeting to order at 12:10 p.m. in Salon Westmount, Hilton Montréal Bonaventure, Montréal, Québec, Canada (95 in attendance). The minutes of the previous Business Meeting in Pasadena, California were read by Albert Co and approved without addition or correction.

Monty Shaw presented the Treasurer's Report. A motion to accept the report was seconded and passed. Shaw also announced that he will serve out his term for the next two years but he would like to be replaced after that. He invited individuals interested in the treasurer's job to meet with him at the meeting.

Ralph Colby presented the *JOR* Editor's Report. The acceptance rate for 2012 is 47%. For 2013 the total number of pages is expected to be over 1800. The *JOR* is maintained at about 300 pages per issue. The current impact factor of JOR is 2.978; the five-year impact factor, 3.093. The article influence score is 1.252. A motion to accept the report was seconded and passed.

The need to reexamine SOR policies on open access was brought up by several members in attendance. The common ways to provide open access, "green" open access versus "gold" open access, and the requirements of some funding agencies were discussed. An *ad hoc* committee on electronic publishing and open access policies will be formed to propose changes in SOR policies.

Jeff Giacomin presented a certificate of recognition to Henning Winter for the *First Thousand-Citation Article in JOR*. The article is titled "Analysis of Linear Viscoelasticity of a Crosslinking Polymer at the Gel Point." A certificate of recognition was also given to his co-author François Chambon.

Anne Grillet reported for the Education Committee. The LAOS short course has 40 registrants and the LAMMPS short course has 20 registrants. The short courses for the Philadelphia (October 2014) meeting are: a 2-day course on *Rheology of Colloidal Suspensions* (Instructors: Jan Mewis and Norman J. Wagner) and a 1-day course on *Rheology of Foods* (Instructors: Peter Fischer, Rakesh Gupta, Mahesh Padmanabhan). Plans for K-12 outreach were discussed. A motion to accept the report was passed.

Marie-Claude Heuzey reported the statistics of the Montréal meeting. The banquet has a high attendance of 245.

Michael Mackay reported on the local arrangement of the Philadelphia (October 2014) meeting. Wesley Burghardt reported on the technical program of the Montréal meeting.

Gerry Fuller reported on the positive visit to Hungary. He also reported that ICR 2020 will be held in the Americas. There is interest from the Canadian and Brazilian societies to host the 2020 meeting.

John Dealy thanked fellow members of the *Ad hoc* Nomenclature Committee (Faith Morrison, Jeff Morris and Dimitris Vlassopoulos) and *JOR* editor Ralph Colby for their work.

Gerry Fuller reported on the work of the *Ad hoc* Committee on Constitutional Reform (with Norm Wagner and Randy Ewoldt). The proposed amendments, i.e., deleting Article VI of the Rules and renumbering the remaining articles appropriately, was presented for feedback and discussion. At the Sunday ExCom meeting, the ExCom voted to submit the proposed amendment to ballot by the membership.

The meeting was adjourned at 1:25 p.m.

Submitted by Albert Co, Secretary.

Treasurer's Report

To the Membership:

The tables that follow depict the financial state of The Society of Rheology as reported to the Membership at the 2013 Annual Meeting in Montréal. While a deficit for 2013 was budgeted due to two annual meetings, we have instead been fortunate to have financially successful meetings and (again) a large increase in *JOR* income relative to



past performance. As mentioned in previous reports, this increase was mainly due to an unexpected jump in royalty income. The budget for 2014 features a modest net, but this includes a budgeted increase in *JOR* income that may well not be realized. Increases in all costs have been modest over the past two years.

Respectfully submitted,

Montgomery T. Shaw, Treasurer

Treasurer's Report

The Society of Rheology

Receipts and Disbursements

(all amounts USD)	2014	2013	2013	2013	2012
(all amounts, USD)	Budget	Projection	August	Budget	Year End
RECEIPTS	buuget	Flojection	August	<u> Buuget</u>	Teal Lilu
	47 000	40.620	40 700	44.500	47 100
Dues	47,000 2,700	49,628 1,293	48,780 917	44,500 3,000	47,100 2,736
Interest	347,000	,	277,721	277,300	379,066
Journal of Rheology		369,749			
Mailing List Sales Donations	0	0	0	0 0	0
		7,925	6,340	10,000	•
Bulletin Advertising	8,000			0,000	7,625
Annual Meeting (net)	0	23,994	37,440	0	40,664
Short Course (net)	-	22,321	-2,364	-	1,961
TOTAL RECEIPTS	404,700	474,909	368,833	334,800	479,152
DISBURSEMENTS					
AIP Dues Bill & Collect.	11,000	11,129	7,157	11,500	11,027
AIP Adm. Services	8,000	7,500	5,000	10,000	7,500
AIP Mem. Soc. Dues	9,000	9,257	9,257	0	3,375
Contributions and Prizes	4,000	1,500	1,500	3,500	3,691
Early Career Award	9,000	15,200	7,600	18,000	0
Journal of Rheology	209,765	250,875	153,252	210,850	205,998
Bulletin	18,000	16,836	16,836	18,000	18,225
Bingham Award	10,000	20,000	10,000	20,000	0
Executive Cmt. Meetings	18,000	11,111	5,555	20,000	16,566
Pres. Discretionary Fund	1,500	0	0	1,500	799
Treas. Discr. Fund	1,500	0	0	1,500	389
Bulletin Editor Discr. Fund	1,500	0	0	1,500	0
Progr. Chm. Discr. Fund	3,000	2,789	1,395	6,000	0
Webmaster Discr. Fund	3,000	2,819	1,409	3,000	3,500
International Activities Fund	5,000	0	0	5,000	4,292
Office Expenses	1,500	3,276	2,347	500	1,905
Banking Services	400	0	0	160	337
Liability Insurance	5,500	5,350	1,249	5,200	5,079
Membership Broch. & Appl.	0	62	62	0	0
Accountant	2,400	2,300	2,210	2,300	2,240
Student member travel	25,000	36,177	18,928	50,000	21,480
Annual meetings, future	6,000	2,000	0	6,000	1,267
Website	200	650	449	200	0
Miscellaneous	100	0	0	100	0
TOTAL DISBURSEMENTS	353,365	398,830	244,207	394,810	307,670
Net	51,335	76,079	124,626	-60,010	171,482

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The Society of Rheology, Inc.
Balance Sheet

Dalatice Officer					
(all amounts, USD)	2013 August	2012 Year End	2012 August	2011 Year End	2011 August
Assets					
Cash in checking account(s)	114,608	73,886	1,162	41,084	77,396
Securities	0	0	0	0	0
Balance in AIP account	1,667,341	1,685,279	1,585,355	1,545,020	1,513,618
Total Assets	1,781,949	1,759,165	1,586,517	1,586,104	1,591,014
Liabilities and Net Assets					
Liabilities					
Deferred subscription revenue					
Deferred member dues					
Deferred revenue	0	114,980	0	111,633	0
Total Liabilities	0	114,980	0	111,633	0
Net Assets					
Publication reserve	450,000	450,000	450,000	450,000	450,000
Student travel grant reserve	30,000	30,000	30,000	30,000	30,000
Annual Meeting reserve	300,000	300,000	300,000	300,000	300,000
Operating reserve	150,000	150,000	150,000	150,000	150,000
Unrestricted	851,949	714,185	656,517	544,471	661,014
Total Net Assets	1,781,949	1,644,185	1,586,517	1,474,471	1,591,014
Total liabilities and net assets	1,781,949	1,759,165	1,586,517	1,586,104	1,591,014

Journal of Rheology

Receipts and	Disbursements
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(all amounts, USD)	2014	2013	2013	2013	2012
	<u>Budget</u>	<u>Projection</u>	<u>August</u>	<u>Budget</u>	Year End
RECEIPTS					
Subscriptions	142,000	147,587	147,587	145,000	145,850
Royalties & Reprint Sales	80,000	82,882	1,948	6,300	108,919
Ad Sales	45,000	31,454	22,360	49,000	39,602
JORO revenue	78,000	103,826	103,826	75,000	84,695
Miscellaneous	2,000	4,000	2,000	2,000	0
TOTAL RECEIPTS	347,000	369,749	277,721	277,300	379,066
DISBURSEMENTS					
Ads	11,000	8,068	5,489	14,000	10,305
Reprints, Single Copy	1,300	566	313	1,200	2,188
Paper, Printing	27,600	38,244	24,398	29,000	27,340
JoR Editorial	46,000	62,113	29,409	45,000	50,272
Production	38,000	43,673	29,115	38,000	35,955
Fulfillment	5,215	5,073	3,251	5,550	5,203
Distribution	20,900	27,721	17,368	19,900	20,630
Electronic publishing	52,000	51,561	33,698	50,000	49,239
Miscellaneous	7,750	13,856	10,212	8,200	4,866
TOTAL DISBURSEMENTS	209,765	250,875	153,252	210,850	205,998
Net	137,235	118,874	124,469	66,450	173,068

for identification and CrossRef to link to the publisher's site—where a free, full-text article will be available, and preserved and archived—the CHORUS board estimates that 80% of necessary infrastructure is already in place. The publishing community will provide the remainder of the build-out costs. The system is paid for by standard charges that publishers pay to CrossRef as we deposit articles and associated identification data into the CrossRef database.

CHORUS puts no additional demands on the researcher; the author is in communication with the publisher from submission to publication. Publishers will be responsible for complying with the agreed-upon terms. By directing readers to the publisher's site where the manuscript is first published, updated as necessary, and archived, publishers are compelled to preserve the value of their platform and the integrity of the record.

At the Frankfurt Book Fair in early October 2013, CHO-RUS organizers formally introduced and demonstrated the CHORUS pilot, developed with the help of seven participating publishers (including AIP Publishing, APS, IEEE, ACS, OUP, Wiley, and Elsevier) and the Cross-Ref organization. The end date for the pilot is under discussion, but upon completion, essential feedback will be evaluated and folded into the development of a full production system.

The publishing community is developing CHORUS as a public service to all stakeholders: funding agencies, the academic community, and the interested public. It is being offered to the government agencies at no cost, allowing them to maintain their focus on funding research and research management. Publishers are willing to shoulder the cost of CHORUS because it relies largely on existing infrastructure built up by the publishing industry through years of collaboration.

Publishers are willing to underwrite the additional costs required to develop CHORUS because it is the most pragmatic and least costly public access solution that can be widely adopted. CHORUS provides free access to content that is produced and supported via two basic publishing models: author-paid and (usually library-paid)

traditional subscriptions. With the former, a publication's costs are paid upfront by the author or the author's sponsor, and full access is granted upon publication to all; CHORUS will provide links to this content. With the latter, CHORUS will grant full access after an embargo period imposed by the funding agencies. For the near term, publishers will continue to depend on a mixed economic model to support their industry and sustain their contributions.

The CHORUS organization must remain neutral on embargos to remain credible to all collaborators. Nevertheless, controversy persists about the length of such embargo periods. Since 2008, the NIH has imposed a 12-month embargo for NIH-funded research works, largely biomedical in nature. However, the publishing community has argued that biomedicine is a well-funded, fast-moving field of scholarship; other fields cannot conform easily to a single embargo period. When properly implemented, embargos can be long enough for publishers to recover publication costs.

CHORUS organizers are giving a full array of briefings to US funding agencies, publishers, library associations, and research administrators to promote the initiative. We aim to demonstrate that CHORUS and other proposed access solutions (such as the university-led SHARE proposal) have common elements such as universal identifiers and demonstrated methods of long-term preservation of electronic documents. CHORUS endeavors to work alongside of other public access initiatives for the common goal of increased access.

In the interest of full disclosure, I note that I have devoted a significant fraction of my time to the CHORUS project since the groundwork was laid in February. I perform this commitment because I sincerely believe that the project will solve the public access issue, and allow each segment of the scholarly research triangle—funders, researchers, and publishers—to concentrate on the crux of their business.

Much of the material in this article has been repurposed from my previous writings in AIP Matters, the e-newsletter for the American Institute of Physics.





The Society of Rheology was founded in 1929 to foster the study of the mechanical properties of deformable materials. SOR is a founding member of the American Institute of Physics.

Visit our web site www.rheology.org/sor/

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grad student/postdoc poster competition resulted in five posters being singled out. The awardees are featured in the news article on pages 14-16.

The final day of the conference kicked off with the presentation by the Metzner awardee, Patrick Underhill (Rensselaer Polytechnic Institute), who spoke on "Active matter: Suspensions of self-propelled particles." A half day of talks finished off the technical program, and attendees bid adieu to Montréal. To our hosts and all those who worked to make the 85th meeting a success: Merci!





More scenes from Montréal: above, the hands-on portion of the LAOS short course; left, attendees at the banquet reception; below, Jonathan Rothstein working on Gareth McKinley during the Bingham roast.



(Calendar, continued from page 24)

2016

8-13 August 2016

XVIIth International Congress on Rheology, Kyoto, Japan, Hiroshi Watanabe (every four years).

21-26 August 2016

International Congress of Theoretical and Applied Mechanics, ICTAM, Montréal, Québec, Canada (*iutam.org*).

2017

11-12 February 2017

SOR Short Course on Rheology (topic TBA), Tampa Bay, Florida USA.

12-16 February 2017

88th Annual Meeting of The Society of Rheology, Tampa Bay, Florida USA, Don Baird.

April 2017

 10^{th} Annual European Rheology Conference AERC2017, location TBA.

7-8 October 2017

SOR Short Course on Rheology (topic TBA), Denver, Colorado USA

8-12 October 2017

89th Annual Meeting of The Society of Rheology, Denver, Colorado USA, Matt Liberatore.

For other meeting notices, see also www.rheology.org/sor/info/Other_Meetings.htm http://www.rheology-esr.org/Meetings.php www.appliedrheology.org/(click on conferences)



CALENDAR OF RHEOLOGY CONFERENCES AND COURSES

2014

8-11 April 2014

9th Annual European Rheology Conference AERC2014, Karlsruhe, Germany, Norbert Willenbacher and Manfred Wilhelm. (*rheology-esr.net*)

14-16 April 2014

Institute of Non-Newtonian Fluid Mechanics Annual Conference on Rhelology, Ken Walters. (www.innfm.org.uk).

8-13 June 2014

Rheological Measurements Short Course, University of Minnesota, Minneapolis, MN USA, Chris Macosko. (*research.cems.umn.edu/rheology/*)

6-11 July 2014

IUPAC World Polymer Congress (MACRO 2014) Chiangmai, Thailand, Supawan Tantayanon. (www.macro2014.com/).

20-25 July 2014

6th Pacific Rim Conference on Rheology, Melbourne, Australia, Prakash Jagadeeshan. (www.pacrimrheology.com)

4-5 October 2014

SOR Short Course *Rheology of Colloidal Suspensions* by Jan Mewis and Norman J. Wagner and a 1-day course on *Rheology of Foods* by Peter Fischer, Rakesh Gupta, Mahesh Padmanabhan), Philadelphia, Pennsylvania USA.

5-9 October 2014

86th Annual Meeting of The Society of Rheology, Philadelphia, PA USA, Michael Mackay. Technical program by Maryam Sepehr and Amy Shen.

6-10 October 2014

3rd International Conference on Competitive Materials and Technology Processes, Miskolc-Lillafured, Hungary, László A. GÖMZE. (www.ic-cmtp3.eu/)

2015

April 2015

10th Annual European Rheology Conference AERC2015, location TBA.

15 June 2015

15th International Congress of Biorheology and 8th International Conference on Clinical Hemorheology, Seoul.

10-11 October 2015

SOR Short Course on Rheology (topic TBA), Baltimore, Maryland USA.

11-15 October 2015

87th Annual Meeting of The Society of Rheology, Baltimore, Maryland USA, Kalman Migler and Jai Pathak. Technical program by Rajesh Khare and Susan Muller.

(continues, page 23)