

Cellulose and Renewable Materials Division Newsletter



A Division of the American Chemical Society

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Letter from the Chair, Lucian Lucia

I am very pleased to submit my inaugural letter to *The Fibril Angle* as CELL Division Chair. I am very fortunate to take the reins from Dr. French, the Past-Chair, of a Division that has become an extremely robust, active, and influential division within the ranks of ACS. I will not list all of our activities, but suffice it to say that we have become very active collaborators with such organizations as EPNOE, SunGrant (Tennessee), the Girl Scouts, and *BioMacromolecules*.



I offer a challenge to our gentle readers to come to us with their ideas so they can get involved. We welcome more participation in our Division! Perhaps the best accolades we can receive is to embrace the up-and-coming scientists/engineers/technologists in our fold to develop symposia, volunteer their time on our committees, plan a novel proposal for funding (we have been very fortunate to have received two ACS IDGs within the last year that have been very successful!), or link us with other organizations to achieve synergies.

My hope is that CELL can increase its membership by 20% within the next two years by providing more exposure (we have installed a Fall Meeting now), by engaging its clientele with new proceedings, by interacting more closely with local/regional divisions, and by interacting with other Divisions at the National Meeting. I am very pleased to announce that CELL was chosen as the medium to present the Award Address for the 2013 ACS Award for Affordable Green Chemistry given to Dr. Hari B. Sunkara of DuPont.

I am looking forward to a very active, lively, and enjoyable term and hope that you can contact me with any of your ideas, concerns, and needs from the Division. Thank you for allowing me to serve you.

Message from the Chair Elect, Marie-Pierre Laborie

It is an honor and my genuine pleasure to have the opportunity to further support our division as the Chair-Elect, after having served as the Awards Chair for several years. I am sincerely grateful to my predecessors, for their vision, leadership and continued commitment to improve, enhance, and enlarge the professional activities and visibility of our division. I hope to further support the CELL mission, to serve as the leading international platform for exchange, dissemination and networking of scientists and professionals working to advance scientific knowledge and technology of renewable materials worldwide.

The Cellulose and Renewable Materials Division (CELL) of the American Chemical Society is a vibrant and buoyant scientific organization today. The annual spring meeting signifies the synergistic highlight of the year, where scientists from all over the world convene to share, debate and foster the creation of new ideas and novel science. Our division membership has been steadily growing since 2004 with many of our division's young scientists being recognized for their excellence through the various award programs, including the graduate student award, the best poster award and student travel grants. This active encouragement and participation of young scientists bodes well for the future of the CELL division. I encourage new and young members to seek further opportunities to infuse our division with energy and new ideas.

In addition to the multitude of networking opportunities that the upcoming spring meeting represents, it also represents an excellent opportunity for all members, new and established, to contribute to the overall vitality of the division. Our business meeting is open to all and represents a great place for all members to provide input. Please join us at this business meeting in New Orleans on Wednesday, April 10 from 5:30 to 6:30 p.m. in the convention Center (Room 227).

Letter from the Program Chair Tom Elder

Spring ACS National Meeting, New Orleans LA, April 7 – 11, 2013

Program Chair: (telder@fs.fed.us)

The theme for the spring meeting is “Chemistry of Energy and Food”. The division is presenting nine symposia, a poster session and participating in Sci-Mix. The highlight of the program, as always, is the Ansleme Payen award honoring Hans-Peter Fink, and culminating in the award dinner on Tuesday, April 9. The theme of the meeting is reflected in symposia on the lignocellulosic biorefinery and the cellulosic chemistry of food (co-sponsored by the European Polysaccharide Network of Excellence (EPNOE)). Fundamental cellulose papers will be presented in sessions on bacterial nanocellulose and a commemoration of 100 years of cellulose fiber diffraction. Other symposia will be devoted to cell wall deconstruction and natural composites (co-sponsored by the Society for Wood Science and Technology), and renewable materials in coatings. The latter is notable in that D. Hari Sunkara, the ACS awardee in Affordable Green Chemistry, selected this symposium for his award lecture, from which a separate dedicated program was developed.

Fall ACS National Meeting, Indianapolis IN, September 8-12, 2013

ACS has selected “Chemistry in Motion” as the theme for the fall meeting. Three exciting symposia will be offered by the CELL Division at the 246th National American Chemical Society Fall 2013 meeting in Indianapolis, IN. Youssef Habibi and Lucian Lucia are organizing a symposium on the “design and self-assembly of bio-inspired nanocomposites based on renewable building blocks”. Learn about hierarchically organized architectures that provide a path towards multifunctional capabilities in materials and organisms. Noureddine Abidi is organizing a symposium on “current applications of spectroscopic techniques to investigate biopolymers structure and transformation”. While all spectroscopy techniques are highlighted from nuclear magnetic resonance to electron spin resonance, researchers working in the field of infrared and Raman molecular imaging are encouraged to attend. The third symposium offered from the CELL division is “light weight materials from biopolymers” organized by Yiqi Yang. This symposium will feature topics from thermoplastic foams to highly porous tissue engineering scaffolds. So join us in Indianapolis from September 8 to 12 for these symposia as our CELL division builds its presence at the fall meetings. Abstract submission will continue for these programs until March 25.

Spring ACS National Meeting, Dallas TX, March 16-20, 2014

Program Theme: Chemistry of Energy/Advanced Materials for New Opportunities

Only Program Chairs think this far in advance, but it’s not too early to begin considering ideas for symposia for the spring 2014 meeting. I would be delighted to hear from anyone with suggestions for programming.

**245th ACS National Meeting (Spring Program)
New Orleans, April 7 – 11, 2013**

Program Chair: Tom Elder (telder@fs.fed.us)

- Anselme Payen Award Symposium: From Cellulose Raw Materials to Novel Products
 - Johannes Ganster, Marie-Pierre Laborite
- 100 Years of Cellulose Fiber Diffraction and the Emergence of Complementary Techniques
 - Paul Langan, Al French, William Winter, Yoshiharu Nishiyama
- Lignocellulosic Biorefinery
 - Badal Saha
- 1st International Symposium on Bacterial NanoCellulose
 - Francisco Miguel Portela Gama (Miguel), Paul Gatenholm, Fernando Octavio Queiros Dourado
- Composites from Natural Resources
 - Doug Gardner, Karl Englund
- Cell-EPNOE Symposium on the Chemistry of Food
 - John Finley and Timothy Foster
- Fundamentals and Practice of Cell Wall Deconstruction
 - J.Y. Zhu, Xuejun Pan, Sunkyu Park, Maobing Tu
- Renewable Building Blocks in Coating Materials
 - Lucian Lucia, Youssef Habibi
- CELL poster session
 - Tom Elder

**246th ACS National Meeting
Indianapolis, IN.**

Program Chair: Tom Elder (telder@fs.fed.us)

- Design and self-assembly of bio-inspired nanocomposites based on renewable building blocks.
 - Youssef Habibi and Lucian Lucia
- Current applications of spectroscopic techniques to investigate biopolymers structure and transformation
 - Nouredine Abidi
- Light weight materials from Biopolymers
 - Yiqi Yang
- CELL poster session
 - Tom Elder

2012 Anselme Payen Award



The 2012 Anselme Payen Award of the American Chemical Society, Cellulose and Renewable Materials Division, was bestowed on Prof. Hans-Peter Fink, Head of the Fraunhofer Institute for Applied Polymer Research, Potsdam, Germany. This award is given annually to honor and encourage outstanding professional contributions to the science and chemical technology of cellulose and its allied products. It is the most prestigious and internationally recognized award in the field of cellulose research. Prof. Fink is the first recipient of this award coming from any of the Fraunhofer Institutes. These Institutes, mostly located in Germany constitute the largest applied research organization in Europe.

Prof. Fink will be recognized at the Anselme Payen Banquet of the ACS Cellulose and Renewable Materials Division to take place during the annual Spring National Meeting 2013 in New Orleans, April 7-11. In addition an award symposium -"Chemical processing of cellulose - from raw materials to novel applications"- will be organized to highlight and honor the contributions of Prof. Fink to this important field of cellulose research.

Since 2006 Hans-Peter Fink has been the Director of the Fraunhofer Institute for Applied Polymer Research and in 2009 he was appointed adjunct professor at the University of Potsdam and honorary professor at the University of Kassel in the field of biopolymers. Besides his duties as the head of the Institute centered both on oil-based and bio-based polymers, he pushed R&D-work on cellulose melt-blown nonwovens technologies with H. Ebeling and A. Lehmann, and on structure characterization and composite materials together with J. Ganster. Recent results include the development of bicomponent cellulose-lignin fibers as precursors for carbon fibers and rayon reinforced biocomposites. Promoted by H.-P. Fink, lignin research came strongly into the focus of Fraunhofer IAP, owing to the increasing impact of bioeconomy and sustainability.

Prof. Fink is author or co-author of more than 130 scientific papers and 30 patents. He presented invited lectures in Germany, Austria, Finland, Sweden, Japan, China, USA, among others. He is member of the Advisory Board of several scientific journals, board member of the European Polysaccharid Network of Excellence (EPNOE) and of various local research networks.



The Anselme Payen Award Symposium Honoring Prof. Hans-Peter Fink

The 2012 Anselme Payen Award banquet to honor Hans-Peter Fink for his outstanding professional contributions to the science and technology of cellulose and renewable polymers is a ticketed event. The banquet completes the Anselme Payen Award Symposium on “Advanced Materials from Cellulose and Renewable Polymers”. This symposium received generous sponsorship from Springer journal Cellulose, Weyerhaeuser Co., EPNOE European Polysaccharide Network of Excellence, DOW Pharma & Food Solutions, PAC Process Analytical Chemistry, RECENDT Research Center Non Destructive Testing, Wood K plus, and Fraunhofer-Gesellschaft. Advanced purchase of tickets is required. Cost of ticket is \$60. Tickets can be purchased via the ACS Spring Meeting web site. Tickets can also be purchased onsite at the ACS registration desk or during the meeting at the symposium. The banquet will be held at the Pavillion of Two Sisters in the Botanical Gardens of City Park (New Orleans).

EPNOE 2013 Conference:

Please note the new dates: 21-24 October 2013.

The European Polysaccharide Network of Excellence (EPNOE) and the Cellulose and Renewable Materials division of the American Chemical Society (ACS) invite you to the 3rd EPNOE International Polysaccharide Conference (EPNOE 2013) that will be held in Nice, France, on October 21-24, 2013. The EPNOE 2013 conference, entitled "Polysaccharides and polysaccharide-derived products, from basic science to applications", will offer a wide scope of the science of polysaccharides and their applications. EPNOE and ACS are expecting EPNOE 2013 to be a forum for all academic/research/industrial scientists and students dealing with polysaccharides and polysaccharide-derived products including bioplastics. The following topics will be covered at the EPNOE 2013 conference:

1. Polysaccharide isolation and characterization (algae, new crops and plants, byproducts, wastes, other sources...)
2. Biosynthesis of polysaccharides
3. Biodegradation of polysaccharides (mechanisms, products determination, efficiency), enzymology
4. Chemical modification of polysaccharides
5. Advanced physical, chemical, structural, and surface characterisation of polysaccharides
6. Nanotechnology: nano and micro- polysaccharide-based objects (production, characterisation, use)
7. Biomimetic applications of polysaccharides
8. Development of fuels based on polysaccharides
9. Polysaccharides as food ingredients
10. Polysaccharides for biomedical applications
11. Polysaccharide-based materials including films, fibers and composites
12. Bioplastics
13. Pulp and paper
14. Life Cycle Assessments- Environmental concerns –Policy – Social aspects
15. New trends on polysaccharide research and applications (session organised by PhD students and post-doctoral researchers from EPNOE partners).

A pre-conference course on "Polysaccharide-based and polysaccharide-derived Bioplastics including natural fiber-reinforced composites and thermoplastics-thermosets" will be organised on Sunday 20 October 2013, in Mines ParisTech (Sophia-Antipolis, France).

More information at: <http://epnoe2013.sciencesconf.org>



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