

AIChE SUSTAINABLE ENGINEERING FORUM NEWSLETTER

April 2010
Volume 4, Issue 1



Message from the Chair

"Our biggest challenge in this new century is to take an idea that seems abstract - sustainable development - and turn it into a reality for all the world's people"

-Kofi Annan, former UN Secretary General

The Sustainable Engineering Forum (SEF) provides a platform for the dissemination of information about sustainable engineering science and technology. We have seen tremendous progress since its inception and a large share of the credit for this goes to our past leaders, who continue to play an important role in the Forum by sharing their knowledge and experience with us. The SEF is among the fastest growing units in the Institute. Once again, we have a strong new leadership team in place, which is composed of highly motivated individuals who are working hard to take the SEF to even greater heights.

As always, the SEF is involved in a number of programming activities and webinars. The SEF's Executive Committee decided to co-sponsor the 2nd Int'l Symposium on Sustainable Chemical Product and Process Engineering, Hangzhou, China, May 9-12, 2010. As SEF-co-sponsored events, Professor Marco J. Castaldi in Columbia University developed and moderated three Waste-To-Energy Webinars this year, which were well received. This is the evolution of Earl Beaver's fine work on the SEF virtual meetings. The SEF plans to launch a webinar series (page 2) for knowledge dissemination and information exchange. For the AIChE Annual Conference to be held in Salt Lake City, Utah this November, Sessions sponsored and co-sponsored by SEF are listed on pages 4-9.

We have established three award programs: the

Inside This Issue:

Message from the Chair	1
Announcements	2
Programming Activities	3
Education Column	11
Member Communications	11
IfS Updates	12
SEF Leadership	14

Student Paper Award, the Industrial Practice in Sustainable Engineering Award and the Research Excellence in Sustainable Engineering Award. The application deadline for this year's awards is April 30, 2010. Decisions are scheduled for May 31, 2010 and the awards will be presented during the AIChE Annual National Meeting in Salt Lake City. Details are given in the SEF Awards Section (page 9).

Starting this year, the National Student Conference poster competition (for undergraduate students only) will include a sustainability session. More information about this competition can be found in the Education Column by Prof. Jeffrey Seay (page 11) and on the SEF's website. The SEF leadership also plans to launch a student poster award (for both graduate and undergraduate students) in the "Poster Session: Sustainability and Sustainable Biorefineries" in the AIChE Annual National Meeting.

I welcome your feedback and thoughts regarding the forum and look forward to seeing even greater participation in upcoming SEF activities.

Helen Lou
Chair, Sustainable
Engineering Forum



Announcements

By David N. Thompson

AIChE SEF Webinar Series

During the past, Dr. Earl Beaver successfully ran a series of SEF teleconference virtual meetings for years. His efforts are greatly appreciated by the community. As SEF-co-sponsored events, Professor Marco J. Castaldi in Columbia University developed and moderated the Waste-To-Energy Webinars this year, which were well received. This is the evolution of Earl Beaver's fine work on the SEF virtual meetings. It will be a great avenue for SEF to continue these efforts, taking advantage of the AIChE webinar mechanism. A number of topics have been proposed and new SEF webinars are under development. If you would like to develop a webinar or nominate someone for a webinar, please send an e-mail to Helen Lou, at the following address: "helen.lou@lamar.edu". As always, we look forward to hearing from you.

AIChE ChemE on Demand functions as a multimedia library and training center, containing archived materials, recorded sessions, and information exchange

opportunities for engineers at all stages of their careers. Currently ChemE on Demand resources include lectures from AIChE's Annual meeting, and live web sessions (webinars) (<http://apps.aiche.org/chemeondemand/>).

SEF members are entitled to FREE SEF Webinars each year. Professional members of AIChE are entitled to 6 FREE ChemE on Demand credits each year, good for all webinars (live and archived) as well as other content. Student members are entitled to unlimited free archives. These benefits make membership even more valuable. (Non-members pay \$179 for each webinar).



AIChE Leadership Development Conference (LDC)

Noah McMillan and R.C. Ramaswamy, Co-Chairs of the 2010 AIChE Leadership Development Conference, announced that the East Tennessee AIChE local section is organizing, on behalf of National AIChE, the Leadership Development Conference (LDC) during June 4-6, 2010 weekend at Kingsport, TN. They would like to personally invite SEF members to attend the conference. As you are aware, the LDC provides an excellent opportunity for participants to enhance their leadership skills and learn valuable new leadership tools and techniques that can be used both in their professional lives as well as in volunteer positions such as leading and supporting local AIChE Sections, Divisions and Forums. They have put together a strong technical program to cater to the Leadership needs of the day. The theme of this year's conference is, aptly, "Volunteers leading Volunteers." The self-motivated volunteers and employees are the lifeline of voluntary and for-profit organizations these days. To register for LDC and to learn more details about the conference, please visit:

<http://www.aiche.org/leadershipconference.aspx>

SEF, IfS and SIM Reach Reciprocal In-Kind Advertising Agreement

The SEF and IfS, together with the Society for Industrial Microbiology (SIM), have reached an agreement to provide reciprocal advertising of biorefinery-related programming. In exchange for advertising Area 23b's AIChE Annual Meeting programming on the SIM website (www.simhq.org) and in the meeting program for the annual Symposium on Biotechnology for Fuels and Chemicals, SEF and IfS will advertise the annual Symposium in the AIChE Annual Meeting Program and on the SEF and IfS websites. SIM manages the annual Symposium, which is financially sponsored by the U.S. Department of Energy and is organized by the Oak Ridge National

Laboratory and the National Renewable Energy Laboratory. The annual Symposium is a leading forum for advancements in renewable fuels and chemicals, and is focused on the latest research breakthroughs and results in the field. Last year's 31st Symposium was held May 3-6 in San Francisco, CA and attracted more than 950 attendees, including 350 international attendees. The 32nd Symposium will be held April 19-22, 2010 in Clearwater Beach, FL. For more information, point your browser to <http://www.simhq.org/meetings/sbfc2010/index.asp>.

Activities

AIChE 2010 Spring Meeting

The AIChE 2010 Spring Meeting was held March 21-25, in San Antonio, TX.

SEF co-sponsored Topical 9: **Sustainability Workshop: Perspectives on Measurement and Supply Chain**. This workshop, which was held on March 23, featured invited speakers from the following organizations: BASF, Shell BioFuels, DuPont, Cadbury, Walmart/Sustainability Consortium, EPA Sustainable Product Network, EPA/Green Suppliers Network, Greener Package, AIM-Progress Network, and Electric Utility Industry Sustainable Supply Chain Alliance.

Associated Events:

- **Monday, March 22, 10:45-11:45AM -- Energy Leadership Keynote Address** - John D. Hofmeister, Founder and CEO, Citizens for Affordable Energy and former president of Shell Oil
- **Monday, March 22, 1:15-2:15PM -- Spring Meeting Keynote Address** - Lisa P. Jackson, Administrator, U.S. Environmental Protection Agency
- **Tuesday, March 23, 1:00-2:00PM -- Energy and Resource Efficiency Plenary** - Amory B. Lovins, Cofounder,

Chairman, and Chief Scientist, Rocky Mountain Institute, announced the joint AIChE and RMI 10xE Competition.

- **Tuesday, March 23, 6:30-9:00PM-- Dinner hosted by SEF, Keynote Address-** Dr. Joseph B. Powell, Shell Chief Scientist-Chemical Engineering

Think Green Global Forum: Energy, Education, Environmental Initiatives

The Think Green Global Forum: Energy, Education, Environmental Initiatives, was held April 7-9, 2010, in Nanjing, China. SEF is one of the co-sponsors. This two-day workshop explored sustainability challenges and solutions, technological and policy breakthroughs, as well as educational programs positioned to drive changes in energy practices that would benefit China and the world at large.

The 2nd International Symposium on Sustainable Chemical Product and Process Engineering

The 2nd International Symposium on Sustainable Chemical Product and Process Engineering will be held in Hangzhou, China, May 9-12, 2010. This symposium is sponsored by the National *Natural Science Foundation of China* (NSFC) and the U.S. National Science Foundation. SEF is one of the co-sponsors.

The symposium will provide a unique forum for researchers, scientists, and practitioners to assess and critique the current status and future directions of research and development in integrating sustainability into chemical product and process systems engineering. The theme for the symposium will be Design for Sustainability. Key thrust areas of the symposium include:

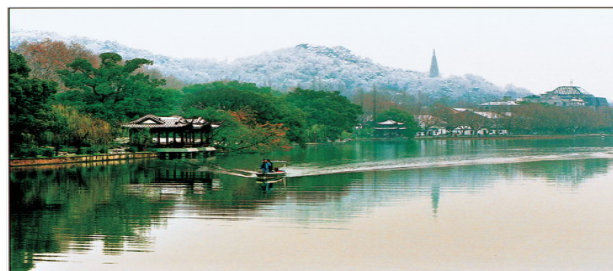
- Green chemistry and engineering in product design
- Emerging technologies (nanotech, biotech, and IT) in product design
- Multiscale systems science and

engineering in sustainability

- Integrated material, product, and process design
- Alternative and renewable energy and systems
- LCA and systems analysis and decision making for sustainability
- Sustainable chemical processing
- Green reaction engineering & separation
- Value/supply chain and large scale system sustainability

Please visit the conference website for more detailed information:

<http://www.gct.zjut.edu.cn/>



The host city, Hangzhou, is one of the most beautiful cities in China, and is located in the Yangtze River delta approximately 120 miles southwest of Shanghai. Throughout its long history, Hangzhou has been famed both for its attractiveness and prosperity, and has occupied a very unique place in China's cultural landscape, attracting millions of visitors a year.

AIChE 2010 Annual Meeting

The full list of sessions sponsored/co-sponsored by SEF is provided below. Please review and submit abstracts accordingly.

Sustainable Engineering Forum (26 Sessions)

Title	Sponsor	Co-Sponsor
<u>02D14 Session in Honor of Professor Anthony Fane: Membrane Separations</u>	Membrane-Based Separations (02D)	SEF (23)
<u>02E02 Adsorption Applications for Sustainable Future</u>	Adsorption & Ion Exchange (02E)	SEF (23)
<u>04006 Incorporating Green Engineering and Sustainability Into the Curriculum</u>	Education (04)	Sustainability (09G), SEF (23)
<u>09000 Efficient Transformational Technologies – Factor 10 Engineering (10XE)</u>	Environmental Division (09)	SEF (23)
<u>09001 Environmental Implications of Nanomaterials</u>	Environmental Division (09)	SEF (23)
<u>09B01 Environmental Applications of Nanotechnology and Nanomaterials</u>	Water (09B)	SEF (23), Nanoscale Science & Engineering Forum (22)
<u>09F01 Fundamentals of Environmental Sustainability</u>	Fundamentals (09F)	SEF (23)
<u>09G01 Sustainable Building Design</u>	Sustainability (09G)	SEF (23)
<u>09H02 Climate Change Legislation and Regulation</u>	Climate Change (09H)	Separations (02), SEF (23)

Title	Sponsor	Co-Sponsor
<u>09H03 Climate Change Tracking, Documentation and Reporting</u>	Climate Change (09H)	Separations (02), SEF (23)
<u>09H07 Hydrogen Production and Carbon Redirection Technologies</u>	Climate Change (09H)	Separations (02), SEF (23)
<u>09H14 Advances in Climate Change Science</u>	Climate Change (09H)	Separations (02), SEF (23)
<u>14000 Ned Division Student Award Competition</u>	Nuclear Engineering (14)	Environmental (09), SEF (23)
<u>14001 Sustainability and Environmental Impacts of Nuclear Energy</u>	Nuclear Engineering (14)	Environmental (09), SEF (23)
<u>17001 Biobased Materials II</u>	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
<u>17002 Biobased Materials III</u>	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
<u>17003 Biobased Materials IV</u>	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
<u>17004 Forest Products Biorefinery Feedstock and Logistics</u>	Forest & Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries (23B)
<u>17005 Biorefinery: Separation & Transport in Lignocellulosic Conversion Processes</u>	Forest & Plant Bioproducts (17)	Transport Processes (01D), Separations (02), Membrane-Based Separations (02D), Bio Separations (02G), SEF (23), Sustainable Biorefineries (23B)
<u>17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance</u>	Forest & Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries Sustainable Energy (23C) (23B),
<u>17008 Biorefinery - Improved Utilization of Co-Products From Biorefinery</u>	Forest & Plant Bioproducts (17)	SEF (23)
<u>17009 Biorefinery - Sustainability, Energy and Environmental Issues</u>	Forest & Plant Bioproducts (17)	Environmental Division (09), SEF (23)
<u>17010 Biorefinery - Deployment and Industry Infrastructure</u>	Forest & Plant Bioproducts (17)	SEF (23)
<u>20030 Catalytic Processing of Fossil and Biorenewable Feedstocks: Chemicals</u>	Catalysis & Reaction Engineering (20)	Forest & Plant Bioproducts (17), SEF (23)
<u>23000 Sustainability Plenary</u>	SEF (23)	SEF – General (23A), Sustainable Energy (23C)
<u>T1002 Separations for Renewable and Sustainable Energy Development</u>	Topical 1	Membrane-Based Separations (02D), SEF (23)

General (6 Sessions)

Title	Sponsor	Co-Sponsor
<u>23A01 Green Buildings and Construction Systems</u>	SEF – General (23A)	Sustainable Energy (23C)
<u>23A02 Case Studies in Sustainability Science and Engineering</u>	SEF – General (23A)	SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
<u>23A03 Sustainability Metrics</u>	SEF – General (23A)	
<u>23A04 Design for Sustainability</u>	SEF – General (23A)	Systems & Process Design (10A)
<u>23A05 Complexity, Networks, Dynamics, and Sustainability</u>	SEF – General (23A)	Systems & Process Control (10B), Applied Mathematics & Numerical Analysis (10D)
<u>23A06 Life Cycle Assessment and the Water-Energy-Materials Nexus</u>	SEF – General (23A)	Sustainable Energy (23C)

Sustainable Biorefineries (26 Sessions)

Title	Sponsor	Co-Sponsor
<u>01F07 Biomass and Biorenewables Processing Under Pressure</u>	High Pressure (01F)	Sustainable Biorefineries (23B)
<u>02F06 Solid/Liquid Separation for Emerging Energy Processes</u>	Fluid-Particle Separations (02F)	Fuels & Petrochemicals (16), Sustainable Biorefineries (23B)
<u>15C01 Biobased Fuels and Chemicals II</u>	Bioengineering (15C)	Sustainable Biorefineries (23B)
<u>15C04 Advances in Fermentation and Biological Conversion</u>	Bioengineering (15C)	Sustainable Biorefineries (23B)
<u>15C07 Environmental Biotechnology: Green Bioprocessing</u>	Bioengineering (15C)	Sustainability (09G), Sustainable Biorefineries (23B), Topical G
<u>15C24 Biobased Fuels and Chemicals I</u>	Bioengineering (15C)	Sustainable Biorefineries (23B)
<u>17004 Forest Products Biorefinery Feedstock and Logistics</u>	Forest and Plant Bioproducts (17)	Sustainability (09g), SEF (23), Sustainable Biorefineries (23B)
<u>17005 Biorefinery: Separation & Transport in Lignocellulosic Conversion Processes</u>	Forest and Plant Bioproducts (17)	Transport Processes (01D), Separations (02), Membrane-Based Separations (02D), Bio Separations (02G), SEF (23), Sustainable Biorefineries (23B)

Title	Sponsor	Co-Sponsor
<u>17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance</u>	Forest and Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
<u>17007 Biorefinery - Thermochemical Conversion of Biomass</u>	Forest and Plant Bioproducts (17)	Transport & Energy Processes (07), Emerging Energy Processes (07C), New Challenges in Enhanced Heat Transfer (07H), Alternate Fuels & New Technology (16D), Sustainable Biorefineries (23B)
<u>23B01 Reactor Engineering for Biomass Feedstocks</u>	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Forest & Plant Bioproducts (17), SEF (23)
<u>23B02 Poster Session: Sustainability and Sustainable Biorefineries</u>	Sustainable Biorefineries (23B)	SEF (23), General (23A), Sustainable Energy (23C)
<u>23B03 Developments in Biobased Alternative Fuels</u>	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15C), Forest & Plant Bioproducts (17), SEF – General (23A)
<u>23B04 Integrated Processes for Biochemical Conversion of Renewable Feedstocks to Fuels and Chemicals</u>	Sustainable Biorefineries (23B)	Transport Processes (01D), Bioengineering (15C), Forest & Plant Bioproducts (17), SEF (23)
<u>23B05 Life Cycle Analysis of Renewable Feedstock-Based Processes and Products</u>	Sustainable Biorefineries (23B)	Bioengineering (15C), SEF (23)
<u>23B06 Water and Waste Management in Biorefineries</u>	Sustainable Biorefineries (23B)	Environmental (09), SEF (23)
<u>23B07 Sustainable Biorefineries Plenary Session (Invited Papers)</u>	Sustainable Biorefineries (23B)	Bioengineering (15C), Forest & Plant Bioproducts (17), SEF – General (23A)
<u>23B08 Reaction Kinetics and Transport Fundamentals for Biomass Conversion</u>	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Transport & Energy Processes (07)
<u>23B09 Microbial Engineering of Microorganisms for Biofuels and Chemicals</u>	Sustainable Biorefineries (23B)	Bioengineering (15c)
<u>23B10 Advances in Biofuels: DOE Bioenergy Research Centers</u>	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts Division (17)

Title	Sponsor	Co-Sponsor
<u>23B11 Sustainable Biomass Feedstock Production and Supply for the Emerging Biorefinery Industry</u>	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts (17), SEF (23)
<u>23B12 Advances in Algal Biorefineries</u>	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15C), Forest & Plant Bioproducts (17), Alternate Fuels & New Technology (16D), SEF (23)
<u>23B13 Catalytic Conversion of Renewable Resources to Synthesis Gases and Pyrolysis Oils</u>	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Transport & Energy Processes (07), Forest & Plant Bioproducts (17), Alternate Fuels & New Technology (16D), SEF (23)
<u>23B14 Biological Conversions and Processes for Renewable Feedstocks</u>	Sustainable Biorefineries (23B)	Bioengineering (15C), SEF (23)
<u>23B15 Developments in the Pretreatment of Lignocellulosics for Bioconversion</u>	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts Division (17), SEF (23)
<u>23B16 Chemical and Catalytic Conversions and Processes for Renewable Feedstocks</u>	Sustainable Biorefineries (23B)	Catalysis & Rxn Engineering (20), Forest & Plant Bioproducts (17), SEF (23)

Sustainable Energy (13 Sessions)

Title	Sponsor	Co-Sponsor
<u>14000 Nuclear Energy in a Low-Carbon World</u>	Nuclear Engineering (14)	Climate Change (09H), Legislation & Regulation (09E), Sustainable Energy (23C)
<u>15C16 Advances in Metabolic Engineering and Bioinformatics I - Biofuels</u>	Bioengineering (15C)	Sustainable Energy (23C), Topical G
<u>17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance</u>	Forest and Plant Bioproducts (17)	Sustainability (09g), SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
<u>23C00 Sustainable Electricity: Generation and Storage</u>	Sustainable Energy (23C)	Emerging Energy Processes (07C), Sustainability (09G)
<u>23C01 Sustainable Energy Plenary</u>	Sustainable Energy (23C)	SEF (23)
<u>23C02 Materials for Alternative Energy: Solar Cells</u>	Sustainable Energy (23C)	Electronics & Photonics (08E), Nanoscale Science & Engineering Forum (22)

Title	Sponsor	Co-Sponsor
<u>23C03 Materials for Alternative Energy: Wind Applications</u>	Sustainable Energy (23C)	Polymers (08A), Ceramics (08D), Composites (08F)
<u>23C04 CO2 Capture, Control and Sequestration</u>	Sustainable Energy (23C)	Materials Processing (07S), Environmental (09), Separations (02)
<u>23C05 Energy Efficiency, Challenges and Solutions</u>	Sustainable Energy (23C)	New Challenges in Enhanced Heat Transfer (07H), Environmental Division (09)
<u>23C06 Sustainable Fuel From Renewable Resources</u>	Sustainable Energy (23C)	Sustainability (09G), Alternate Fuels & New Technology (16D)
<u>TE000 Chemical Looping Processes</u>	Topical E	Environmental Division (09), Sustainable Energy (23C)
<u>TE001 Oxycombustion of Coal - Need, Opportunities, and Challenges</u>	Topical E	Environmental Division (09), Sustainable Energy (23C)
<u>TE002 Advances in Gasification Research</u>	Topical E	Environmental Division (09), Sustainable Energy (23C)

SEF Awards

AIChE Sustainable Engineering Forum STUDENT PAPER AWARDS

Winner: Up to three papers per year
Sponsor(s): To be determined
Description: Awards are presented to full-time undergraduate or graduate students who prepare the best technical papers that describe results related to engineering and sustainability.

Selection Criteria:

1. Technical merit: The student(s) needs to provide original experimental data and/or published facts.
2. Quality: The student(s) needs to have the paper published (or to be published) in a refereed journal within the last year.
3. Results: The content of the paper needs to describe significant (to society) results.
4. Authorship: The student(s) needs to be the primary author(s)
5. Qualifications: The student(s) must be AIChE member(s), the SEF, and enrolled in an ABET accredited Chemical Engineering

program. The student may submit an application to join SEF, if not already a member.

Deadline: April 30, 2010.

Papers may be submitted directly by student(s), or nominated by local section chair, or an AIChE member. The original, signed manuscript and an e-mail copy of the paper with pertinent information are to be sent to:

SEF Awards Committee Chair
T.R. (Tom) Marrero, Professor
Department of chemical Engineering
W2030 Lafferre Hall
Columbia MO 65211
E-mail: MarreoT@missouri.edu
Phone: 573-882-3802

Awards:

1. Up to three papers will be selected each years; decisions are scheduled for May 31, 2010.
2. Student Award recipients will receive \$500 for travel expenses associated with attending the AIChE annual meeting, plus, a certificate of recognition.
3. Presentation: The papers are presented at

the SEF luncheon during the AIChE Annual National Meeting.

4. Past Winner(s): This paper competition was initiated in 2008.

AIChE Sustainable Engineering Forum INDUSTRIAL PRACTICE IN SUSTAINABLE ENGINEERING AWARD

Winner: One person or team per year

Sponsor(s): Albemarle Corporation

Description: This award recognized individuals or teams who have made outstanding contributions over a long-term basis pertinent to sustainable engineering development in the practice of chemical process/product design or manufacturing. This award focuses on applicants from small, medium, or large companies. The applicants' achievements will be based on both publications (articles, patents, and internal reports) and reputation substantiated by at least three (3) written recommendations. The selection of the Awardee for a given year will be based on their continued contributions to the development, implementation and dissemination of sustainable engineering practice in the chemical process industry and related fields. Contributions may include paradigms for sustainable development and/or general application of new practices. The Awardee need not necessarily be a chemical engineer. The applicant or at least one member of the team must be a member of AIChE Sustainable Engineering Forum at the time of application.

Application/ Nomination Deadline: April 30, 2010

Application/nomination documents should be submitted to:

SEF Awards Committee Chair
T.R. (Tom) Marrero, Professor
Department of chemical Engineering
W2030 Lafferre Hall
Columbia MO 65211
E-mail: MarreoT@missouri.edu
Phone: 573-882-3802

Note: The AIChE Award Nomination Form can be downloaded from the AIChE Website;
<http://www.aiche.org/About/Awards/Division.aspx>.

Decisions are scheduled for May 31, 2010.

Awards and Presentation: Plaque and \$2,500
The Award will be presented at the Sustainable Engineering Forum dinner during the AIChE Annual National Meeting.

AIChE Sustainable Engineering Forum RESEARCH EXCELLENCE IN SUSTAINABLE ENGINEERING AWARD

Winner: One person per year

Sponsor(s): Industry

Description: Award is annually presented for basic or applied research results relative to the sustainability of products, processes, or the environment. The award is to recognize the one who has made significant contributions to the teaching, and the development activities. Emphasis should be placed on accomplishments and advances made within the last five years, although the award can also be made to someone who has had an outstanding career.

Deadline: April 30, 2010

Nominations should be submitted to:

SEF Awards Committee Chair
T.R. (Tom) Marrero, Professor
Department of chemical Engineering
W2030 Lafferre Hall
Columbia MO 65211
E-mail: MarreoT@missouri.edu
Phone: 573-882-3802

Awards: The awardee will receive \$1000 and a plaque. Decisions are scheduled for May 31, 2010. More detailed information will be announced.

Education Column

By Jeffrey Seay

Providing opportunities to showcase the educational achievements of undergraduate and graduate students in the field of sustainability continues to be an important focus of the SEF. Therefore, we'd like to make everyone aware of two upcoming opportunities for student recognition.

First, starting with the 2010 National Student Conference in Salt Lake City, the Student Poster Competition will include a Sustainability category. This new category will provide a showcase for undergraduate researchers working in the field of sustainability. On a related note, volunteers are needed to serve as judges for the student poster competition. Anyone interested should contact the Education Committee Chair at the e-mail address given at the end of this column.

Second, the SEF sponsored Student Paper Award is currently accepting applications. Up to 3 awards will be



presented to full-time undergraduate or graduate students who prepare the best technical papers that describe results related to engineering and sustainability. Further details are available on the SEF website. Applications or nominations are due by April 30, 2010.

Any correspondence with regard to this column should be sent by e-mail to Jeff Seay, Education Committee Chair, at the following address: "jseay@engr.uky.edu". As always, we look forward to hearing from you.

Member Communications

A postdoctoral research project in the area of Sustainable Biofuel Supply Chains for Ethanol is available at the U.S. Environmental Protection Agency's National Risk Management Research Laboratory in Cincinnati, Ohio. Life cycle assessment research is needed to evaluate corn and cellulosic ethanol processes and associated supply chains.

More information about the project can be obtained by contacting

Dr. Raymond
Smith,
(513-569-7161),
smith.raymond@epa.gov



A longer description is available through the link, <http://orise.orau.gov/sep/needs/files/EPA-ORD-NRMRL-STD-2010-01.pdf>

Not Yet a Member of SEF?

Not a member of AIChE or the Sustainable Engineering Forum? In order to guarantee that you are on the current email list and will have access to all existing SEF materials, please follow the link and make sure that you join the SEF!

<https://www2.aiche.org/SolutionSite/default.aspx?tabid=168&action=MBRProductDetails&args=35&aicheskin=aiche>

Sustainability Readings

Lists of valuable sustainability related reading materials, as assembled by Earl Beaver, are available on the SEF website. Please visit the "Readings" section of the SEF website (<http://www.aiche.org/sef>). If you have any new materials to be added in, please contact the webmaster.

IfS Updates

By Darlene Schuster

Deborah Grubbe Appointed 2010 Chair of the Institute for Sustainability

The Institute for Sustainability (IfS), has announced that Deborah L. Grubbe has been appointed its 2010 chair. Commenting on her appointment, Grubbe said that advancing the use of sustainability concepts, tools and measurements is critical to meeting both business interests and society's needs. See the press release from IfS website.

Projects

Center for Sustainable Technology Practices has a number of projects which are of interest to industry members this year, including:

Carbon Management: Gaps and Barriers

The project aims to identify the gaps and barriers to lowering carbon emissions for electric power and transportation. A trans-disciplinary workshop, development of scorecards, and an on-going dialog is supported by the Founders Societies (AIChE, AIME, ASCE, IEEE, ASME) with funding from the United Engineering Foundation.

Carbon Measurement

The project is to identify gaps, barriers, educational requirements, etc. that would enable an organization to report accurate, consistent, verifiable, timely, and transparent green house gas values. A series of discussions and an "early adopters" workshop is planned in 2009, supported by the United Engineering Foundation.

Renewable Fuels Metrics Roundtable

This effort is bringing together experts from industry, academia, government and NGO's with

expertise in sustainable biofuels with two primary goals: Develop and adopt a common set of technically sound, economically viable biofuels metrics that can be used by the federal interagency task force. Identify enabling farming developments and/or processing technologies that would expand the supply, improve the economics, or improve the sustainability of biofuels.

Total Cost Assessment Users Group

This project will introduce the attendee to the concepts of Total Cost Assessment, methods for deriving costs and uncertainties, and methods for assessing impact. Participation in the users group will benefit anyone involved in risk assessment, triple bottom-line sustainability, and developing a business case for sustainable practices and processes.

Supply Chain Management Roundtable

The overall goal of the Sustainable Management Roundtable is to address how industry is reducing its impacts along its supply chain.

EPA P3 event co hosted by AIChE. Demonstrate Your Company's Commitment to Sustainability



An exhibit on the National Mall will be put up for the 40th Anniversary of Earth Day. AIChE was selected by EPA to co-host the event for 2010. For more information see: <http://www.aiche.org/IFS/Conferences/P3DesignExpo.aspx>

Check out these Workshops and Meeting co-sponsored by the Institute for Sustainability. If you missed any of them, contact ifs@aiche.org for additional information.

Conferences include:
International Congress on Sustainability Science and Engineering (ICOSSE 2011)

Tucson, AR
January 9-13, 2011

Second International Symposium on Sustainable Chemical Product and Process Engineering

Co-sponsored by: NSF, NSFC, IfS, SEF
HangZhou, China
May 9-12, 2010

NorCal AIChE's 48th Annual Symposium - The "Greening" of Chemical Engineering

Berkeley, CA
Tuesday, April 27, 2010

Exhibit on the National Mall for the 40th Anniversary of Earth Day

Co-sponsored by: AIChE, IfS, EPA
National Mall
Washington, DC
April 24-25, 2010

Think Green: Energy, Education, Environmental Initiatives

New York Institute of Technology (NYIT) and Nanjing University of Posts and Telecommunications (NUPT)
Co-sponsored by: NSF, IFS, SEF, Environmental Division
Sofitel Galaxy, Nanjing
April 7-9, 2010

Editor:

Preeti Gangadharan
Ph.D. Student
Lamar University
pgangadhar@my.lamar.edu

SEF Website:

<http://www.aiche.org/sef>

NOBCCChE/AIChE-IfS Global Sustainability Symposium

Co-sponsored by: Institute for Sustainability (IfS)
Atlanta, Georgia
March 29 - April 2, 2010

First Institute for Sustainability Conference On Sustainability For The Pacific Northwest Region

Symposium on Sustainability and the Environment
Seattle University Campus, Seattle, WA
March 25-26, 2010

Engineers Forum on Sustainability

Co-Sponsored by: ASCE, IEEE, ASME, ASEE, AIChE Institute for Sustainability, AIME, IEEE-USA, AAAS Center for Science, Innovation and Technology, Renewable Natural Resources Foundation
Washington, DC
February 19, 2010

Workshops include:
IPCC Expert Meetings

February 1-2, 2010
Palomar Hotel Washington, DC
Washington, DC

United Engineering Foundation Founder Society Carbon Measurement Team

December 7-8, 2009
Hyatt Regency Scottsdale Resort and Spa at Gainey Ranch
Scottsdale, AZ

Engineering Founder Societies Carbon Management Workshop - Gaps and Barriers

October 21-22, 2009
Baltimore, Maryland

ICOSSE - Water Workshop

Thursday, August 13, 2009
Cincinnati, Ohio

SEF Leadership 2010

Chair

Dr. Helen Lou, Associate Professor
Dan F. Smith Dept. of Chemical Engineering
Lamar University
Beaumont, TX 77710
Phone: (409) 880-8207
Email: Helen.Lou@lamar.edu

Vice Chair

Dr. David N. Thompson
Biological Sciences Department
Idaho National Laboratory
P.O. Box 1625
Idaho Falls, ID 83415-2203
Phone: (208) 526-3997
Email: david.thompson@inl.gov

Treasurer

Dr. Robert Hesketh, Professor
Department of Chemical Engineering
Rowan University
Glassboro, New Jersey 08028
Phone: (856) 256-5313
Email: hesketh@rowan.edu

Secretary

Richard E. Nemec
Manager, Engineering Innovation
Ashland, Inc.
5200 Blazer Parkway
Dublin, OH 43017
Phone: (614) 790-3854
Email: renemec@ashland.com

Programming Committee Chair

Dr. Cristina Piluso
BASF Corporation
1609 Biddle Avenue
Wyandotte, MI 48192
Phone: (734) 324-5463
Email: cristina.piluso@basf.com

Education Committee Chair

Dr. Jeffrey R. Seay, Assistant Professor
Department of Chemical and Materials
Engineering
University of Kentucky
Paducah, Kentucky 42002
Phone: (270) 534-3299
Email: jseay@engr.uky.edu

Membership Committee Chair

Denise Quarles
VP, Environmental Affairs
Southwire Company
Phone: (770) 832-4044
Email: denise_quarles@Southwire.com

Awards Committee Chair

Dr. Thomas R. Marrero, Professor
Department of Chemical Engineering
University of Missouri-Columbia
W2015 Lafferre Hall
Columbia, MO 65211
Phone: (573) 882-3802
Email: MarreroT@missouri.edu

Technical Advisory Committee Chair

Dr. Heriberto Cabezas
Director (Acting), Sustainable Technology
Division
National Risk Management Research
Lab/USEPA
26 W. M.L. King Dr.
Cincinnati, OH 45268
Phone: (513) 569-7350
Email: cabezas.heriberto@epa.gov

International Committee Chair

Dr. Yinlun Huang, Professor
Department of Chemical Engineering and
Materials Science
Wayne State University
Detroit, MI 48202
Phone: (313) 577-3771
Email: yhuang@wayne.edu

SEF Leadership 2010

Industrial Liaison

Dr. Joseph B. Powell
Shell Chief Scientist - Chemical Engineering
Westhollow Technology Center
3333 Highway 6 South, Houston, TX 77082
Houston, TX 77082
Phone: (281) 544-8976
Email: Joe.Powell@Shell.com

Past Chairs:

2007-2009

Dr. Yinlun Huang, Professor
Department of Chemical Engineering and
Materials Science
Wayne State University
Detroit, MI 48202
Phone: (313) 577-3771
Email: yhuang@wayne.edu

2006-2007

Dr. Martin Abraham
Dean, College of Science, Technology,
Engineering, and Mathematics
Youngstown State University
One University Plaza
Youngstown, OH 44555
Phone: (330) 941-3009
Email: martin.abraham@ysu.edu

2003-2005

Dr. Subhas K. Sikdar
Associate Director for Science
National Risk Management Research
Lab/USEPA
26 W. M.L. King Dr.
Cincinnati, OH 45268
Phone: (513) 569-7528
Email: sikdar.subhas@epa.gov

Technical Areas:

General (Area 23a)

Area Chair:

Dr. Bhavik R. Bakshi, Professor
Department of Chemical & Biomolecular
Engineering
Ohio State University
140 West 19th Ave.
Columbus, OH 43210
Phone: (614) 292-4904
Email: bakshi.2@osu.edu

Sustainable Biorefineries (Area 23b)

Area Chair:

Dr. Bruce Dien
National Center of Agricultural Utilization
Research
ARS-USDA
1815 North University St.
Peoria, IL 61604
Phone: (309) 681-6270
Email: Bruce.Dien@ars.usda.gov

Vice Chair:

Dr. David Shonnard, Professor
Department of Chemical Engineering
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295
Phone: (906) 487-3468
Email: drshonna@mtu.edu

Sustainable Energy (Area 23c)

Area Chair:

Dr. William M. Barrett Jr.
National Risk Management Research
Lab/USEPA
26 W. M.L. King Dr.
Cincinnati, Ohio
Phone: (513) 569-7220
Email: Barrett.Williamm@epa.gov