AIChE
SUSTAINABLE ENGINEERING FORUM NEWSLETTER

October 2010
Volume 4, Issue 3

Message from the Chair

It is mid-Fall and time to prepare for the AIChE Annual Meeting, which will be held at Salt Lake City, Utah, November 7-12. As you know, the SEF is sponsoring/co-sponsoring a record number of sessions at the Annual Meeting. The Forum is growing rapidly and all kudos go to our members and the leadership, both past and present.

We have a number of special SEF events planned for the meeting that we are sure you would not want to miss. Details of these events can be found in the Announcements section. A full list of the programming activities for the Fall Meeting is given in the Programming Activities column, along with details of the topical for the 2011 AIChE Spring Meeting.

In this issue, we include a section on the winners of the 2010 SEF awards. Dr. Yinlun Huang is the recipient of the Research Excellence in Sustainable Engineering award for his work in sustainability assessment, system design, and decision making using multiscale complex systems science and engineering methods, and decision and uncertainty theories. The Industrial Practice in Sustainable Engineering award goes to GlaxoSmithKline for the efforts of their Operational Sustainability team towards incorporation of sustainability principles into product design. The student paper awards are bagged by Eman Tora and Chaowei Liu. The awards will be presented at the SEF luncheon on November 10th during the AIChE Meeting.

ICOSSE'11, which is co-sponsored by the SEF, will be held January 9-13, 2011 in Tucson, Arizona. It will be a great opportunity for practitioners from various fields to exchange ideas about managing sustainability of natural resources using scientific and engineering innovations.

As always, we welcome your comments and suggestions regarding the forum. We appreciate your continuous support and participation, and count on more of the same in future.

Helen Lou
Chair, Sustainable Engineering Forum

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SEF Website:
http://www.aiche.org/sef

Announcements

By David N. Thompson

AIChE Center for Energy Initiatives

The AIChE Board of Directors has approved the formation of a Center for Energy Initiatives. The Center grew out of the work of AIChE's Energy Advisory Board, which was formed in 2005, and has already undertaken a number of research and education projects. It has coordinated a project on carbon management for a group of leading engineering societies, made awards for K-12 energy education projects, and developed a "Speakers Academy" of energy experts. Work is underway on an inter-society, inter-disciplinary project to develop energy metrics that will allow for consistent comparison of diverse energy options. The Center is also developing energy education modules for the undergraduate chemical engineering curriculum. Membership in the Center is automatic for members of AIChE who are also members of several AIChE divisions and forums in the energy arena. For more information, visit www.aiche.org/energy.

One of the Center's first activities will be conducting the First International Congress on Energy: Sustaining Supplies. The Congress will run in conjunction with AIChE's Annual Meeting in Salt Lake City, Utah, this November 7-12.

International Congress on Energy: Sustaining Supplies

The AIChE Center for Energy Initiatives, together with the Institute for Sustainability and the Society for Biological Engineering have teamed together to organize the First International Congress on Energy: Sustaining Supplies. This targeted conference is created by grouping the high quality energy-related sessions submitted to the Annual Meeting under one umbrella. This year's conference brings industry, university and government leaders together to address the challenge of sustaining the energy supply. For more information, go to http://energycongress.org/

SEF and Energy Initiatives Board Announce Undergraduate Competition

The SEF and Energy Initiative Board have announced a competition promoting K-12 energy education that pairs teams of AIChE student chapters and an area K-12 school. Using energy concepts, teams will develop hands-on educational activities addressing curricular needs. Each student group must submit a proposal describing the specific activity and it will be judged by a group of chemical engineering educators as to its effectiveness. For more information, point your browser to http://www.aiche.org/Energy/Education/K12Initiatives.aspx

SEF Events planned for AIChE Annual Meeting in Salt Lake City

Have you ever wanted to become more involved in the SEF? The following special events have been scheduled for the upcoming Annual Meeting in Salt Lake City. If you are interested in participating, please plan to attend.

1. Green Engineering Education Workshop: "Incorporating Green Engineering and Sustainability into Engineering Curricula" , Sunday November 7, 8:00am to 12 noon, $15
2. "Cellulosic Biomass Commercialization: Overcoming Obstacles in the Supply Chain for Fuels and Chemicals" – James Hettenhaus, James D. McMillan and

Richard L. Bain, Sunday November 7, 8:30am - 5:00pm, $499

3. SEF Leadership Meeting: Monday, November 8th, 5:00 - 6:30 pm
4. SEF Programming Meetings for the 2011 Annual Meeting
    a. Area 23a - General and Area 23c - Sustainable Energy: Tuesday, November 9th, 4:00 - 5:00 pm
    b. Area 23b - Sustainable Biorefineries: Tuesday, November 9th, 5:00 - 6:00 pm
5. SEF Luncheon: Wednesday, November 10th, 11am - 12:30. The cost will be $30/person. The winners of the SEF awards will be announced during the luncheon.

Area 23b Announces Change in Plenary Session Lineup for the Annual Meeting

Bruce Dien and David Shonnard, the chairs of Area 23b, are happy to announce the addition of Dr. George Huber as a speaker for the plenary program at this year's AICHE meeting. Dr. Huber is a professor of Chemical Engineering at the University of Massachusetts at Amherst where he works on catalytic processing of biomass to biofuels and functionalized materials. Dr. Huber replaces Mr. Bob McDonald from Range Fuels.

AIChE SEF Webinar: Credentials for Sustainability Professionals

Deborah L. Grubbe- 11:30am (ET), Dec 8, 2010

In order to effect more positive and faster advancements in the sustainability arena, the speaker suggests that the sustainability community must address two fundamental components. First, the community must define what is meant by the term "Sustainability Practice," and secondly, it must define how to become a credentialed "Sustainability Expert." Like medicine, engineering and other professions, one must have an agreed upon body of knowledge and a set of competent practitioners. Ms. Grubbe will review the progress to date and the future plans around establishing a credential around the practice of Sustainability

Deborah Grubbe (PE, CEng.) is Owner and President of Operations and Safety Solutions, LLC, a consultancy that specializes in enhancing returns from both hard and soft assets. She is the former Vice President of Group Safety for BP plc, which had its two safest years ever under her watch. Deborah was trained in the characteristics of safe operations during her 27 year career at DuPont, where she held corporate director positions in safety, operations and engineering. Her many assignments have included capital project implementation, strategic safety assessments, manufacturing management and human resources.

Deborah is a member of the NASA Aerospace Safety Advisory Panel, and served as a consultant on safety culture to the Columbia Shuttle Accident Investigation Board. She is also a member of the National Safety Council's Board of Trustees. She is a former Chair of the National Institute of Standards and Technology Visiting Committee for Advanced Technology. Deborah currently serves on the Purdue University College of Engineering Dean's Advisory Council, and is a member of the FIRST Robotics Board of Directors. She is working with the National Academy of Sciences as a member of the Closure Committee to support the Demilitarization of the US Chemical Weapons Stockpile. Deborah is a former member of the Board of

Directors of American Institute of Chemical Engineers and the Center for Chemical Process Safety. In 2002, she received the Purdue Distinguished Engineering Alumni Award, and was named "Engineer of the Year" in the State of Delaware.

She has been active in the Delaware community; as former president and board member of the Chesapeake Bay Girl Scout Council, and currently sits on their Northern President's Advisory Council. Deborah is currently a board member of the Delaware Zoological Society. She was the first woman and youngest elected member on the State of Delaware Registration Board for Professional Engineers (1985-1989). During her tenure on the State Board, she was the Chair of the Law Enforcement and Ethics Committee.

Deborah was born in suburban Chicago and graduated with a Bachelor of Science in Chemical Engineering with Highest Distinction from Purdue University. She received a Winston Churchill Fellowship to attend Cambridge University in England, where she received a Certificate of Post-Graduate Study in Chemical Engineering. She is a registered professional engineer in Delaware, is a chartered engineer in the UK, and is married to James B. Porter, Jr., of Chadds Ford, Pennsylvania.

Sustainable Engineering Forum Luncheon 2010

11AM – 12:30PM
Wednesday, November 10, 2010

The 2010 Research Excellence in Sustainable Engineering Award, 2010 Industrial Practice in Sustainable Engineering Award, and the 2010 Student Paper Award will be presented at the luncheon.

Guest Speaker:
Announcement of AIChE Water Initiative by:

Tracy Young
Global Application Development R&D Leader, Dow Water & Process Solutions

Tracy Young is responsible for global application development pipeline across the entire business and currently leads a team of 25 development specialists.

SEF Luncheon 2010: Awards

2010 Research Excellence in Sustainable Engineering Award:

Dr. Yinlun Huang, Professor, Department of Chemical Engineering and Materials Science, Wayne State University

Dr. Yinlun Huang is Professor of Chemical Engineering and Materials Science and Charles H. Gershenson Distinguished Faculty Fellow at Wayne State University. Engineering sustainability has been Dr. Huang's main research field. Over the past years, Dr. Huang has made significant contributions in theoretical research and industrial applications for industrial sustainability assessment, system design, and decision making using multiscale complex systems science and engineering methods, and decision and uncertainty theories. Dr. Huang received his B.S. from Zhejiang University, China in 1982, and M.S. and Ph.D. from Kansas State University in 1988 and 1992, respectively. He joined Wayne State

University in 1993, after his postdoctoral research at the University of Texas at Austin.

2010 Industrial Practice in Sustainable Engineering Award:

GlaxoSmithKline

The Operational Sustainability team is part of the Sustainability and Environment Center of Excellence in GlaxoSmithKline (GSK). This team embeds sustainability principles into GSK new product development and throughout a product's life cycle. They develop processes, tools and guidance to help integrate more efficient, greener and safer chemistries and processes into GSK operations.

Operational Sustainability Team at GlaxoSmithKline: Present and some Past Members
Upper row (current members), left to right: Conchita Jimenez-Gonzalez, Rebecca DeLeeuwe, Richard Henderson, Celia Ponder, Lisa Cardo
Lower row (some of the past members), left to right: David JC Constable, Virginia Cunningham, Alan Curzons, Ailsa Duncan, Steve Binks
Not pictured: Joe Milligan

2010 Student Paper Award:

Eman Tora, Department of Chemical Engineering, Texas A&M University

"Optimal Design and Integration of Solar Systems and Fossil Fuels for Sustainable and Stable Power Outlet," published in Clean. Techn. Environ Policy (2009), **11**: 401-407 (co-author, Professor Mahmoud M. El-Halwagi)

Eman Tora is a PhD candidate at the Department of Chemical Engineering, Texas A&M University. She holds a B.S. from Elminia University and an MS from Cairo University (Egypt) in chemical engineering.

The paper introduces a systematic approach to the optimal design of industrial cogeneration systems that use solar energy and fossil fuels. An optimization model is developed to account for the dynamic variation in solar energy while performing heat integration for the process and providing the appropriate level of fossil fuel.

2010 Student Paper Award (runner-up):

Chaowei Liu, Department of Chemical Engineering, Lamar University

"Emission Source Characterization for Proactive Flare Minimization During Ethylene Plant Start Ups," published in Ind. Eng. Chem. Res. (2010), **49**, 5734-5741. (co-author, Professor Qiang Xu)

Mr. Chaowei Liu is a Ph.D. student in Chemical Engineering at Lamar University. His research area includes chemical process design, simulation, and optimization with specific applications in air emission

reduction for petrochemical industries sustainability.

This paper employs rigorous plant-wide dynamic simulations to characterize flaring emission sources under different flare minimization strategies for an ethylene plant start-up. The study will enrich the emission inventory with details for industry point sources, and also provides detailed technical support for both the industry and environmental agencies on evaluating and developing sustainable flare minimization strategies in the future.

Programming Activities

By Christina Piluso

AIChE 2011 Spring Meeting- SEF Programming

For the 2011 Spring Meeting, The SEF has organized a topical- Topical 3. The call for papers is open until Friday, October 22.

Topical 3: Advances in Sustainability

Title	Session Chair	Session Co-Chair
Energy Efficiency, Challenges and Solutions	Martin Abraham	
Establishing and Ensuring Sustainable Biofuels Development: A Department of Energy/Industry Perspective	Alison Goss Eng	David Thompson
Federal Role in Renewable Liquid Fuels: Strategy and Perspective	Leslie Pezzullo	David Thompson
Product Life Cycle Carbon Management	Todd Martin	
Sustainable Energy and Oil Refining	Ignasi Palou-Rivera	
Sustainable Energy in Practice	William Barrett	
Technology Innovation on Oil Spill Cleanup and the Restoration of An Ecosystem's Sustainability	William Barrett	Helen Lou

AIChE 2010 Annual Meeting

The updated list of sessions sponsored/ co-sponsored by the SEF for the AIChE 2010 Annual meeting in Salt Lake City, Utah, in November, is given below. There are a total of 82 sessions planned.

Sustainable Engineering Forum

Title	Sponsor	Co-Sponsor
02D14 Session in Honor of Professor Anthony Fane: Membrane Separations I	Membrane-Based Separations (02D)	SEF (23)
02E02 Adsorption Applications for Sustainable Future	Adsorption & Ion Exchange (02E)	SEF (23)
04006 Incorporating Green Engineering and Sustainability Into the Curriculum	Education (04)	Sustainability (09G), SEF (23)
09000 Efficient Transformational Technologies – Factor 10 Engineering (10XE)	Environmental Division (09)	SEF (23)
09001 Environmental Implications of Nanomaterials I	Environmental Division (09)	SEF (23)
09004 Environmental Applications of Nanotechnology II	Environmental Division (09)	Nanoscale Science & Engineering (22), SEF (23)
09B01 Environmental Applications of Nanotechnology and Nanomaterials	Water (09B)	SEF (23), Nanoscale Science & Engineering Forum (22)
09F01 Fundamentals of Environmental Sustainability	Fundamentals (09F)	SEF (23)
09G01 Sustainable Building Design	Sustainability (09G)	SEF (23)
09H02 Climate Change Legislation and Regulation	Climate Change (09H)	Separations (02), SEF (23)
12B04 Pilot Plants for Green & Sustainable Processes II	Pilot Plants (12B)	SEF (23)
14000 Ned Division Student Award Competition	Nuclear Engineering (14)	Environmental (09), SEF (23)
17001 Biobased Materials II	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
17002 Biobased Materials III	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
17003 Biobased Materials IV	Forest & Plant Bioproducts (17)	Poylmers (08A), SEF (23)
17004 Forest Products Biorefinery Feedstock and Logistics	Forest & Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries (23B)

Title	Sponsor	Co-Sponsor
17005 Biorefinery: Separation & Transport in Lignocellulosic Conversion Processes	Forest & Plant Bioproducts (17)	Transport Processes (01D), Separations (02), Membrane-Based Separations (02D), Bio Separations (02G), SEF (23), Sustainable Biorefineries (23B)
17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance	Forest & Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
17008 Biorefinery - Improved Utilization of Co-Products From Biorefinery	Forest & Plant Bioproducts (17)	SEF (23)
17009 Biorefinery - Sustainability, Energy and Environmental Issues	Forest & Plant Bioproducts (17)	Environmental Division (09), SEF (23)
17010 Biorefinery - Deployment and Industry Infrastructure	Forest & Plant Bioproducts (17)	SEF (23)
20030 Catalytic Processing of Fossil and Biorenewable Feedstocks: Chemicals	Catalysis & Reaction Engineering (20)	Forest & Plant Bioproducts (17), SEF (23)
23000 Sustainability Plenary	SEF (23)	SEF – General (23A), Sustainable Energy (23C)
T1002 Separations for Renewable and Sustainable Energy Development	Topical 1	Membrane-Based Separations (02D), SEF (23)

General

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

Sustainable Biorefineries

Title	Sponsor	Co-Sponsor
01F07 Biomass and Biorenewables Processing Under Pressure	High Pressure (01F)	Sustainable Biorefineries (23B)
15C01 Biobased Fuels and Chemicals II	Bioengineering (15C)	Sustainable Biorefineries (23B)
15C04 Advances in Fermentation and Biological Conversion	Bioengineering (15C)	Sustainable Biorefineries (23B)
15C07 Environmental Biotechnology: Green Bioprocessing	Bioengineering (15C)	Sustainability (09G), Sustainable Biorefineries (23B), Topical G
17004 Forest Products Biorefinery Feedstock and Logistics	Forest and Plant Bioproducts (17)	Sustainability (09g), SEF (23), Sustainable Biorefineries (23B)
15C24 Biobased Fuels and Chemicals I	Bioengineering (15C)	Sustainable Biorefineries (23B)
16004 Biomass Pyrolysis	Fuels & Petrochemicals (16)	Catalysis & Reaction Engineering (20), Alternative Energy & Fuel Cells (07F), Sustainability (09g), Alternate Fuels & New Technology (16D), Sustainable Biorefineries (23B), Sustainable Energy (23C)
17005 Biorefinery: Separation & Transport in Lignocellulosic Conversion Processes	Forest and Plant Bioproducts (17)	Transport Processes (01D), Separations (02), Membrane-Based Separations (02D), Bio Separations (02G), SEF (23), Sustainable Biorefineries (23B)
17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance	Forest and Plant Bioproducts (17)	Sustainability (09G), SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
17007 Biorefinery - Thermochemical Conversion of Biomass I	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)
23B01 Reactor Engineering for Biomass Feedstocks	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Forest & Plant Bioproducts (17), SEF (23)

Title	Sponsor	Co-Sponsor
23B02 Poster Session: Sustainability and Sustainable Biorefineries	Sustainable Biorefineries (23B)	SEF (23), General (23A), Sustainable Energy (23C)
23B03 Developments in Biobased Alternative Fuels I	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15C), Forest & Plant Bioproducts (17), SEF – General (23A)
23B03 Developments in Biobased Alternative Fuels I	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15C), Forest & Plant Bioproducts (17), SEF – General (23A)
23B04 Integrated Processes for Biochemical Conversion of Renewable Feedstocks to Fuels and Chemicals I	Sustainable Biorefineries (23B)	Transport Processes (01D), Bioengineering (15C), Forest & Plant Bioproducts (17), SEF (23)
23B05 Life Cycle Analysis of Renewable Feedstock-Based Processes and Products	Sustainable Biorefineries (23B)	Bioengineering (15C), SEF (23)
23B07 Sustainable Biorefineries Plenary Session (Invited Papers)	Sustainable Biorefineries (23B)	Bioengineering (15C), Forest & Plant Bioproducts (17), SEF – General (23A)
23B08 Reaction Kinetics and Transport Fundamentals for Biomass Conversion I	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Transport & Energy Processes (07)
23B09 Microbial Engineering of Microorganisms for Biofuels and Chemicals I	Sustainable Biorefineries (23B)	Bioengineering (15c)
23B10 Advances in Biofuels: DOE Bioenergy Research Centers I	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts Division (17)
23B11 Sustainable Biomass Feedstock Production and Supply for the Emerging Biorefinery Industry	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts (17), SEF (23)
23B12 Advances in Algal Biorefineries I	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15C), Forest & Plant Bioproducts (17), Alternate Fuels & New Technology (16D), SEF (23)
23B13 Catalytic Conversion of Renewable Resources to Synthesis Gases and Pyrolysis Oils	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Transport & Energy Processes (07), Forest & Plant Bioproducts (17), Alternate Fuels & New Technology (16D), SEF (23)

Title	Sponsor	Co-Sponsor
23B14 Biological Conversions and Processes for Renewable Feedstocks	Sustainable Biorefineries (23B)	Bioengineering (15C), SEF (23)
23B15 Developments in the Pretreatment of Lignocellulosics for Bioconversion	Sustainable Biorefineries (23B)	Forest & Plant Bioproducts Division (17), SEF (23)
23B16 Chemical and Catalytic Conversions and Processes for Renewable Feedstocks	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), SEF (23), Research & New Technology Committee (18j)
23B17 Advances in Biofuels: DOE Bioenergy Research Centers II	Sustainable Biorefineries (23B)	Research & New Technology Committee (18j)
23B18 Developments in the Pretreatment of Lignocellulosics for Bioconversion II	Sustainable Biorefineries (23B)	SEF (23), Research & New Technology Committee (18j)
23B19 Developments in the Pretreatment of Lignocellulosics for Bioconversion III	Sustainable Biorefineries (23B)	SEF (23), Research & New Technology Committee (18j)
23B20 Biological Conversions and Processes for Renewable Feedstocks II	Sustainable Biorefineries (23B)	Bioengineering (15c), SEF (23), Research & New Technology Committee (18j)
23B21 Reaction Kinetics and Transport Fundamentals for Biomass Conversion II	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Transport & Energy Processes (07), Research & New Technology Committee (18j)
23B22 Integrated Processes for Biochemical Conversion of Renewable Feedstocks to Fuels and Chemicals II	Sustainable Biorefineries (23B)	Transport Processes (01d), Bioengineering (15c), Research & New Technology Committee (18j), SEF (23)
23B23 Developments in Biobased Alternative Fuels II	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15c), Research & New Technology Committee (18j), SEF - General (23A)
23B24 Advances in Algal Biorefineries II	Sustainable Biorefineries (23B)	Catalysis & Reaction Engineering (20), Bioengineering (15c), Alternate Fuels & New Technology (16D), Research & New Technology Committee (18j), SEF (23)
23B25 Microbial Engineering of Microorganisms for Biofuels and Chemicals II	Sustainable Biorefineries (23B)	Bioengineering (15c), Research & New Technology Committee (18j)

Sustainable Energy

Title	Sponsor	Co-Sponsor
15C15 Advances in Metabolic Engineering and Bioinformatics I - Biofuels	Bioengineering (15C)	Sustainable Energy (23C), Topical G
17006 Biorefinery - Biochemical Conversion and Biomass Recalcitrance	Forest and Plant Bioproducts (17)	Sustainability (09g), SEF (23), Sustainable Biorefineries (23B), Sustainable Energy (23C)
16004 Biomass Pyrolysis	Fuels & Petrochemicals (16)	Catalysis & Reaction Engineering (20), Alternative Energy & Fuel Cells (07F), Sustainability (09g), Alternate Fuels & New Technology (16D), Sustainable Biorefineries (23B), Sustainable Energy (23C)
23C00 Sorptive Processes for Use in Carbon Dioxide Capture	Sustainable Energy (23C)	Research & New Technology Committee (18j)
23C01 Sustainable Energy Plenary	Sustainable Energy (23C)	SEF (23)
23C02 Materials for Alternative Energy: Solar Cells	Sustainable Energy (23C)	Electronics & Photonics (08E), Nanoscale Science & Engineering Forum (22)
23C04 CO2 Capture, Control and Sequestration	Sustainable Energy (23C)	Materials Processing (07S), Environmental (09), Separations (02)
23C05 Energy Efficiency, Challenges and Solutions	Sustainable Energy (23C)	New Challenges in Enhanced Heat Transfer (07H), Environmental Division (09)
23C06 Sustainable Fuel From Renewable Resources	Sustainable Energy (23C)	Sustainability (09G), Alternate Fuels & New Technology (16D)
23C07 Novel Processes for Carbon Capture	Sustainable Energy (23C)	Sustainability (09g), Alternate Fuels & New Technology (16D), Research & New Technology Committee (18j)
23C08 Sustainable Electricity: Generation and Storage	Sustainable Energy (23C)	Emerging Energy Processes (07C), Sustainability (09G)
23C09 Sustainable Diesel Fuel From Renewable Resources	Sustainable Energy (23C)	Alternate Fuels & New Technology (16D), Research & New Technology Committee (18j)
23C10 Innovative Carbon Capture and Storage Processes	Sustainable Energy (23C)	Emerging Energy Processes (07C), Research & New Technology Committee (18j)

Title	Sponsor	Co-Sponsor
23C11 Solvent and Membrane Processes for Carbon Capture	Sustainable Energy (23C)	Membrane-Based Separations (02D), Research & New Technology Committee (18j)
TE000 Chemical Looping Processes	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE001 Oxycombustion of Coal - Need, Opportunities, and Challenges I	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE002 Advances in Gasification Research I	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE003 Advances in Gasification Research II	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE004 Chemical Looping Processes II	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE005 Oxycombustion of Coal – Need, Opportunities, and Challenges II	Topical E	Environmental Division (09), Sustainable Energy (23C)
TE006 Oxycombustion of Coal – Need, Opportunities, and Challenges III	Topical E	Environmental Division (09), Sustainable Energy (23C)

Sustainable Biorefineries Column

By Bruce Dien and David Shonnard

At this year's annual meeting, the Sustainable Biorefineries (23B) will have a record 24 sessions, which represents, including posters, 203 technical papers. As evident from the titles and abstracts, we think this year's sessions should be interesting and highly worthwhile for the attendees. I want to especially note our new programming, which includes: technical updates from the DOE bioenergy centers, a session specifically devoted to microbial engineering strategies related to biofuels and chemicals , and one addressing fundamentals in reaction kinetics and transport phenomena for biomass conversion.

Thank you to all of our enthusiastic chairs and co-chairs who worked so hard recruiting papers, requesting overflow sessions as needed, and organizing their sessions in a timely manner!

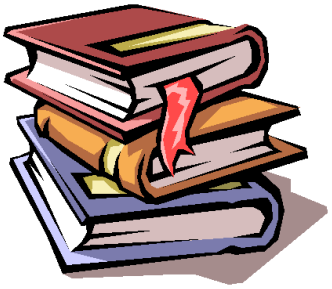
We have also formalized a joint advertisement campaign with the Society of Industrial Microbiology, sponsor of the annual Symposium on Biotechnology for Fuels and Chemicals Sustainable Biorefineries. For those not familiar with this Symposium, it is in its 33rd year and is the most popular specialized meeting for biochemical conversion of biomass. As a result, we have a half page advertisement in the meeting proceedings, the

AIChE annual and related specialty meetings are listed on the SIM calendar, and they announced our meeting at the ending banquet. On our side, AICHE will likewise advertise their meeting in our proceedings, in our newsletter, and announce the Symposium meeting at our plenary. Thank you to Dave Thompson, who conceived and pursued this agreement. Thank you, as well, to all the professional staff people at both SIM and AIChE that help make this so convenient for us to implement.

Finally, our programming meeting will be held on Tuesday, November 9, 2010, 5:00-6:00 pm; location still to be determined. Please plan on attending the programming meeting if you are able to, for a discussion of next year's programming, including new session ideas. This year, Sustainable Biorefineries will have its own meeting time to ensure greater efficiency.

Education Column

By Jeffrey Seay



Now that the Fall semester is well underway, it's time once again to turn our attention to the AIChE Annual Meeting. This year's meeting in Salt Lake City, Utah again features a full slate of activities for undergraduate and graduate students involved in sustainability focused research. For the first time ever, the National Student Poster Competition will feature a Sustainability category for undergraduate researchers. This new category will provide a forum for undergraduates to showcase their contributions to the field of sustainability. Volunteers are needed to serve as judges for the student poster competition. The National Student Poster Competition will be held on the morning of Monday, November 8th in Salt Lake City. Anyone interested in volunteering should contact the Education Committee Chair at the e-mail address given at the end of this column.

Additional ongoing educational projects being funded by the SEF include the development of modules for incorporating sustainability into core chemical engineering courses. These modules are slated to be available on the SEF website by the end of the year. A special presentation describing the content and progress on the development of these modules will be given in the session, "Incorporating Green Engineering and Sustainability into the Curriculum", sponsored by the Education Division and co-sponsored by the SEF. This session will be held on Wednesday, November 10 at the Annual Meeting in Salt Lake City.

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

By Heriberto Cabezas

Second International Congress on Sustainability Science and Engineering

The Congress is scheduled for January 9th – 13th, 2011 in Tucson, Arizona, USA at the J.W. Marriott Starr Resort in the Tucson Mountains. The Congress has the purpose of providing a venue for practitioners of various physical and ecological sciences, engineering fields, economics, and social sciences to exchange emerging ideas about ways and means of protecting the environment and its resources so that humans can achieve sustained economic growth and societal benefits through generations. The focus of this Congress is

managing natural resources sustainability from a systems perspective using scientific and engineering innovations.

Congress topics include:

- Plenary session on industrial sustainability pathways and programs by invited industry leaders
- Sustainability practice in industry:
- Sustainable value/supply chains
- Sustainable built environments
- Infrastructure for energy and resource utilization efficiency
- Technology for water sustainability and management
- Water sustainability and sustainable water management
- Sustainable energy
- Metrics for sustainability
- Standards and protocols
- Educational opportunities and international collaboration

Paper Criteria: (ICOSSE'11)

If you are engaged in scientific endeavors or engineering advancements that you believe can impact the state of sustainability implementation in providing the products and services required by society, you must consider submitting a paper.

Presentations should include the sound science and technical groundwork essential for successful outcomes. Papers of the highest quality will be selected for presentation and/or publication in the proceedings.

Abstract submission deadline for oral and general poster session is October 29, 2010. Paper topics include:

- Sustainable Natural Resource Management
- Sustainable Manufacturing
- Sustainable Materials and Product Design
- Sustainability through Green Chemistry and Engineering
- Product Life Cycle Assessment – Recycle/Reuse/Remanufacturing
- Sustainable Supply Chain
- Metrics for Sustainability
- Standards and Protocols
- Sustainable Built Environment
- Non-fossil Fuels for Transportation
- Sustainable Water Management
- Teaching and Educational Programs in Sustainability
- Non-fossil Fuels for Power Generation
- Sustainable Water Technologies
- Sustainable Ecosystems Engineering

The Congress web site can be found at http://www.icosse11.org/index.php?ID=1. The Congress is sponsored by the Sustainable Engineering Forum.

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.

Members' Column

By Denise Quarles

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.

We are an active group of over 1000 members ranging from industry to academia. The diverse interests of our members have contributed to the range of activities which we offer through the forum.

How to Join

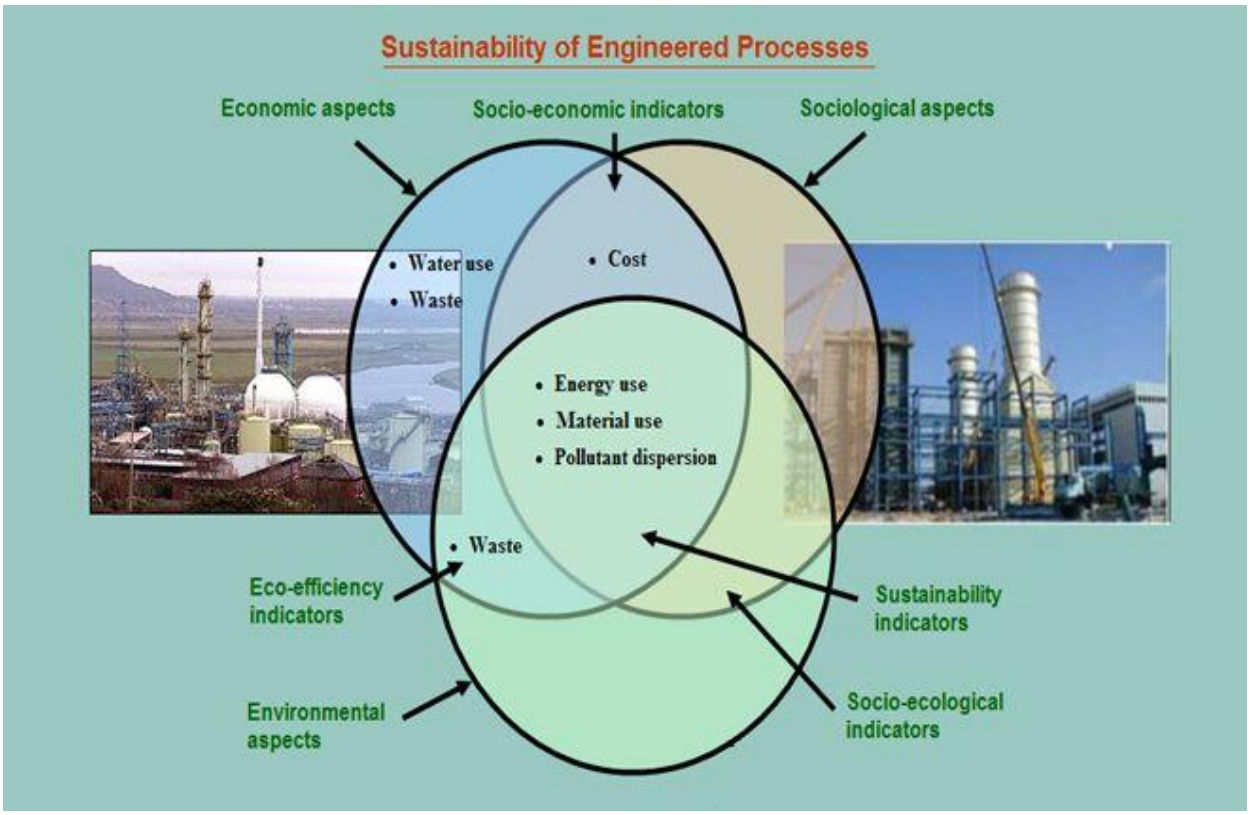
Please use the link below to access more detailed information on membership requirements and application instructions. As a member, you will be placed on our e-mailing list and notified of upcoming meetings and events.
www.aiche.org/DivisionsForums/ViewAll/SEF.aspx

Three Steps to Membership

1. Applicant's Request for Membership
   - Complete the SEF Application available online at www.aiche.org/DivisionsForms/ViewAll/SEF.aspx
     - REGULAR membership annual fee $20
     - STUDENT membership annual fee $10

   Membership fee waived for full-time undergraduate or graduate students for two years provided that student is a paid AIChE member; otherwise, a $10 annual fee is required

   Mail completed form to AIChE customer Service, 3 Park Avenue, New York, NY 10016
2. Staff Review to ensure completeness of application
3. Membership- Welcome!



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