Gordon Research Conference on Industrial Ecology

Bring Your Best Idea to the 5th GRC
Queens College, Oxford, UK 6-11 August

Valerie Thomas

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Many of you are already signed up to attend the Industrial Ecology Gordon Research Conference. You can look at the conference program on the web (http://www.grc.org/programs/2006/indust.htm), and apply to attend if you haven't already. I want to take this opportunity to lay the groundwork for the discussions that we will have there.

Gordon Research Conferences are not ordinary conferences. They are by invitation only. The number of lectures is small. There are no proceedings. They are off the record. Why?

Gordon Conferences are for research ideas at the edge. At a Gordon Conference, it's better to be intriguingly wrong than safely correct. The conference is off the record for two reasons: to talk about new research before it is published, and to feel free to talk about research ideas that may not pan out.

So please come with your best new idea, and talk about it at the Gordon Conference. You probably will not be giving a lecture; in keeping with the Zen-like format of the conference, the number of lectures is kept to a minimum. But you can talk about it anyway – gather a few participants one afternoon to talk about it, or present it in a poster.

And, push the other participants – including the lecturers – on their research. The morning and evening lecture sessions are designed for discussion, for give and take among all of the participants. The number of lectures is small so that there is lots of time for discussion. Remember, questions are off the record to encourage a relaxed atmosphere and development of new insights.

A word about science. The focus of the Gordon Research Conference is on the science and tech-

GRC continued

nology research in Industrial Ecology, including physical sciences, engineering, biology, and social sciences. This does leave out much that is important to Industrial Ecology: it leaves out policy and politics, art and culture, and there is much work to be done in these areas. But that is for other Industrial Ecology conferences. The Gordon Conference is the opportunity to focus on research, to clarify the research questions and challenges, to improve the methods, and to draw the international Industrial Ecology research community together.

We will be staying at Queens College, one of the oldest colleges of Oxford University. Founded in 1341, the current buildings date from the 1700s.

The dorm rooms are not fancy, and the food is distinctively British (I recommend the vegetarian option for those inclined that way). But the surroundings are magnificent. The Queens College web site has an excellent virtual tour, and says that the front quad has been called "the grandest piece of classical architecture in Oxford." (http://www.queens.ox.ac.uk) The lectures are held at the Oxford University Centre for the Environment, a short walk through the old streets of Oxford, passing near the Bodleian Library and the Radcliffe Camera. On an afternoon you can go punting on the River Cherwell, just a few blocks down High Street past Magdalen College.

I look forward to talking with you in Oxford.

What's New In ISIE?

ISIE 2007

The University of Toronto will host the 4th international ISIE conference, 17-20 June 2007. The call for abstracts is available and submissions are invited until 1 October 2006.

Conference Program

The 2007 program includes significant expansion in the range of topics and themes beyond those at previous ISIE conferences. Social science becomes a full partner with our more traditional technical perspectives. Sustainability takes on an explicit presence. The Chairs and Technical Committee promise to produce a coherent and exciting program that marries the old and the new. The four conference themes below emphasize the evolutionary process, but not to the exclusion of our more traditional areas, which will be covered in many of the sessions.

Sustainable Social Metabolism

Underlying unsustainable development are huge amounts, and specific qualities, of materials and energy used by contemporary industrial production and consumption systems. Analyzing this

social metabolism at different levels and finding ways to reorient it toward more sustainable paths has been a major topic in industrial ecology since its beginning. Recent developments in analytical methods such as material flow analysis, life cycle analysis, input- output analysis and possible links between them, will be presented. Attention will also be given to critical issues, including future energy systems, climate change, sustainable water metabolism, and resource scarcity.

Infrastructure for Sustainable Cities

With close to half the world's population living in cities, the design of urban infrastructure may hold the key to a sustainable future. Sessions will focus on water, energy, transportation, buildings, waste management, housing and communities.

IE for Developing Countries

Developing countries face different issues than the developed world, suggesting different focus in applying IE. Issues to be addressed include transitions from agrarian to industrial economies; the future of water metabolism; and environmental impacts of world trade.

http://www.is4ie.org

ISIE 2007 continued

Transitions to Sustainability in a Complex World

The final theme brings transition management and complex systems theory together with other latest thinking on sustainability to point to some possible future directions for IE. Sessions include integrated assessment, scenario methods, agent based models, and evolutionary models.

Abstracts from industrial participants are particularly encouraged for the following themes:

- Green Buildings
- Eco-industrial parks
- Case studies in green consulting
- Business strategy for the environment
- Ecological finance

The ISIE Conference 2007 will be presented by The University of Toronto Faculty of Applied Science & Engineering, which includes:

- Department of Civil Engineering
- Division of Environmental Engineering
- Joint Program in Transportation
- Centre for the Environment
- Professional Development Centre

For more information visit www.isie.ca or call 416-978-3481, toll-free: 1-888-233-8638

ISIE Council Meeting

The ISIE Council will meet at the GRC on Tuesday, 8 August at 1:30pm in Lecture Room A. Council Members and Committee Chairs should contact the ISIE office for more information.

Welcome New Members

John Stayton, USA

Rong Qin, China

Greg Lorton, USA

Scott Huffman, USA

Saul Brown, Canada

Katherine Lovell, United Kingdom

Renee Richer, Armenia

Benoit Charriere, Switzerland

John Norton, USA

Enrique Arbouin, Colombia

Manfred Lenzen, Australia

Carols-Alberto Peregrina-Cambero, France

David Wallace, USA

Barbara Morson, USA

Stuart McLanaghan, United Kingdom

Jobs in IE

Senior Energy Policy and Planning Analyst
Pacific Gas and Electric Company, USA

Postdoc/Senior Researcher
The Group for Sustainability and Technology (Sus-Tec), ETH, Switzerland

Post Doctoral Fellow
Georgia Institute of Technology, USA

See the ISIE website for more details.

President's Corner

Institutional Synergies and IE

Brad Allenby (Braden.Allenby@asu.edu)

In early May the 14th IEEE annual symposium on electronics and the environment was held in San Francisco, California (see a summary on page 8). As usual, the event lived up to its promise: since the first conference in 1993 it has been a major source of development of Design for Environment (DFE) methodologies and practices, and other capabilities of interest to industrial ecologists. But this time it seemed to me to have particular resonance for our community.

To begin with, it was notable that the conference bundled together three major tracks: one, dealing with electronic waste issues, was very tactical and driven by regulatory initiatives; one, which might be called the "traditional" design for environment track, was somewhat applied; and one, dealing with emerging technologies, was challenging in a number of ways, reflecting the complexity of the subject and the relative lack of theoretical and methodological tools for addressing it. Interestingly enough, the communities that appeared to be interested in each area were also different: the electronic waste track attracted a number of small businesspeople who were active in the field and looking for very practical ideas, while the DFE track brought in design engineers, product managers, and (primarily engineering) academics. The emerging technologies track, however, drew in a much more diffuse audience, including social scientists, academics studying sustainable engineering, and a number of people trying to understand the patterns and implications of foundational technologies such as nanotechnology, biotechnology, and applied cognitive science. The first two groups were clearly communities: people knew each other, and a shared view of problems and

...a sense of the importance of emerging technologies, their potentially revolutionary social and cultural impacts was clearly present.

methodologies was apparent. The third, however, had no such understanding, although a sense of the importance of emerging technologies, their potentially revolutionary social and cultural impacts, and the need to try to begin understanding them at an early stage, was clearly present. In Kuhnian terms, the first two groups were doing "normal science" within an implicit, and for them unquestioned and valid, existing paradigm. The third, however, was not; rather, they were seeking to create a paradigm, and a community, in an area which all recognized as important, but none could define with any confidence. And there was an interesting relationship between these three communities as well. On the one hand, they tended to view each other as separate, with little overlap, but on the other hand the more of a systems perspective one took, the more they all became components of the same system.

Those who have been following the—highly reflexive—industrial ecology discussions about industrial ecology will recognize this dynamic, and the concomitant tension between "normal science" and paradigm creation. Tactical or strategic? Objective or normative? In this sense, the call for abstracts for the ISIE Conference to be held in June 2007 is analogous to many of the more interesting aspects of the IEEE conference. As the call illustrates nicely in its discussion of the program and request for "a significant expansion in the range of topics and themes beyond those at previous ISIE conferences," the ISIE is also evolving, trying to understand how to integrate social science, different (and highly normative) perspectives on

President's Corner continued

social behavior and sustainability, and our still very primitive understanding of complex systems and modeling of complex systems. It is useful (for me at least) to understand this as a Kuhnian process as well: we have areas of industrial ecology, such as LCA, DFE, and MFA methodologies, which are relatively established, and where most people are doing "normal science" most of the time. But, just as the IEEE conference, we have broad areas —sustainable cities, sustainable social metabolism—where there are not yet paradigms or established boundaries.

This leads me to two observations. First, it seems to me fairly obvious that a collaboration of some sort between the IEEE (especially the annual symposium on electronics and the environment) and the ISIE would be valuable to both organizations, especially in those areas where the paradigms are not yet established. Both institutions are asking the same questions, albeit approaching them in different directions and with slightly different perspectives (not a bad thing). The IEEE, as befits its role as a professional organization for engineers, tends to focus on technologies, and to view social and cultural developments through a technocratic lens. The ISIE has roots in engineering, but is increasingly open to social science and sustainability perspectives, and associated value systems. Oversimplifying, IEEE members are self-selected technocrats, while (many) ISIE members self-select for sustainability values. It seems to me that each group, while wanting to maintain its own worldviews, would benefit from being exposed to, and sharing discussions with, the other; moreover, the common ground between the two, such as an emphasis on systems and a respect for data, make communication possible. Accordingly, I think both the IEEE and the ISIE should be encouraged to find common ground, and work out means for collaborating on conferences and meetings. To that end, there is already a core personnel overlap—several members of the IEEE conference committee are active ISIE members, and there are 10-15 other active participants of both organizations.

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Equally as important, I think the evolution of similar questions and concerns in both groups is not simply stochastic, but a reflection of more basic changes in social and cultural systems. Each institution, in its own way, is reacting to the increasing influence of human systems, especially technology, on the Earth, and attempting to perceive and address the accelerating complexity that such an influence implies. This will involve not just deepening our internal capabilities within the field of industrial ecology, but strengthening our linkages to other fields and organizations that complement our strengths. I could not help thinking at the IEEE conference of the value that some of our industrial ecology thinking could have added to their dialogs, and, conversely, what we could learn from them. Previously, I might have thought that additional learning a luxury, but increasingly I suspect it might be critical if we are to achieve the full promise of industrial ecology.

And how to begin? The easiest way, it seems to me, would be to have the IEEE co-brand that ISIE conference in Toronto in June 2007, and the ISIE co-brand the IEEE conference in Orlando in May 2007. Additionally, we might try to dedicate a minimum of two sessions in each conference to the co-branding organization, as well as encouraging identification of common areas of interest (for example, integration of autonomic computing capability in urban infrastructures and systems). Of course, there needs to be some discussion about how, and under what conditions, the organizations work together, and doubtless, most people will not be able to attend both. But at least we can begin an important process of communication and construction of critical new concepts and approaches, and over time the possibility of closer collaboration can be explored. Such efforts complicate our lives—but they also enable us to expand our learning, and our value to each other, and to society as a whole.

Conference Reports

Sustainable Systems Symposium

Troy Hawkins (trh@andrew.cmu.edu)

The challenges presented by complex systems to practitioners of sustainability analysis were the order of business at the Sustainable Systems Symposium held at The Ohio State University in Columbus, Ohio on March 2 and 3. About 50 researchers gathered to share state of the art research and discuss ideas about the models of complex systems used for sustainability analysis. The Center for Resilience sponsored the meeting.

Attendees represented diverse organizations including the Green Chemistry Institute, USEPA, General Motors, and ISIE. Each day consisted of panel presentations followed by breakout discussions on focus questions. Speakers shared their experiences in a wide range of complex systems analyses including a comparison of the life-cycle environmental impacts of fuel options for automobiles, critique of green chemistry's role in analyzing complexities and the contribution of chemical interactions to risk, lessons learned from corporate involvement in sustainability, and application of the Threshold 21 model to predictive policy analysis in many areas of the world.

Much of the discussion focused around the role research plays in moving toward a more sustainable society and how analytical techniques can

Share
your thoughts

Write a summary from a conference, workshop, symposium that you attend.

Submit to:
H. Scott Matthews (hsm@cmu.edu)

Workshop on Data Scope/Structures for National Material Accounts

Thomas Graedel (thomas.graedel@yale.edu)
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Materials Flow Analysis (MFA) received increased attention in 2003 with a report from the US National Academy of Sciences/National Research Council (NAS/NRC), entitled *Materials Count: The Case for Materials Flow Analysis*. The report concluded:

- Analyses using material flows data have already proven useful.
- A structured material flows accounting framework should be established.
- A national-level effort should be initiated to identify and fill significant data gaps that presently impede the development of effective material flow accounts.

As a follow-on to this report, and to discuss opportunities, barriers, and next steps, we convened a workshop on data scope and data structures at Yale University in September 2005. The agenda mixed presentations on current MFA projects around the world with small group sessions in which attendees addressed sets of questions that the organizing committee presented.

Plenary Session topics were:

- Experience with National Material Accounts
- Specialized MFA Databases and Their Purposes
- Elephants and Scorpions in National Material Accounts
- Case Studies Involving Material Accounts
- MFA Challenges and Responses
- Transitions in Material Flows

Among the many comments and suggestions that emerged from the working groups, the following

Sustainable Systems continued

provide the understanding of complex systems required for effective policy analysis.

ISIE President, Brad Allenby, provided the keynote address entitled "Resilience, Complexity and Urban Systems". Beginning by highlighting the rapid increase in the population living in urban areas, Allenby stressed the importance of efforts to improve the resiliency of cities. He pointed out that incremental policy efforts are not always the most effective. Policy-makers should be strategic rather than reactionary, keeping in mind that the less a policy option is coupled to other functions or systems the more easily its effects can be understood. The resiliency of cities is not just about responding, but rather about building human capital and ability to respond. According to Allenby, we have been and still are kidding ourselves about our ability to respond to the challenges we face. We need to study systems in order to understand where the vulnerabilities lie.

The Center for Resilience will post symposium presentations at: http://www.resilience.osu.edu

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MFA continued

nine recommendations received general approval from the workshop as a whole.

Fill Gaps in US Material Stock and Flow Data
A number of gaps were identified in existing US data, including: end of life data; in-use stocks; end-use data for finished goods; input-output data held by companies; market data; technological change and potential substitution.

Recommendation—efforts be made by current and future MFA groups to rectify these deficiencies in current information.

Enhance the Quality of US Material Stock and Flow Data
At the present state of MFA development, with a number of developers proceeding along essentially individual paths, there is too little agreement on the level of quality of MFA data or on the ways in which that quality should be expressed.

Recommendation—data quality evaluations be indicated at integrated account and individual data levels.

Sensitivity analyses be routinely performed on MFAs.

Consistency checks be routinely performed on MFAs.

Standardize Material Account Terminology
At the present state of MFA development, with a number of developers proceeding along essentially individual paths, the terminology used in material accounts in different countries and sometimes within the same country is inconsistent.

Recommendation—the potential for standardizing MFA terminology be explored at all levels (OECD, SEEA, Eurostat, etc.).

Improve the Capability for Information Sharing
As MFAs are developed by various groups in governments, universities, and corporations, the improved sharing of information is likely to enhance the work of all.

Recommendation—a survey be conducted of existing databases and their potential for use in MFA.

A website interface be developed to facilitate access to databases and metadatabases of useful MFA information.

Develop Case Studies of the Utility of Material Accounts
Case studies of situations in which material accounts have been shown to have particular utility provide the best way to demonstrate the importance of national material accounts. At present, several of these case studies exist, but they are fewer and less diverse than is desirable.

Recommendation—case studies be prepared for MFA projects that have demonstrated obvious usefulness, and that new projects that show potential for demonstrating the usefulness of MFA data be developed and implemented.

MFA continued

Develop Educational Materials and Experiments for Material Accounts

Although a very broad literature exists on financial accounts, the same cannot be said for materials accounts. As a result, it is difficult to train new practitioners in the topic. A wide variety of approaches to this challenge may prove useful.

Recommendation—efforts be made to develop generic information on the development and utility of MFAs.

Existing MFA case studies be repackaged for business schools.

Existing MFA case studies be repackaged for industrial users.

Existing MFA case studies be repackaged for policy users.

Generate a Special Issue on MFA Topics for a Scholarly Journal

There is at present insufficient information in the scholarly literature related to the development, utility, quality control, and implementation of national materials accounts.

Recommendation—one or more special issues on MFA topics be developed by and for a scholarly journal or journals.

Build the Business Case for Material Accounts

The benefits of a national materials account in the US are not generally appreciated by those for whom such an account could be most useful.

Recommendation—the user base for MFAs be increased, that the benefits of MFAs be promoted so that new users become champions for institutionalization, and that feedback loops be created in order that MFAs become increasing useful tools for the private sector.

Advance a Vision for Institutionalizing Material Accounts

The NAS/NRC report recommended that "an independent organization, comprised of interdisciplinary experts, be created and funded through a formal process". The committee did not prescribe

http://www.is4ie.org

the organization it had in mind, but said that it might be formed "through creation of a partnership-based consortium of industry, government, academia, and other committed stakeholders; a competitive solicitation, or some other process". No progress on this has occurred.

Recommendation—a white paper be developed by an appropriate group of experts, to include the creation, composition, and funding of an appropriate organization to begin the process of institutionalizing a national US MFA account.

Several of the recommendations, particularly those related to MFA institutionalization, will require considerable planning and receipt of the necessary funding and/or in-kind contributions of personnel in various organizations if they are to be realized. Attendees at the workshop committed themselves to continuing progress in the development of national materials accounts.

14th International Symposium on Electronics and the Environment and the 7th Electronics Recycling Summit

Brad Allenby (Braden.Allenby@asu.edu)

More than 320 people from industry, academia, and nonprofit organizations attended the 14th International Symposium on Electronics and the Environment (ISEE) and 7th Electronics Recycling SUMMIT, held 7-11 May in San Francisco. There were 100 speakers at 21 sessions, as well as 20 exhibitors, and 33 students (the latter probably being a new record).

The conference was broken into three tracks. One was a recycling track, which dealt with the rapidly evolving technologies and regulations governing electronic waste and resource recovery. A second track dealt with traditional Design for Environment engineering issues, an historical strength of the ISEE. A third, which reflects the direction in which the Symposium is evolving, reflected broader issues of industrial ecology, sustainability, and society. Sessions in the third track included papers on

ISEE continued

nanotechnology, energy efficiency, ethical issues, and sustainable engineering education. Along these lines, a number of people suggested that the Symposium could be strengthened and expanded by more active integration of the industrial ecology and the IEEE communities, a possibility that both organizations are beginning to explore (see President's Corner on page 4).

Reflecting the dual nature of the conference, the keynote was presented by Barbara Karn of EPA and the Woodrow Wilson Institute, who discussed the implications for the ICT sector of technological and regulatory developments in the area of nano-technology, and suggested ways in which industry, government, and academia could work together to support safe and sustainable implementation of

these technologies. Mark Leary, the Executive Director of the California Integrated Waste Management Board, addressed issues and lessons learned regarding end of life management of electronics in California, and potential future initiatives.

Next year's ISEE will be held 7-10 May in Orlando, Florida. The Call for Papers and other relevant information are on the ISEE/SUMMIT website (http://www.iseesummit.org/). In addition, there will be a number of panels on new developments in emerging technologies and systems. Members of the industrial ecology community who want to suggest sessions or panel topics are encouraged to e-mail either Brad Allenby (brad.allenby@asu.edu) or Scott Matthews (hsm@cmu.edu).

Journal of Industrial Ecology News

New Editors for Input-Output Analysis

Reid Lifset (reid.lifset@yale.edu)

The JIE is pleased to announce that Manfred Lenzen of the Department of Applied and Plasma Physics at the University of Sydney (Australia) and Scott Matthews of the Civil and Environmental Engineering and Engineering and Public Policy Departments at Carnegie Mellon University (USA) have been recruited to serve as subject-area editors for input-output analysis.

Atypon

The JIE publisher, MIT Press, has a new provider for its online presence. Previously, the JIE and all other MIT Press journals were hosted by Ingenta (originally CatchWord, then Ingenta, and most recently IngentaConnect). Atypon, the new provider, began hosting the JIE in April of this year, and Ingenta will stop hosting the JIE in June 2006.

The most conspicuous service provided by Atypon is posting and maintaining electronic versions of
http://www.is4ie.org

JIE articles. However, companies such as Atypon and Ingenta also provide crucial behind-the-scenes services such as submitting meta-data to abstracting-and-indexing services. In some cases, the service hosts the entire "front end" of a journal's presence on the Web including, for example, subscription management.

MIT Press made this change because they believe that it will improve the ease of access for subscribers as well as improve the ability to link to related work. Atypon has an excellent reputation and a good client base, serving many high quality publishers. The JIE expects that service will improve significantly as a result of this change. Among the new features are the ability to cross-link author names to all of their associated JIE articles, as well as reference linking in PDFs and HTML.

Under the old configuration, Ingenta managed the PDF files and MIT Press maintained the "front end" on its own server. Those two functions are

Student Organized Conference

Amy E. Landis (alandi1@uic.edu)

For the second time in the Americas (after Ganonoque 2001 in Canada), students in Industrial Ecology have had the opportunity to be at the epicenter of a professional conference. The Potowatomi Student Industrial Ecology Conference (PSIEC), a regional conference organized and attended entirely by students, was held in Indiana from March 31-April 2. Students in Industrial Ecology are widely dispersed across departments and regions, and their interactions are typically limited to the ISIE and GRC conferences and internet-based forums, like the ISIE student chapter listserv. The PSIEC created an opportunity for students of Midwestern research groups to come together.

Student participants attend a research presentation at the Potowatomi Student Industrial Ecology Conference.

Being student centered, the conference provided valuable experience at many levels, from conference organization to honing presentation styles. The student organizing committee was involved in soliciting funding, setting the agenda, reviewing abstracts, advertising, and every other conference detail. The student participants either authored a presentation or a poster, and topics encompassed many aspects of industrial ecology from life cycle analysis to decision models to sustainability policy and metrics. Participants presented their research in a supportive environment that facilitated exchange of student experiences. Additionally, the evenings featured discussion sessions focused on a variety of participant-suggested subjects including: Careers – when, how, and where to start looking and what to expect; Grant Writing – how students can author major grants with their advisors; and The Publishing Process – where and how to find IE appropriate journals.

Thanks to the conference organizers, faculty support, and support from several sponsors, the PSIEC was a success. Students networked, they

Student Plans for Gordon Research Conference

Amy E. Landis (alandi1@uic.edu)

Since the inception of ISIE, the student chapter has played a major role at conferences. This year is no exception. The student chapter has planned many activities for this year's Gordon Research Conference. From pub outings to professional development discussions to the annual student poster contest, the student chapter promises to keep you busy! Details about activities are available on the web at http://www.isiestudents.com. Bookmark us and check back for updates!

Student Chapter Meeting

We will discuss student chapter activities including the student-only industrial ecology conference as well as student chapter funding for new projects like an international research exchange. Participants can also suggest activities that they would like to see the student chapter take on. Nomina-

PSIEC continued

sharpened their presentation skills in a low-stress environment, and they talked over issues concerning student life and research. The conference organizers, John Norton Jr. (University of Michigan), Amy Landis (University of Illinois at Chicago), Gabriel Grant (Purdue University), and Vikas Khanna (The Ohio State University) thank the conference faculty advisor and conference sponsor Dr. Thomas Seager (Purdue University) for his support, advice, and prodding. We also thank the Institute for Environmental Science and Policy and its director Dr. Thomas Theis (University of Illinois at Chicago) for their sponsorship.

Next year's conference will be in Indiana from 21-23 January. Anil Baral (The Ohio State University) will take the lead on the conference organizing committee, and Dr. Bhavik Bhakshi (The Ohio State University) will serve as faculty advisor. Contact Anil (baral.1@osu.edu) for more information.

Interested in organizing your own local IE student conference? The PSIEC organizers or the ISIE student chapter are happy to share our files, proposals, web templates, agenda, and experience with you. Email Amy Landis (alandi1@uic.edu) or John Norton (jnorton@umich.edu) or check the website www.psiec.org.

Student GRC continued

tions will be accepted for 2006-2007 officers, who will be named at the meeting.

Poster Competition

Join over twenty students to compete for fabulous prizes! Members of the ISIE community will judge the competition. Awards will be made at the close of the GRC, where the winner will present his or her research and be rewarded with a one year student membership to ISIE.

Professional Development Session

This event aims to foster networking, research collaboration, and discussions among students, faculty, and professionals with similar research interests. Participants may choose to join the discussions of three focus groups: Energy, Product and material management, and Integrating social science and engineering methods. The discussions will be lead by both a student and a faculty member or industry professional. Discussion leaders will focus the conversation on one of the three topics and facilitate connections between the research interests of the group participants.

Social Activities

Social hour after conference events tends to be the best place for mingling with the rest of the conference attendees. In the past, nearly the entire conference has joined the student chapter on the local pub outings.

During the afternoon breaks, there will be opportunities to play soccer, football, or volleyball or to participate in other social events.

More info on all social activities will be available on the website and during the conference.

JIE news continued

now combined on the new Atypon website: http://www.mitpressjournals.org. (The MIT Press books catalog is still located at the old website http://mitpress.mit.edu.)

The new (Atypon-hosted) JIE website can be accessed either via the previous JIE web address, or by proceeding directly to the new JIE web address: http://www.mitpressjournals.org/jie. There will be some "growing pains" in the short run as the JIE and MIT Press adapt to the architecture of the Atypon system, so please be patient! Several aspects of the Atypon service are different from Ingenta and ISIE members will inevitably have questions. For example, the procedures for initialization of electronic access by subscribers differ between the two services.

If you discover errors or have other feedback on the new website, please send an email to indecol@yale.edu.

http://www.is4ie.org

Conference/Exhibition Listings

CEF-3 12th Annual Wider Caribbean Waste Management Conference (ReCaribe)
5-9 June 2006, Antigua

Emerging Theories and Methods in Sustainability Researcy Training Course: Analyzing Complexity
7-17 June 2006, Barcelona, Spain

Towards the City Surface of Tomorrow
8-9 June 2006, Vienna, Austria

Energex 2006
12-15 June 2006, Stavanger, Norway

International Eco-Industrial Networking Roundtable
13 June 2006, Halifax, Canada

2nd Product Stewardship Forum
14-15 June 2006, Chicago, USA

Life Cycle Perspective for Social Impacts
15 June 2005, Lausanne, Germany

2nd International Conference on Business, Management and Economics
15-18 June 2006, Izmir, Turkey

Footprint Forum
16-17 June 2006, Siena, Italy

Manufacturing & Service Operations Management
19-20 June 2006, Georgia, USA

Business and Sustainable Development Conference
21-22 June 2006, Washington, DC, USA

Product Re-X: Reuse, Recycling, Recovery, Remanufacturing. Innovations in Business Models, Product Design and Economic Development
21 June 2006, Atlanta, USA

Turning the Tide: Implementing Sustainable Strategies
25-28 June 2006, Santa Barbara, USA

IFAT China 2006
27-30 June 2006, Shanghai, China

2nd International Conference on Quantified Eco-Efficiency Analysis for Sustainability
28-30 June 2006, Egmond aan Zee, Netherlands

11th International Congress for Battery Recycling
28-30 June, 2006, Interlaken, Switzerland

IPSI-2006 MONTREAL
30 June - 3 July 2006, Montreal, Canada

IPS-USA-2006 NEW YORK
3-6 July 2006, New York, USA

IPS-USA-2006 BOSTON
6-9 July 2006, Boston, USA

The Third Annual BIO World Congress on Industrial Biotechnology and Bioprocessing
11-14 July 2006, Toronto, Canada

7th World Congress on Computational Mechanics
16-22 July, 2006, Los Angeles, USA

Workshops on Sustainable Engineering
17-19, 19-21 July 2006 Pittsburgh, PA

International Symposium on Environment
3-5 August 2006, Athens, Greece

Gordon Research Conference on Industrial Ecology
6-11 Aug 2006, Oxford, UK

The First International Environmental Best Practices Conference
7-10 August 2006, Olsztyn, Poland

Less is More: En Route to Zero Energy Buildings
13-18 August, 2006, Pacific Grove, USA

2nd International Conference on Environmental Science and Technology
19 - 22 August 2006, Houston, USA

IPSI-2007 ITALY
19-26 August 2006, Rome, Italy

IPSI-2006 LONDON,
31 August - 3 September 2006, London, UK

Conferences continued

First International Conference on Carbon Management at Urban and Regional Levels: Connecting Development Decisions to Global Issues
4-8 September 2006, Mexico City, Mexico

ORBIT 2006: Biological Waste Management-From Global to Local
13-15 September 2006, Weimar, Germany

ConAccount: Dematerialization across scales: measurement, empirical evidence, future options" and policy dialogue "Dematerialization why and how?"
13-15 September 2006, Vienna, Austria

IPSI-2006 MONTENEGRO
23-30 September, Sveti Stefan, Montenegro

BIO Human Resources Conference
25-27 September, 2006, New York, USA

RecAsh 2nd International Seminar
26-28 September 2006, Karlstad, Sweden

IPSI-2006 VENICE, ITALY
12-15 October 2006, Venice, Italy

IHDP-APN International Human Dimensions Workshop
13-26 October 2006, Chiang Mai, Thailand

Institutional Dimensions of Global Environmental Change: Water, Trade, and the Environment
13-26 October 2006, Chiang Mai, Thailand

4th Asian-Pacific Landfill Symposium in Shanghai (AP-LAS Shanghai 2006)
18-20 October 2006, Shanhai, China

Multinational Enterprise and Sustainable Development: Strategic Tool for Competitiveness
19-20 October 2006, Atlanta, USA

International Conference and Trade Fair on Hydrogen Fuel Cell Technology
25-26 October 2006, Hamburg, Germany

Eco Expo Asia 2006: International Trade Fair on Environmental Protection
27-30 October 2006, Hong Kong

SETAC North America 27th Annual Meeting
5-9 November 2006, Montreal, Canada

Young Scientists' Global Change Conference
7-8 November 2006, Beijing, China

Global Environmental Change: Regional Challenges
9-12 November 2006 , Beijing, China

Global Environmental Change Open Science Conference
9-12 Nov 2006, Beijing, China

ESSP Open Science Conference
9-12 November 2006, Beijing, China

Material, Minerals, & Metal Ecology 06
14-15 November 2006, Cape Town, South Africa

7th International Conference on EcoBalance
14-16 November 2006, Tsukuba, Japan

Life cycle approaches for biofuels
28 November 2006, Berne, USA

China Eco Expo
28-30 November 2006, Beijing, China

IPSI-2006 SLOVENIA
30 November - 3 December 2006, Bled, Slovenia

7th Gathering of the Social Enterprise Alliance
7-10 March 2006, Atlanta, USA

2007 International Symposium on Electronics and the Environment
7-10 May 2007, Orlando, USA

ISIE 2007
17-20 June 2007, Toronto, Canada

You can post information about your conference on the ISIE website.

http://www.is4ie.org

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Resources for the Future is offering a 25% discount for ISIE members on the new book "Environmental Life Cycle Assessment of Goods and Services: An Input-Output Approach" by ISIE members Chris T. Hendrickson, Lester B. Lave, and H. Scott Matthews. To learn more about the book or to order it, go to http://www.rff.org/rff/rff_press/bookdetail.cfm?outputID=8696

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The International Society of Industrial Ecology (ISIE) promotes industrial ecology as a way of finding innovative solutions to complicated environmental problems and facilitates communication among scientists, engineers, policy makers, managers and others who are interested in how environmental concerns and economic activities can be better integrated.

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ISIE News Schedule

Publication Date	Submission Deadline
Sept 2006 v6 n3	18 August 2006
Dec 2006 v6 n4	17 November 2006

Send submissions to the appropriate editor.

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