



# L'INFOCYCLE CIRAIG's Newsletter

Volume 4, Issue 1 — August 2007

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## L'INFOCYCLE IS BACK!

The CIRAIG is delighted to announce the new edition of its electronic Newsletter, l'Infocycle. Published thanks to the support of the Fonds québécois de la recherche sur la nature et les technologies (FORNT) and the Fonds québécois de la recherche sur la société et la culture (FORSC), this quarterly newsletter will provide a strategic watch on the life cycle approach and its tools. The variety of topics covered is broad: news from the different research units included in the CIRAIG, an update on environmental news, a list of relevant activities (training, conferences, summits, etc.), examples of partnerships and focus on researchers.

Please send any article suggestion or announcements to the editorial staff: [info-ciraig@polymtl.ca](mailto:info-ciraig@polymtl.ca). Comments and thoughts are also welcomed.

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# MANDATES AND SPECIAL PROJECTS



Formerly known as the «Interuniversity Reference Center for the Life Cycle Assessment, Interpretation and Management of Products, Processes and Services», the CIRAIG is now officially called the Interuniversity Research Centre for the Life Cycle of Products, Processes and Services. The adoption of this new, shorter and more direct name, represents an important step in the life cycle of the CIRAIG whose research group will grow in 2007.

While this new name no longer reflects the CIRAIG acronym, it better represents the CIRAIG and where it stands today.

In order to protect its visual identity, its name and logo, the CIRAIG now owns a copyright in Canada with all rights reserved and purchased the [www.ciraig.org](http://www.ciraig.org) and [www.ciraig.com](http://www.ciraig.com) domain names.

## OFFICIAL LAUNCH OF THE INTERNATIONAL INDUSTRIAL CHAIR IN LIFE CYCLE ASSESSMENT METHODOLOGY

The International Industrial Chair in Life Cycle Assessment Methodology, which began its activities last January, was officially launched on May 8<sup>th</sup> at École Polytechnique de Montréal's Main Pavillon, thanks to the financial support of ten Canadian and European companies.

The convivial ceremony was presided over by Mr. Robert Legros, Director for the Chemical Engineering Department of the École Polytechnique de Montréal.

In addition to the Director for Research and Innovation of the École Polytechnique de Montréal, Mr. Christophe Guy, and the Co-Chairholders, Professors Louise Deschênes and Réjean Samson, all Chair partners, Canadian as well as European, took part in the event. These partners are: Alcan, Arcelor-Mittal, Bell Canada, Cascades, Groupe EDF / Gaz de France, Hydro-Québec, Johnson & Johnson, le Mouvement des caisses Desjardins, Total and Veolia Environnement.

Benefiting from an initial budget of 4,5 M\$ over five years, the Chair will create a leading fundamental research and case study program in the life cycle field as applied to the energy, the telecommunications, pulp and paper, financial services, mining and metallurgy and personal hygiene product sectors. The work carried out by this new Chair will generate new knowledge in the life cycle field and lead to the implementation of applicable management tools that are adapted to the specific requirements of industries and governments.

As part of its mandate, the Chair will train over 30 students at the masters and doctoral levels. This highly skilled workforce will be among the valuable resources that the research will generate. At the international level, members will work closely with experts involved in the Life Cycle Initiative of the United Nations Environment Program and the Society of Environmental Toxicology and Chemistry (UNEP-SETAC).

For more information on the International Industrial Chair in Life Cycle Assessment Methodology, please visit: [www.chaireacv.org](http://www.chaireacv.org)



# INTERNATIONAL PROJECTION



## UNDER THE ORANGE TREES OF SEVILLE - SAM 1

International projection is a CIRAIG priority. Hence, 6 of its members fittingly represented the organization in Seville, Spain, last March 6 and 8, during the first International Seminar on Society and Materials, SAM 1.

During this seminar, Mr. Gontran Bage, CIRAIG's scientific coordinator, addressed the delegates on the subject of new interpretative rules for qualitative life cycle assessment and Ms Catherine Benoit, PhD Student (UQAM), gave a presentation on the development of social life cycle assessment at the CIRAIG and the creation of an international SLCA-SSHRC (Social Life Cycle Assessment - Social Sciences and Humanities Research Council). Ms Carmela Cucuzzella, PhD Student (U. de Montréal), presented her work on the precaution principle. Several CIRAIG members also took part in the UNEP/SETAC Working Group meeting on integrating social aspects into LCA, namely Professor Pierre de Coninck (U. de Montréal), Ms Catherine Benoit, Ms Carmela Cucuzzella and Mr. Gontran Bage. During this meeting, Ms Catherine Benoit presented the final and semi-final versions of the methodological fact sheets for indicators developed by the members of this group.

The goal of this first meeting was to bring together experts in various fields, interested in the relationship between society and materials. Among these, anthropologists, economists, engineers, experts in materials, industrial ecologists, historians, designers and life cycle assessment practitioners.

For more information or to obtain the Seminar proceedings, please contact Mr. Mauro Chiappini (mauro.chiappini@arcelormittal.com) or CIRAIG's documentation Centre.

## AMONGST THE VINES OVERLOOKING THE OCEAN SETAC 2007

A delegation of 7 CIRAIG members flew to Porto, Portugal, on May 20-24 to attend the 17th SETAC Europe Annual Meeting. The meeting focused on the multiple stressors for the environment and human health, present and future challenges and perspectives. Representatives from academia, government and industry gathered to present and discuss the latest scientific findings and insights.

During the meeting, Ms Rima Manneh, PhD Student (Polytechnique), gave a conference on the regional characterization factors for Canada, Ms Carmela Cucuzzella presented a communication on the precaution principle applied to product development and Mr. Ralph Rosenbaum, Research Officer (Polytechnique), presented the consensus model for chemical characterization in LCA developed by the UNEP/SETAC Life Cycle Initiative Task Force 3.

Ms Julie Cornet and Ms Geneviève Dionne, Master Students (U. de Montréal), Cécile Bulle, PhD Student (Polytechnique), and Mr. Manuele Margni, Research Officer (Polytechnique), presented posters on their LCA research work. Mr. Manuele Margni also participated in the event as a facilitator during the Short Courses Session. Several task force meetings also took place outside of the event, namely for the UNEP/SETAC Life Cycle Initiative and the European Platform on Life Cycle Assessment.

Mr. Daniel Normandin, CIRAIG's Executive Director, took part in the International Life Cycle Panel meeting of the UNEP/SETAC Life Cycle Initiative's Board of Directors.

## FOCUS ON LIFE CYCLE ASSESSMENT DURING AMERICANA 2007

From a global standpoint of sustainable development implementation, life cycle management is one of the main management and design tools for products and services.

Gaining in popularity, a full session, developed by the CIRAIG, was dedicated to LCA during AMERICANA 2007, The International Environmental Technology Trade Show and Conference, which was held on March 20-22. Delegates had the opportunity to learn more on the development of life cycle impact assessment at the international level as well as Canada's contribution to this issue on the world scene. The implementation of life cycle assessment into corporate management and practices was also debated and demonstrated by life cycle case studies.

Among the speakers :

**James A. Fava**  
SETAC North America  
**Mihaela Andronescu**  
Environnement Canada  
**Olivier Jolliet**  
University of Michigan, USA  
**Pascal Lesage**  
CIRAIG, Canada  
**Michael Clapham**  
Ressources naturelles Canada  
**Manuele Margni**  
CIRAIG, Canada

## IN THE HEART OF ITALY TALK OF ENZYMES IN VITERBE

Mr. Jonathan Lalande, PhD Student (Polytechnique), presented a conference entitled «*The relative soil stability index (RSSI); an ecotoxicological tool based on the evaluation of soil enzymatic stability*» during the 3<sup>rd</sup> International Conference on Enzymes in the Environment, which was held in Viterbe, Italy, from July 15 to July 19.



### *Towards a Life Cycle Economy*

#### PROPOSED THEMES

- LIFE CYCLE SOCIAL IMPACTS
- CORPORATE SOCIAL RESPONSIBILITY
- LIFE CYCLE INVENTORY METHODOLOGY AND LCA IMPACTS
- REGULATIONS AND ECOLABELS
- LIFE CYCLE MANAGEMENT TOOLS
- LIFE CYCLE COSTING
- SUSTAINABLE BUILDINGS
- SUSTAINABLE PROCUREMENT

To sponsor this event, please contact Mr. Daniel Normandin by phone +1 514.340-4108 or by email: [daniel.normandin@polymtl.ca](mailto:daniel.normandin@polymtl.ca)

Distinguished researchers and specialists from close to ten different countries will discuss issues pertaining to the life cycle approach during CYCLE 2007, the 3rd Canadian Forum on the Life Cycle Management of Products and Services, presented by the CIRAIG. Under the theme «Towards a life cycle economy», the event will be held at the Holiday Inn Midtown in Montreal on October 22-23, 2007. Nearly 300 participants and fifty speakers are expected.

How to widen access to life cycle data and tools? What kind of advances have been made in impact assessment? How to interpret and communicate the results of an LCA? Is LEED certification within everyone's reach? Which indicators should be favoured for sustainable procurement? How can municipalities evaluate the environmental impact of their activities? What are the challenges of ecodesign? What are the financial incentives available to combine productivity and sustainable development? These are all issues which will be addressed during the event.

Among the keynote speakers of CYCLE 2007:

- Mr. Bob Willard, leading expert on the business value of corporate sustainability strategies and author of *The Next Sustainability Wave*, Canada
- Dr. Guido Sonnemann, Programme Officer, United Nations Environment Programme (UNEP), France
- Mr. David Penninton, European Commission, Italy
- Ms Andrée-Lise Méthot, Founder and principal associate, Cycle Capital Management, Canada
- Mr. Claude Ouimet, Senior V.P. and G.M. InterfaceFLOR, Canada and Latin America
- Mr. José Carlos Fernandez, Senior Program Manager, Trade and Environment, ALENA

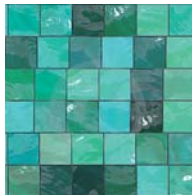
A true meeting place for sustainable development practitioners, the Forum will welcome over 300 participants and 54 speakers this year. The event aims to bring together stakeholders from industry, different levels of government, universities, and non-governmental organizations.

Consult the program and register on line ! [www.cycle2007.org](http://www.cycle2007.org)



# LIFE CYCLE ASSESSMENT TRAINING COURSE

The CIRAIG will offer a two-day LCA training course in English on October 24 and 25, following CYCLE 2007. This course will provide the tools required to gain knowledge for planning, conducting, and evaluating an environmental life cycle assessment of a product or service from the extraction of raw materials to the product's end of life.



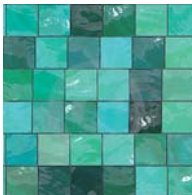
## CLIENTELE

This training course is specifically addressed to professionals involved in product design or environmental performance assessment, and who are interested in how this environmental assessment methodology works and how it can be applied. Environmental managers and engineers from all industrial sectors will also greatly benefit from this training.



## CONTENT

The first training session aims to familiarize the participants with the life cycle concept as well as to illustrate the relation of LCA with other environmental assessment tools.



The concepts presented will highlight how to plan and conduct an LCA, identify the study's goal and scope, as well as present existing LCA databases and software tools. The training will also cover the inventory calculation and life cycle impact assessment as well as the main ecoindicators for evaluating a product or service's environmental profile. At the end of the course, the participant should be able to prepare a plan for conducting an LCA. The course rigorously follows ISO 14040 standards and recommendations.



In summary, this training session will enable the participant to get a better grasp of LCA in order to use it in a decision process.

## SUBSCRIPTION

A concessionary rate is offered to participants who want to participate in both the training course and the Forum.

For more information or to subscribe online, please consult the following link [www.cycle2007.org](http://www.cycle2007.org) by clicking on the LCA Course page or contact us by phone +1 514-340-4711 extension 4122 or by e-mail at [info-ciraig@polymtl.ca](mailto:info-ciraig@polymtl.ca).



## RESEARCH CARRIES US

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Mr. Gontran Bage, CIRAIG's scientific coordinator, gave a presentation during the 6th Research Day (6e Journée de la recherche) at École Polytechnique de Montréal, on May 24, under the theme «Climate Changes and Energy».

The Research & Innovation Directorate invited the academic scientific community to this special event which took place at the Bell amphitheatre in the Main Pavillon.

The event was a networking opportunity to meet top-quality researchers who came to share their experience with the public and to provide an update, in an accessible language, on the recent advances in their respective fields. Mr. André Musky, General Director of the Ouranos Consortium and Mr. André Caillé, President of the World Council of Energy also gave presentations during the event which include a cocktail.

## RECENT CIRAIG PUBLICATIONS

**Cadotte, M., Deschênes, L. and Samson, R.** (2007). «Selection of a Remediation Scenario for a Diesel-Contaminated Site Using LCA.» *International Journal of Life Cycle Assessment* 12(4) pp. 239-251.

**Gaudreault, C., Samson, R. and Stuart, P.** (2007). «Life-cycle thinking in the pulp and paper industry, Part I: Current practices and most promising avenues.» *TAPPI Journal* 24 pp. 25-31.

**Kummert, M., Bernier, M., Costa, A., and Paris, J.** (2007). «A comparison between geothermal absorption and compression heat pumps for space conditioning.» *International Journal of Environmental Studies* 64(4) pp. 467-487.

**Leduc, C., Daneault, C., Ye, H. and Lavallee, H.-C.** (2007). «Sodium percarbonate in the bleaching of mechanical pulps (softwood and hardwood) - Efficiency and environmental impact.» *Appita Journal*, 60(3) pp. 241-244.

**Rosenbaum, R. K., Margni, M. and Jolliet, O.** (2007). «A Flexible Matrix Algebra Framework for the Multimedia Multipathway Modeling of Emission to Impacts.» *Environment International* 33 pp. 624-634.

**Toffoletto, L., C. Bulle, et al.** (2007). «LUCAS- A New LCIA Method Used for a Canadian-Specific context.» *International Journal of Life Cycle Assessment* 12(2) pp. 93-102.

# THE CIRAIG TEAM EXPANDS

The CIRAIG is delighted to welcome to its team Professor Pierre-Olivier Pineau as Associate Director. Associate Professor at HEC Montréal, his main research interests include public policies in the electricity and energy sectors with a special focus on investment models, institutional reforms and market integration. Pr Pineau is the author of several publications on energy policies as well as investment and privatization in developing countries.

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Pr Pierre-Olivier  
Pineau  
HEC Montréal

Ms Stéphanie Oscarson joined the team at the end of February of this year as Environmental Communications Officer. Her expertise in environment combined with her passion for communications makes her a key element of the CIRAIG'S communications department. Ms Oscarson holds a Bachelor in Communications from the University of Ottawa. She worked as Communications Officer at RÉSEAU environnement for over three years and made a marked passage at OZONE Relations Publiques.

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Ms Stéphanie  
Oscarson  
Environmental  
Communication  
Officer

The CIRAIG research officers' team has been strengthened with the addition of Mr. Ralph Rosenbaum. He holds a diploma in environmental engineering from the Technical University of Berlin and received his doctorate at the Swiss Federal Institute of Technology Lausanne (EPFL) under the supervision of Pr. Olivier Jolliet. His research focused on the development of characterization methods for toxic impacts on human health and the ecosystems as well as the development of uncertainty estimation approaches in a context of comparative risk and life cycle impact assessment. Mr. Rosenbaum also contributed to the OMNIITOX and NEEDS projects.

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Mr. Ralph  
Rosenbaum  
Research Officer

Having received his chemical engineering diploma (B. Ing.) from the École Polytechnique de Montréal, Mr. François Charron-Doucet joined the CIRAIG analysts' team. Mr. Charron-Doucet has gained a solid expertise in the field of LCA applied to greenhouse gas reduction projects, namely in the telecommunications sector, after having completed his Master project under the supervision of Professors Réjean Samson and Louise Deschênes from the CIRAIG. He also worked in France as an LCA consultant in the field of biological waste treatments.

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Mr. François  
Charron-Doucet  
Analyst

## TECHNOLOGICAL AND STRATEGIC WATCH

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The CIRAIG recently unveiled a new strategic information service focused on life cycle and sustainable development issues. Our fully customized service provides you with a knowledgeable and experienced team to help you track and synthesize information.

You need a scientific literature review on the life cycle assessment of a particular topic in your field of work? You would like to obtain a list of specialized software tools? You require statistical data on the implementation or benefits associated with life cycle assessment? You want a situation summary or assessment? You would like to complete the information provided on the CIRAIG web site?

The extent of the services offered varies between an information search which only requires a couple of hours to a more substantial study which corresponds to the precise needs of your organization.

For more information, please contact Ms Sandra Estrela, Documentation and Communications Coordinator: +1 514.340-4711 extension 4122.



## CMM TECHNOLOGICAL WATCH

At the beginning of the year, the Communauté Métropolitaine de Montréal (CMM) (Quebec, Canada) called upon CIRAIG's expertise in sustainable development and its documentation service, to conduct a technological watch on waste management in line with guideline 19 of its Waste Management Metropolitan Plan.

Developed for the CMM's 82 municipalities through its extranet web site, this technological watch, a set of 24 fact sheets, provides information on the best available practices in waste management, the emerging technologies and regulations as well as communication strategies and awareness campaigns.

# NEWS IN BRIEF...

## THE CIRAIGAULOIS TAKE TO THE SEA...

On the initiative of Édouard Clément, the first CIRAIG Dragon Boat team took to the water this summer. Named *Les CIRAIGAULOIS*, the 22-member team proudly represented the research centre by achieving excellent race times for a beginner team. Next season will begin in May 2008.



From left to right: Front row: Julie Cornet, Julie-Anne Chayer, Sandra Estrela, Anick Hamel 2<sup>nd</sup> row: Geneviève Martineau, Geneviève Dionne, Isabelle Lessard 3<sup>rd</sup> row: Jean-Sébastien Pilon, Thomas Dandres, Gabrielle Soucy, Katia Burelle, Alexandre Courchesne, Annie Leduc 4<sup>th</sup> row: Pierre-Olivier Roy, Jean-François Ménard, Anne-Marie Daigneault, Édouard Clément, Étienne Bernier, Ian Dessureault, Vincent Moreau et Jean-Baptiste Bayart.

## CEDE INTERNATIONAL CONFERENCE SEPT. 18-20, 2008 SUSTAINABLE PRODUCTION AND CONSUMPTION

The Centre d'études en droit économique (CÉDÉ) invites you to its International Conference on Sustainable Production and Consumption: From Corporate Governance to Citizen-Consumers. This conference will address the role of the law in the areas of sustainable development and consumption and provide a forum for multidisciplinary discussions on the issues.

Professor Sophie Lavallée (U. Laval) is President of the Scientific Committee for this event. If you are interested in speaking at the conference, please submit your speaking proposal along with your curriculum vitae to [ColloqueCEDE@fd.ulaval.ca](mailto:ColloqueCEDE@fd.ulaval.ca). Speakers whose proposals are accepted will need to submit the final text of their paper by March 7, 2008. For more information, please visit: [www.colloque2008cede.fd.ulaval.ca](http://www.colloque2008cede.fd.ulaval.ca).

## PR JEAN-PIERRE BIRAT SEMINAR

Professor Jean-Pierre Birat, Director of Innovation at ARCELOR Research and honorary professor at the Pekin technological university, presented a conference entitled: «SOVAMAT - Social Value of MATerials» on June 15, to the Chemical Engineering Department à l'École Polytechnique de Montréal during his visit at the CIRAIG, and upon invitation by Pr Réjean Samson.

## CALENDAR OF EVENTS

- Aug. 27-29** 3rd International Conference on LCM (LCM 2007) Zurich, Switzerland
- Sept. 5-7** 6th International Conference on Ecosystems and Sustainable Development - Coimbra, Portugal
- Sept. 27-28** Governance and LCA - Brussels, Belgium
- Oct. 2-4** InLCA-LCM '07 - Portland, USA
- Oct. 22-23** CYCLE 2007 - Montreal, Canada
- Oct. 24-25** LCA training course in English Montreal, Canada
- Oct. 24-26** CLIMAT 2050 - Montreal, Canada
- Oct. 30-31** LCA training course in French Montreal, Canada (collaboration with CPEQ)
- Nov. 11-15** SETAC North America - Milwaukee, USA
- Dec. 10-13** Ecodesign 2007 - Tokyo, Japan
- Sept. 2008** CEDE international conference

## THE CIRAIG WILL BE AT...

### LCM 2007 (Zurich, Switzerland)

Six CIRAIG members will attend LCM2007: Messrs. D. Normandin, G. Bage, E. Clément, M. Margni (moderator and speaker) and Ms C. Benoît (speaker) and Ms. C. Cucuzzella (poster). Some members will also participate in UNEP/SETAC Life Cycle Initiative Task Force meetings.

### Governance and LCA (Brussels, Belgium)

Pr P. de Coninck will be a presenter at this event.

### InLCA/LCM (Portland, USA)

Three CIRAIG delegates will be present at InLCA/LCM as speakers : Messrs. M. Margni and R. Rosenbaum and Ms Renée Michaud.

### SETAC NA (Milwaukee, USA)

A full day, developed in collaboration with the CIRAIG, will be dedicated to LCA during the SETAC North America. More details to come...

### Salon Génie Carrières (Montreal, Canada)

Mr. Gontran Bage will pronounce a conference on life cycle assessment and the role of engineers in climate change.