

Advanced Class on LCA and Tools for Sustainability

Date: November 8-9, 2012

Location: Universitat Autònoma de Barcelona, room TBD

Organizing Committee: Xavier Gabarrell (UAB dept. of Chem.Eng., ICTA), Joan Rieradevall (UAB dept. of Chem.Eng., ICTA), Assumpció Anton (IRTA), Carles Martínez Gasol (Inedit), Katherine Starr coordinator (UAB dept. of Chem.Eng., ICTA).

Thursday November 8		Speaker
9:30-10:00	Welcome and Introduction	Gara Villalba , Universitat Autònoma de Barcelona
10:00 -11:30	Consequential LCA (part 1) <i>Consequential LCA - myths and reality. Explanation of main difference between attributional and consequential LCA: system expansion vs allocation, average vs marginal data in LCI modelling, limitations and possibilities and applications</i>	Bo Weidema , Aalborg University, International Life Cycle Academy
11:30-11:45	Break	
11:45-13:15	Social LCA (part 1) <i>History of social LCA. Presentation of social LC Attribute Assessment and social LCA of Pathways.</i>	Catherine Macombe , IRSTEA, ELSA
13:15-14:15	Lunch*	
14:15 -15:45	Input-output LCA <i>Differences and similarities to process LCA, focus on data sources and calculus. How can IO-LCA be combined with process LCA? How can the IO-approach be used for mass flow analysis</i>	Jannick Schmidt , Aalborg University
15:45-16:00	Break	
16:00-17:30	Uncertainty Analysis (part 1) <i>Management of uncertainty in LCA, uncertainty versus variability, importance of uncertainty throughout the calculation chain, tools for interpreting and working with uncertainty, and practical examples</i>	Christopher Mutel , ETH Zurich
21:00	Dinner in downtown Barcelona (optional) **	

Friday November 9		Speaker
9:30 -11:00	Consequential LCA (part 2) <i>Specific examples on differences on attributional and consequential modelling, how to apply consequential modelling in different illustrative cases, e.g. modelling of electricity and indirect land use changes</i>	Jannick Schmidt, Aalborg University
11:00-11:15	Break	
11:15-12:45	Social LCA (part 2) : Social LCA of pathways <i>Categories of Social impacts, Goal and scope in social LCA, interpretation of results, how to find pathways</i>	Catherine Macombe, IRSTEA, ELSA
12:45-13:45	Lunch*	
13:45 -15:15	Impact Categories <i>Explanation of current mid-point and endpoint categories, including methodologies and differences between categories. Guidelines for selecting the most suitable impact categories</i>	Bo Weidema, Aalborg University, International Life Cycle Academy
15:15-15:30	Break	
15:30-17:00	Uncertainty Analysis (part 2)	Christopher Mutel, ETH Zurich
17:00-17:30	Closing Remarks	Xavier Gabarrell, Universitat Autònoma de Barcelona

* Lunch is not covered by the course and must be paid for by the students

** The optional dinner is held at the expense of the student and its location will be announced at the course

Advanced Workshop on LCA and Tools for Sustainability

Lecturers

Catherine Macombe, IRSTEA, ELSA, France

Catherine Macombe is senior researcher at IRSTEA (former CEMAGREF) since 2002. She is an agronomist, and Ingénieur des Ponts des Eaux et Forêts. She holds a PhD in Management Sciences (2003) from the University of Clermont-Ferrand-I, discussing farms permanence and farmers ethics. For three years, she is in charge of managing the sub-group of the ELSA group dealing with social LCA in Montpellier (France). ELSA is a research group gathering LCA researchers from five French public organisations : (<http://www1.montpellier.inra.fr/elsa/?q=node/1>). The research group in social LCA has taken it upon itself to create a social LCA method highlighting the potential transfers of social impacts. The group is therefore building theoretical and methodological roots, including the so-called social pathways. The disciplinary background of the involved researchers is Economics, Philosophy, Epidemiology, Management Sciences or Sociology. Catherine Macombe published several papers with Michel Garrabé, Pauline Feschet and Denis Loeillet about the different social LCA methods, and published with Vincent Lagarde (Maître de Conférence in Management Sciences) about the description of the system under scrutiny and the rules to determine the boundaries. The case studies testing the social LCA new method are mainly dealing with agro-food sector, especially in developing countries. In collaboration with colleagues from CIRAD (A French research centre working with developing countries to tackle international agricultural and development issues) and the Economics team UMR Art-Dev of the University of Montpellier-I, Catherine Macombe organised in May 2011 the second International seminar in social LCA (the first being hold in Lyngby in May 2010).

Christopher Mutel, ETH Zurich, Switzerland

Chris Mutel is a Postdoc (since September 2012) at ETH Zurich with a background in Sustainability Assessment, Environmental Engineering, and Geography. He has published on the computational methodology of and sensitivity assessment in LCA, and his PhD dissertation introduced a framework for GIS-based regionalization in LCA. He has also contributed to the modeling of uncertainty in ecoinvent 3.

Jannick Schmidt, *Aalborg University, Denmark*

Environmental management engineer from 2002 from Aalborg University. Jannick H. Schmidt obtained his Ph.D. in 2007 with a study on life cycle assessment of rapeseed oil and palm oil. He holds an associate professorship at Aalborg University, and he is the executive manager of 2.-0 LCA consultants (since April 2008). Jannick Hoejrup Schmidt has several years of experience working with life cycle assessment, input-output modelling and mass flow analysis. Jannick Hoejrup Schmidt has worked intensively with LCA of agricultural products, biofuels and indirect land use changes (iLUC) the recent 8 years. Besides, he has worked with detailed LCAs on waste treatment systems, agricultural products, food and basic metals, where he has contributed to data collection as well as development of LCI modelling and LCIA methods. He is involved in the WRI/WBCSD GHG-protocol, as well in the development of the new ISO 14067 standard on carbon footprint as a member of the national Danish advisory board to the ISO TC carbon footprint.

Gara Villalba Mendez, *Universitat Autònoma de Barcelona, Spain*

Gara holds a BS degree in Chemical Engineering (MIT 1998), and a Ph.D. from the Chemical Engineering dept. of the Universtiy of Barcelona (2003). Presently she is an assistant professor at the chemical engineering department of the Autonomous University of Barcelona (UAB). She also also teaches the Industrial Ecology course of the PhD program in Environmental Studies and is the UAB coordinator of the Joint European Masters in Environmental Studies (JEMES, for more info please visit www.jemes.eu). Her research focuses on resource accounting via material flow and exergy analysis, with a special focus on new technologies such as renewable energy and IT. She also studies urban metabolism to analyze waste flows, energy intensity, and GHG emissions at city level.

Bo P. Weidema, *ILCA President, University of Aalborg, Denmark*

Bo Weidema has more than 30 years of experience in environmental issues, since joining the emerging environmental grassroots movements in 1972. In 1984, with a M.Sc. in horticulture from the Royal Agricultural University of Copenhagen, he initiated an interdisciplinary, inter-university course on environment of which he became the first administrator and lecturer. As private consultant and member of international committees from 1985-1989 he was involved in developing standards and markets for ecological food products. In 1993 he obtained the Ph.D. degree from the Technical University of Denmark with a thesis on life cycle assessment. Since then he has been working as a consultant on life cycle assessment. He was instrumental in the development of the SPOLD LCI data format and database network from 1995 to 2001. He is executive manager of the ecoinvent database, professor at Aalborg University, member of the UNEP-SETAC Life Cycle Initiative's task forces on social aspects (co-chair) and natural resources and land use, and expert delegate to the ISO TC 207 / SC5 on life cycle assessment.