

Workshop

DISCUSSION FORUM ON INDUSTRIAL ECOLOGY AND LIFE-CYCLE MANAGEMENT

April 7-8 2014

**Auditorium of the Department of Mechanical Engineering
University of Coimbra (UC), Polo II**

This discussion forum addresses current research in Industrial Ecology and Life-Cycle Management. The forum brings together faculty, researchers and doctoral students to discuss methodological developments and extended approaches in Life Cycle Assessment (LCA). Applications to bioenergy, buildings and urban environment are also addressed. The forum includes a keynote lecture by Prof. Roland Clift, followed by five working sessions. A call for short presentations is opened until March 28.

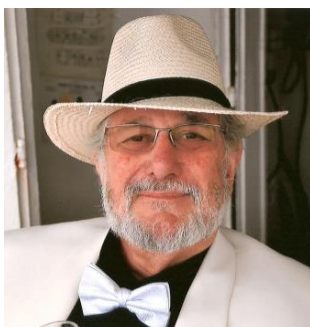
Keynote Speaker: Professor Roland Clift

Emeritus Professor, Centre for Environmental Strategy, University of Surrey, Guildford, Surrey, UK

Life Cycle Assessment: Can We Look Beyond Environmental Impacts?

Life Cycle Assessment (LCA) is well established as a tool for analysing and managing the environmental impacts of supply chains, for example in the use of “attributional” analysis for labelling of products and services. The type of analysis known as “consequential LCA” is gaining acceptance as a tool to support policy decisions (although the methodological differences between attributional and consequential LCA are still subject to hot debate). Combining environmental with economic analysis leads to a form of Value Chain Analysis which has already shown itself to provide unusual insights; some examples will be presented. Going further to include the equity dimension of sustainability presents more difficulty. An approach to Social LCA has been proposed by the UN Environment Programme (UNEP) and the Society for Environmental Toxicology and Chemistry (SETAC) but the UNEP/SETAC approach has been much criticised and its use is so far limited. Other possible approaches to Social LCA will be discussed, with examples from the food and garment sectors. The analysis leads to useful insights into how to promote “Sustainable Consumption”.

Professor Roland Clift CBE FREng



Emeritus Professor of Environmental Technology and founding Director of the Centre for Environmental Strategy at the University of Surrey; previously Head of the Department of Chemical and Process Engineering at the University of Surrey; Visiting Professor in Environmental System Analysis at Chalmers University, Göteborg, Sweden; Adjunct Professor in Chemical and Biological Engineering at the University of British Columbia, Vancouver, Canada; past President and Executive Director of the International Society for Industrial Ecology; past member of the UK Royal Commission on Environmental Pollution, Ecolabelling Board and Science Advisory Council of the Department of the Environment, food and Rural Affairs (DEFRA). Prof. Clift’s research is concerned with system approaches to environmental management and industrial ecology, including life cycle assessment and energy systems.

Program

Monday, April 7		
Time	Title	Speaker
13:45	Registration	
14:00	Welcome and Introduction to the Energy for Sustainability Initiative	Prof. António Gomes Martins
14:15	Keynote Session	Chair: Fausto Freire
	<i>Life Cycle Assessment: Can we look beyond environmental impacts?</i>	Prof. Roland Clift (University of Surrey, UK)
15:15	Introduction to the workshop sessions	Fausto Freire
15:30	Session 1: Bioenergy	Chair: Luiz Kulay
	<i>Environmental life-cycle assessment (LCA) of palm and soybean biodiesel</i>	Érica Castanheira (UC)
	<i>LCA of rapeseed production in Europe: Addressing uncertainty and alternative cultivation locations</i>	João Malça (UC)
16:30	Coffee break	
17:00	Session 2: Extended LCA approaches	Chair: Carlos Henggeler Antunes
	<i>Environmental, energetic and economic assessment of process arrangements for water recycling in a petrochemical process in Brazil</i>	Luiz Kulay (University of São Paulo, Brazil)
	<i>Integrating LCA and Multi-Criteria Decision Analysis</i>	Luis Dias (UC)
18:15	Wrap-up and closing remarks	João Malça and Carla Caldeira
Tuesday, April 8		
Time	Title	Speaker
09:30	Session 3: Methodological Developments of LCA	Chair: Luis Dias
	<i>Life cycle optimization model for integrated cogeneration and solar systems</i>	Amir Safaei (UC)
	<i>Extended Life-Cycle Assessment applied to military systems</i>	Carlos Ferreira (UC)
	<i>Dynamic fleet-based LCA of electric vehicle systems</i>	Rita Garcia (UC)
	<i>A multiobjective model for biodiesel blends minimizing cost and Greenhouse Gas emissions</i>	Carla Caldeira (UC)
11:30	Coffee break	
12:00	Session 4: Insulation Materials and Buildings	Chair: Adélio Gaspar
	<i>Environmental Impacts from raw cork production</i>	Ana Cláudia Dias (University of Aveiro)
	<i>Integrated LCA of Six Insulation Materials Applied to a Reference Building in Portugal</i>	Shiva Saadatian (UC)
	<i>LCA of a Portuguese dwelling to assess passive construction strategies</i>	Helena Monteiro (UC)
13:45	Lunch break	
15:00	Open session	Chair: Érica Castanheira
	<i>The diet of cities: Exploratory analysis into resource metabolism of economies</i>	Michal Monit (IST-UTL)
	<i>Complementing the life cycle assessment with social impacts</i>	Fabian K. Verhage (University of Leiden)
	<i>Generation of electricity using eucalyptus as raw material in Portugal – life cycle assessment including indirect land use change</i>	Margarida S. Gonçalves (IST-UTL)
16:00	Session 5: Buildings and Urban Environment	Chair: Nuno Simões
	<i>Integrated LCA and thermal dynamic simulation of building envelope retrofit</i>	Carla Rodrigues (UC)
	<i>Integrating urban design and sustainable development: Life-cycle energy and greenhouse gas emissions from urban residential patterns</i>	Joana Bastos (UC)
17:00	Wrap-up and closing remarks, followed by refreshments	Roland Clift, Fausto Freire, Carla Rodrigues and Rita Garcia

Call for short presentations

An “Open Session” for short presentations will be available. If you would like to submit a short presentation (10 minutes) on a topic relevant for this Discussion Forum, send a short abstract (150 words) to carla.caldeira@dem.uc.pt until March 28.

Contact

For more information please contact: carla.caldeira@dem.uc.pt | +351 239 790 708

Website

To download the full program and presentations and/or papers of past and future forums:
<http://www2.dem.uc.pt/CenterIndustrialEcology/>

Organization: Prof. Fausto Freire, DEM-FCTUC Polo II

ADAI - Center for Industrial Ecology: <http://www2.dem.uc.pt/CenterIndustrialEcology/>

Energy for Sustainability (Efs) initiative: www.uc.pt/efs

Address: Rua Luís Reis Santos, 3030-788 Coimbra, Portugal

GPS coordinates: 40º 11' 04,38" N; 8º 24' 44,65" W

Support

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Registration form

Workshop

“Discussion Forum on Industrial Ecology and Life-Cycle Management”

April 7- 8 2014

Registration Fee

	Until April 1 st	After April 1 st
Regular*	75 €	150 €
Student	50 €	100 €

* 20% discount for Academia and Members of *Ordem dos Engenheiros*

The registration fee includes:

- Access to all sessions
- Proceedings of the Workshop
- Lunch (April 8) and coffee breaks

Title	Full Name
Affiliation	Address
Zip Code	City
Country	Telephone

Email

The payment should be made by bank transfer

NIB- 0010 0000 45558590001 35
IBAN - PT50 0010 0000 4555 8590 0013 5
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Data for receipt

Signature

Please send the registration form and the transfer receipt to carla.caldeira@dem.uc.pt