

Preliminary program for PhD course:

## **Advanced LCA – consequential modelling, IO-LCA, and Land-use**

11<sup>th</sup> – 12<sup>th</sup> May 2010 at Aalborg University

### **Content of the course:**

The course will cover two days of seminars and group work assignments

**Day 1:** The first day will focus on consequential modelling. The lectures will address the nature of consequential modelling, as well as the similarities and differences between product systems when based on consequential and attributional modelling.

**Day 2:** The second day will address IO-LCA and land-use. Apart from a theoretical introduction to IO-LCA, the student will obtain hands- on experiences with different types of IO modelling – from the simplest types of IO to more advanced modelling including hybrid LCA. For land-use, the modelling challenges will be addressed, and examples of handling of land-use will be given from Swedish studies of meat products.

*The course is supported by: Aalborg University*



## Tuesday 11<sup>th</sup> of May (theme: Consequential modelling)

- 09:00 Welcome (Associate Professor **Mikkel Thrane**, Aalborg University)
- 09:15 Methodological challenges in Life Cycle Inventory (LCI) – overview scope of course (Assistant Professor / CEO 2.-0 consultants **Jannick H Schmidt**, Aalborg University)
- 09:30 Consequential modelling – how and why? and relationship to decision making context (Professor **Henrik Wenzel**, University of Southern Denmark)
- 11:00 Group work assignment related to **Henrik Wenzel's** presentation
- 12:15 Lunch
- 13:15 Handling of co-product allocation – how to handle system expansion in tricky situations. Examples provided for CHP, diary processing, meat, fish, cobber, and consumer transport (**Jannick H Schmidt and Mikkel Thrane**)
- 14:45 Coffee break
- 15:15 The challenge of identifying marginal suppliers - theoretical description and practical recommendations (**Jannick H Schmidt**)
- 16:15 Adaptation of consequential modelling in the business community - cognitive and practical barriers (**Jannick H Schmidt**)
- 17:15 Summing up
- 19:00 Dinner (self payment)

## Wednesday 12<sup>th</sup> of May (theme: EIO LCA, hybrid LCA and land-use)

- 09:00 Introduction to IO-modelling – back to the basics. How can we also use the matrix 'universe' to understand and make process LCAs. IO-modelling as a frame for mass flow analysis (MFA). Multiregional models and trade-linking. How do we apply it in practise and what are the challenges? Strengths and weaknesses of the IO-approach (**Jannick H Schmidt**).
- 10:45 Coffee break
- 11:00 IO-LCA in hybrid units. Hybrid LCA: tiered and embedded analysis. How do we apply hybrid-LCA in practise and what are the challenges? (**Jannick H Schmidt**).
- 12:30 Lunch
- 13:30 Modelling challenges for inclusion of land-use in LCA (particular focus on GHG emissions). Examples of handling of land-use from Swedish studies of meat products (**Dr. Christel Cederberg**, Swedish Institute of Food and Biotechnology, SIK)
- 16:30 Closing session (**Mikkel Thrane**)