



Summer Symposium on Sustainable Systems - 4S

Aalto University

Date: 15-17 June 2010, Sannäs, Finland

Theme: Harmonizing Policy, Technology, Product Design and Resource Management

Target group

Researchers working on their PhD thesis or post-doctoral activities are encouraged to apply. Selection of participants will be made by the scientific steering committee.

All interested students who wish to take part are invited to contact the 4S Secretariat at the address below or go to the web site for more information. Places on these courses are limited, so early registration is advisable.

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Scientific Steering Committee

Chair, Prof. Kari Heiskanen	Helsinki University of Technology (FI)*
Prof. Olli Dahl	Helsinki University of Technology (FI)*
Prof. Ari Ekroos	University of Helsinki (FI)
Prof. Carl Johan Fogelholm	Helsinki University of Technology (FI)*
Kate Hornsby	University of Duisburg-Essen, (DE)
Prof Janne Hukkinen	University of Helsinki (FI)*
Prof. Raimo Lovio	Helsinki School of Economics (FI)
Prof. Eija Nieminen	University of Art and Design Helsinki (FI)*
Prof. Markus Reuter	University of Melbourne (AU)

To be updated

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The aim of the 4S

The aim of the symposium is to bring together motivated young researchers with an interest in multidisciplinary systemic approaches to complex issues under the theme of closed-loop sustainable systems of materials ecology. The aim is that this new forum will create will create novel, innovative and interdisciplinary insights into the steps needed to move towards sustainable use of resources. Within this scope behavioral, cultural, economical, environmental, ethical, legal, managerial, regulatory, social, and technical issues are studied and discussed. This joint work will form the initial steps to chart the systemic nature of materials ecology and its complex

interconnectedness. The central issues of the discussion will be the effects of systemic temporal and spatial boundaries, and scales on the metrics used to evaluate the effects of decisions leading to progress towards sustainable systems and closed-loop economy.

The symposium will provide you with concrete opportunity for active international networking, academic exchange and access to state of the art academic expertise. This Symposium is the first of its kind in Finland and is the first in a series of yearly symposia; we believe that growth towards sustainability requires development of an international research community. The 4S symposia form a professional basis for this key international co-operation.

What is the Summer Symposium on Sustainable Systems?

The symposium will be a dynamic three-day workshop. Participants will work in international groups and present their ideas to each other and an internationally renowned audience of professionals and peers in an inspiring atmosphere. The program consists of presentations by keynote speakers, workshops, and presentations by the students. The topics of presentations and the workshops are related to the research questions below. The social and creative aspects of the symposium are important ingredients of a successful outcome. As such students are encouraged to also explore the beautiful Finnish nature around the symposium venue. To ensure an inspirational work environment and encourage co-operation between participants, organized social activities are arranged.

Research themes

- 1. Definitions of Sustainability and Sustainable Development**
 - a. Which definitions of sustainability are appropriate to specific situations, given the complex interaction of material systems?
- 2. Material Based Economic Growth – How to change the course?**
 - a. Sustainable consumption and dematerialization
 - b. The role of innovations in sustainable development
 - c. Business models for material efficiency services
- 3. System thinking, System Scales, Levels and Dynamics**
 - a. Spatial and temporal scales in sustainable material ecology
 - b. Linear, short-term and one-dimensional solutions can increase the complexity with regard to varying spatial and temporal scales
- 4. Product Life Cycle and Product Design**
 - a. Generic solutions for product life cycle optimization - cradle to grave approach vs. cradle to cradle approach
 - b. End-of-life cycle challenges for product and service design
 - c. Energy, production, waste and emission management
- 5. Policy, Regulation, and Governance**
 - a. Is technology driven governance the right approach?
 - b. Policies for the management of natural resources, materials, and emissions
 - c. International policies for resource governance

- d. Challenges of multi-level and multi-sectoral governance for material systems

6. Human Behaviour and the Development of Sustainable Material Systems

- a. Social and cognitive drivers of human behaviour
- b. Human behaviour and education

7. The Role of Technology in Sustainable Development

- a. Technical boundary conditions to sustainable development
- b. The role of recycling and industrial ecology in closed-loop economy
- c. Energy and material sources and sinks

4S added value

- Creation of and access to an international network of young researchers from top-level universities in the field
- Providing sustainable, innovative, and realizable solutions to persistent environmental problems through a multi disciplinary approach
- Network for future international co-operation
- Peer-reviewed proceedings including suitable student papers and working group reports

How to apply and timetable

All applicants are asked to submit an abstract of their paper, related to one or more 4S research themes, curriculum vitae, and a letter of recommendation from their scientific supervisor by March 1, 2010. Successful candidates will be notified by March 15, 2010. The deadline for draft paper submission and registration is April 30, 2010. Details of the application process, registration, and content of the symposium can be found at the [www-page 4S.mekpros.fi](http://www-page.4S.mekpros.fi).

Deliverables

We expect students to discuss and develop innovative ideas and solutions for the advancement of a truly sustainable material system. The participants are required to present their papers as a poster to their peers during the symposium. Finally, the working groups present their work orally and later as reports. The peer-reviewed symposium proceedings include student papers and the work group reports.

What is provided for the participants?

The successful applicants are granted a scholarship, which covers participation fee, full symposium program, accommodation with full board, and symposium materials. The grant does not include the travel costs.

Venue

Conference Hotel Sannäs Manor provides a rural setting for the symposium in Sannäs, about 60 km east of Helsinki.

Conference Hotel Sannäs Manor: www.sannaskartano.fi



