

## Partner Universities

# WELCOME TO THE 40+ YEARS PERSISTENCE CELEBRATION OF THE WASTE RESEARCH DISCIPLINE AT LULEÅ UNIVERSITY OF TECHNOLOGY, SWEDEN

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### A little retrospective on times passed

Following the so called energy crisis of 1973, there was a political consensus in the Swedish parliament that we should strive to utilize the resources hidden in waste streams better. One of the consequences was the decision to start a new kind of engineering education focusing on waste management and environmental issues.

The program started in 1977 and was called Environmental Planning and Design. None of the major technical universities in the country wanted to have a program focusing on waste, but the recently established university of the far north of Sweden welcomed it. One of the character disciplines was waste management, although it was called Residual Products Technology at the time, following the then politically correct terminology, which emphasized the difference between Residuals and Waste. One problem to begin with was the fact that there were no academics with degrees in this new topic, so recruiting a professor for the chair was troublesome and failed at first.

The initial establishment of the group, especially its courses, but also the first research projects, was headed by Per E O Berg, with a background in sewage sludge treatment at the Sanitary Engineering group at Chalmers and the first Swedish studies on source grouping of household waste. He held the title of Acting Professor.

In 1984 Nils Tiberg, then managing director of a metallurgical byproducts recycling company called Merox was appointed professor and chair of the subject. The research interest of these leaders influenced the focus of research of course, so the initial studies on different aspects of household waste management was replaced by a focus on process industry waste management.

Meanwhile, one in the first group of students, Anders Lagerkvist, started working in the group from 1982 with a focus on biological treatment and landfill technology. The group was small during the first years and working in very diverse areas such as household waste collection, biogas and landfill technology, and metallurgical waste recycling processes. Teaching was a main activity for the group since it was a cornerstone in the master program.

In 1988 the group was identified as a primary Swedish research group on biogas technology, and in particular landfill gas technology, by the Swedish Energy Board and



Field work A Lagerkvist, C Maurice, H Ecke in Umeå, Sweden, 1998.



Landfill symposium, Sweden, 1998



1<sup>st</sup> Intercontinental landfill research symposium - ICLRS, Sweden, 2000



for a number of years the group got support for capacity building in that area. In the same year a close co-operation with the soil mechanics group of LTU resulted in a spin-off research focus of soil remediation issues. Connected to the landfill research a focus on environmental information management also developed, e.g. for strategic siting of waste management facilities. The group expanded and reached a size which is similar to the present, but still with few individuals in any particular field of research.

In 2001 Anders Lagerkvist became the chaired professor of the academic discipline and in connection with that the group's name was changed to Waste Science and Technology, following the advice of Grahame Farquhar who was visiting professor for a while in the group. In 2019 Anders was succeeded by Jurate Kumpiene. Today the group consists of researchers at various levels of academic carrier, and adjunct professors from industry and academia worldwide. The research subjects have diversified reflecting the contemporary challenges of the waste management sector and the society. These include, but not limited to, various aspects of waste-to-energy, characterization, treatment and recycling of industrial waste, risk assessment and remediation of contaminated sites, etc.

After all these years one can wonder what has been achieved, apart from a bunch of doctor and master theses, courses given, projects performed, papers published, and so on. We would like to think that the core of what has been achieved is the creation of an academic discipline, with its perspectives and practices, and its established home turf in the waste management world - something that has added to the understanding and knowledge development in the field of Waste Science and Technology.

We are planning to celebrate our anniversary sometime during the late autumn when we hopefully can travel again. Look out for further announcements.

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Waste sorting exercises with K. Grennberg, LTU



Waste Science & Technology at PhD graduation ceremony of H. Ecke (left) and C. Maurice (right), 2002



Random Friday afterwork, 2001



Field work in landfills. A Lagerkvist, J Kumpiene (left) and L. Andreas (right)



R. Cossu and A. Lagerkvist at 3rd ICRLS in Lake Toya, Japan, 2004. Friendship Forever!