

2021 Åbo-Aurum Open Symposium on Inorganic Materials and Recycling

October 8, 2021 (from 9am to 4pm)

Henrikinkatu 2
20500 Åbo/Turku
Finland

Developing Tomorrow's
Material and Energy
Cycles

Hybrid event.

- In person attendance (INVITED)
- Open Webinar at Zoom address:
<https://aboakademi.zoom.us/j/3142608447>

SCOPE

One of the challenges in the recycling economy is the very low collection rate of equipment at their end-of-life for proper recycling. The prevailing materials and energy recovery processes also need to be advanced to attain higher recycling efficiency. To address these challenges, improving waste management practices and promoting innovative recovery of resources from waste streams are essential.

Some cities in Europe including Turku has signed the EU Green City Accord, an initiative to make cities greener, cleaner, and healthier. Sustainable technological developments to convert municipal waste to energy and efficient recovery and reutilization of valuable materials will eventually enable to attain the goals set by the initiative. This open symposium facilitates open discussions, sharing of new concepts and technical data, and networking opportunities that would have an impact on commitment of the cities to address some of the environmental issues related to waste streams.

Topics include:

- Waste management and valorization
- Pyrometallurgical and hydrometallurgical aspects of improved recycling technologies
- Adaptive materials recovery & extraction processes
- Energy Efficiency Improvement in Process Engineering (e.g., for biomass conversion and improved combustion)
- Advances in waste-to-energy technologies
- Power plant and waste incineration ashes utilization and recovery of resources
- Waste heat recovery and other industrial energy efficient technologies
- Emission control including CO₂ capture and storage

ORGANIZERS

- Fiseha Tesfaye, Leena Hupa, Oskar Karlström, Johan Werkelin and Juho Lehmusto

SYMPOSIUM SPONSORS

- Open Science at Åbo Akademi University
- Laboratory of Molecular Science and Engineering, Faculty of Science and Engineering, Åbo Akademi

PARTICIPATING COMPANIES AND INSTITUTIONS



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Schedule

9:00 – 9:30	Registration coffee
9:30 – 9:40	Prof. Leena Hupa (Åbo Akademi University) <i>Welcoming address</i>
SESSION 1	Chair: Dr. Fiseha Tesfaye, Åbo Akademi University
9:40 – 10:00	Dr. Petteri Halli (Aalto University) <i>Saving the world one atom at a time</i>
10:00 – 10:20	Prof. Mari Lundström (Aalto University) <i>Battery raw materials and their recycling in future</i>
10:20 – 10:40	Dr. Mari Lindgren (Metso Outotec) <i>Metso Outotec circular economy solutions</i>
10:40 – 11:00	Dr. Emil Vainio (Åbo Akademi University) <i>Recovery of valuable metals from waste incinerator ashes</i>
11:00 – 11:20	Prof. Simon Michaux (Geological Survey of Finland, GTK) <i>The minerals industry renaissance and the circular economy</i>
11:20 – 12:30	Lunch break
12:30 – 13:00	Aurum lab tour
SESSION 2	Chair: Prof. (Emeritus) Mikko Hupa, Åbo Akademi University
13:00 – 13:20	Dr. Sonja Enestam (Valmet Technologies Oy) <i>Energy from waste in a circular economy</i>
13:20 – 13:40	Prof. Daniel Lindberg (Aalto University) <i>Elemental recovery and valorization of ashes and slags</i>
13:40 – 14:00	Prof. Ron Zevenhoven (Åbo Akademi University) <i>Producing inorganic carbonates for industrial waste streams valorisation and CO₂ sequestration</i>
14:00 – 14:20	Coffee break
SESSION 3	Chair: Dr. Patrik Yrjas, Åbo Akademi University
14:20 – 14:40	Prof. Pekka Peljo (University of Turku) <i>Pathways towards next generation stationary energy storage</i>
14:40 – 15:00	Dr. Oskar Karlström (Åbo Akademi University) <i>Combustion of non-recyclable waste from car recycling</i>
15:00 – 15:20	Dr. Thomas Kronberg (Åbo Akademi University) <i>Recycling of clay-based materials</i>
15:20 – 15:40	Dr. Juho Lehmusto (Åbo Akademi University) <i>Ashes from challenging fuels in the circular economy</i>
15:40 – 15:50	Dr. Fiseha Tesfaye (Åbo Akademi University) <i>Closing remarks</i>

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