SAVE THE DATE 3-5 DECEMBER 2025 MATERIALS WORKSHOP

Sustainable Materials: From Technologies to Policies

Welcome to a 3-day workshop at Linköping University 3-5 December 2025

Dear Colleague,
We are pleased to invite you to participate in this international workshop on "Sustainable Materials: From Technologies to Policies", to be held in person at Linköping University, Sweden, from December 3 to 5, 2025.
This workshop aims to bring together researchers and professionals from all MIRAI member universities working on sustainable technologies, materials, and systems to discuss the latest developments and future directions in the field. We plan to explore not only scientific and technological innovations but also policy frameworks necessary for implementation.

Sub-themes:

1. Efficiency improvement for currently applied technologies and processes
Enhancing the performance and reducing the environmental footprint of technologies already in use by optimizing energy and material usage.

2. Upscaling of Carbon Capture and Storage (CCS) for fossil-based systems
Exploring practical ways to expand CCS implementation to mitigate CO_2 emissions from existing fossil fuel-based infrastructure.

3. The need for Negative Emission Technologies (NETs), especially the commercialization potential and challenges of BECCUS
Evaluating scalable NETs, with a focus on Bioenergy with Carbon Capture, Utilization, and Storage (BECCUS), which is one of the few technologies ready for near-term deployment, albeit with technical and policy hurdles.

4. Technological innovations and materials for energy conversion and storage
Investigating next-generation materials and systems that support more efficient and sustainable energy generation, conversion, and storage.

4.1. Carbon Capture and Utilization (CCU) and Hydrogen
Developing technologies that convert captured CO_2 into useful products and exploring hydrogen as a clean energy carrier.

4.2. Integration with renewable energy (Solar PV, wind, hydrogen) and the need for energy storage (e.g., batteries)
Focusing on scaling up renewable energy systems and addressing their intermittency through advanced energy storage solutions.

4.3. Smart grids and control systems (AI, digitalization)
Implementing intelligent energy systems that use AI and digital tools to optimize energy distribution, demand response, and system efficiency.

Please note: While the event is primarily in-person, there will be an opportunity for limited online participation where it is possible to share a brief self-introduction and a concise overview of their research. The workshops and discussions will be in person only. Travel expenses are at your own expense. Workshops facilities and lunches and Fika are provided by Linköping University.

We look forward to your participation in this engaging and timely discussion on advancing sustainable material solutions. Feel free to spread the invitation to relevant colleagues.
→**A formal sign-up form will be shared in September.**

Warm regards,
Feng Gao (Linköping University) /Masahiro Yoshizawa-Fujita (Sophia University)
Co-chairs of Global Challenge Team Materials