

Symposium The Sustainability Challenge: A Decade of Transformation (SYSC)

jointly organised by
 the Environmental Physics Division (UP),
 the Biological Physics Division (BP),
 the Chemical and Polymer Physics Division (CPP),
 the Physics Education Division (DD),
 the Thin Films Division (DS),
 the Dynamics and Statistical Physics Division (DY),
 the Metal and Material Physics Division (MM),
 the Physics of Socio-economic Systems Division (SOE),
 the Working Group on Industry and Business (AIW),
 the Working Group "Young DPG" (AKjDPG), and
 the Working Group on Physics, Modern IT and Artificial Intelligence (AKPIK)

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The UN Sustainable Development Goals call for transformative action across all sectors. Physics, as a foundational science, plays a key role - from understanding complex natural and socio-economic systems to developing sustainable technologies, fostering responsible resource use, and advancing sustainability-oriented education and public outreach. This symposium brings together diverse perspectives from within the physics community to explore interdisciplinary contributions to sustainability, including earth system modeling, energy systems, transport, molecular recycling and circularity as well as science education. Through five expert talks from various fields, we aim to highlight the relevance of physics and physics education for future-oriented transformation and inspire early-career researchers to engage with pressing global challenges in meaningful, scientifically grounded ways.

Overview of Invited Talks and Sessions

(Lecture hall HSZ/AUDI)

Invited Talks

SYSC 1.1	Mon	15:00–15:30	HSZ/AUDI	Open-Endedness and Community-Based Approaches to Sustainability Challenges — •HIROKI SAYAMA
SYSC 1.2	Mon	15:30–16:00	HSZ/AUDI	Education as a Social Tipping Element: Evidence from Climate and Physics Education Research — •THOMAS SCHUBATZKY
SYSC 1.3	Mon	16:00–16:30	HSZ/AUDI	Mechanistic and Material Perspectives on Enzymatic Hydrolysis of Semicrystalline Polyesters — •BIRTE HÖCKER
SYSC 1.4	Mon	16:45–17:15	HSZ/AUDI	Decarbonization Options for Industry — •UWE RIEDEL
SYSC 1.5	Mon	17:15–17:45	HSZ/AUDI	Impacts of Cosmic Dust and Space Debris in the Terrestrial Atmosphere — •JOHN PLANE

Discussion on Sustainability on Monday during Lunch Break

PSV I	Mon	13:00–13:45	HSZ/AUDI	Sustainability! And now? – Opportunities for young researchers — •ROXANA SCHARPEGGE, HIROKI SAYAMA, THOMAS SCHUBATZKY, BIRTE HÖCKER, UWE RIEDEL, JOHN PLANE, PAULEO NIMTZ, STEFANIE FALK
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Accompanying session in UP

UP 1.1–1.4 Mon 9:30–10:30 MER/0002 **Sustainability: Challenges and Solutions (joint session UP/CPP/SOE)**

Sessions

SYSC 1.1–1.5 Mon 15:00–17:45 HSZ/AUDI **The Sustainability Challenge: A Decade of Transformation**