

Panel 84. Sustainable Interaction Design, HCI and STS: challenges and examples when analysis and ideals meet in teaching design of computational systems for sustainability

Convenors:

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This panel marks the first half year of a three-year Erasmus+ teaching development project, Sustainable Interaction Design (SID), which aims to establish foundational frameworks in teaching digital design for green transformation. Rooted in Human- Computer Interaction (HCI), SID explores how interactive technologies can promote economic equity, cultural diversity, and environmental sustainability. By concerting diverse voices representing Computing within limits, computing and nature, Digital sustainability and sustainable computational materials the panel will stage ways forward for teaching sustainable interaction design.

This open panel will be structured into five short interventions (8–9 minutes each), each presented by invited panelists. These will be followed by an open discussion moderated by one of the organizers. The structure is designed to bring forward different perspectives on sustainable interaction design, while also sparking interdisciplinary dialogue involving HCI and STS scholars.

The five panelists:

Peter Gall Krogh & Marianne Graves Petersen, Aarhus University

Eli Blevis, Indiana University

Valentina Nisi, ITI-LARSyS, I.S.Técnico, Uni. de Lisboa

Davide Spallazzo, Politecnico di Milano

Amy K.M. Winters, Eindhoven University of Technology

ID 959 - Introducing Sustainable Interaction Design (SID)

Peter Gall Krogh, Aarhus University, Denmark

This talk introduces the topic, and its foundational principles. It will outline the ongoing SID Erasmus+ project's ambition to create teaching frameworks that support the design of computational systems for sustainability. Drawing on experience in interaction design and HCI, it will pose a reflection on how to navigate tensions between technological ideals and situated design practices. The presentation sets the stage for the following cross-disciplinary intervention.

ID 600 - Computing within Limits

Eli Blevis, Indiana University, USA (External guest)

The talk will present the "Computing within Limits" perspective, which argues for rethinking traditional computing paradigms in the face of ecological constraints. It will explore how computing research and education can acknowledge and contribute to respond to planetary boundaries, such as the limits of extractive logics and technological overreach. The intervention will highlight how rethinking computing through this lens can foster systems that support diverse human and non-human lifeforms, offering a critical



STS-informed take on reorienting computing education for future viability.

ID 601 - Nature and Interactive Storytelling

Valentina Nisi, Instituto Superior Técnico, University of Lisbon, Portugal (External guest)

This intervention will explore how interactive storytelling can foster a deeper connection with nature and sustainability issues. Drawing on design cases that combine interactive media and narrative techniques, the intervention will illustrate how digital interventions can be embedded meaningfully into the environmental discourse. The talk will emphasize a_ective engagement and cultural specificity as crucial to sustainable digital design.

ID 602 - Developing Sustainable Digital Interventions in Practice

Davide Spallazzo, Politecnico di Milano, Italy

The talk will start by introducing real-world case studies where sustainable interaction design principles have been applied to develop technological interventions addressing pressing social and environmental issues. Through examples drawn from student projects and community-engaged initiatives, it will show how design methods can translate sustainability ideals into concrete, context-sensitive solutions. His talk will explore challenges such as aligning institutional constraints with ecological values, and scaling impact while maintaining local relevance. This intervention highlights how applied design practice can function as a catalyst for sustainable change.

ID 603 - Sustainable Materials for Technological Systems

Amy K.M. Winters, Eindhoven University of Technology, Netherlands (External guest)

This last intervention will address sustainability at the material level, focusing on the design of computational systems that use biodegradable, recyclable, or otherwise sustainable materials. Her presentation will showcase examples where material experimentation is aligned with environmental goals, pushing the boundaries of what interactive systems can be made of and arguing for a broader view of "technology" that includes material ecologies and systemic thinking.

