

Sustainability of Chips: Impact of Emerging Chip Technologies, Clean-Tech Applications and Policy-Enabled Innovation

- **Venue:** Tampere Hall, Tampere, Finland.
- **Date:** 17th June 2026, 15:00–18:15 EEST
- **Side event to ISLC 2026:** <https://events.tuni.fi/islc2026/>
- **More information:** [Sustainability workshop | ISLC 2026 | Tampere Universities](#)

Biographies:

Borislav Hinkov



Staff Scientist of Integrated Photonics Technologies, Silicon Austria Labs, Villach, Austria

Silicon Austria Labs Coordinator in AT-C3, responsible for European Network Access

Borislav Hinkov studied physics at the university of Freiburg (Germany) and conducted his PhD studies in physics at ETH Zurich (Switzerland) on the topic of optoelectronic devices for the mid-infrared (MIR) spectral range graduating in 2015. He then moved TU Wien (Austria) for almost 8 years, where he established a sub-group on MIR photonic integrated circuits (PICs). Borislav then joined Silicon Austria Labs (SAL) in Villach in 2023 where he is responsible for the development of novel MIR PICs for applications such as atmospheric gas sensing, bio-chemical fluid analysis and free-space communication. In AT-C3 Borislav is leading the SAL activities which are focused at contributing to the EU semiconductor chips ecosystem development, interaction and collaboration with the European chips industry and the other national chips competence centers as well as general networking activities.

Pasi Pylväs



Director Finnish Chips Competence Centre (FiCCC)

Pasi Pylväs is the Director of the Finnish Chips Competence Centre (FiCCC), Finland's national semiconductor initiative under the Chips For the Europe Initiative and the country's Chips from the North strategy. With more than twenty years in semiconductor design, system architecture, and technology collaboration, he works at the intersection of research, industry, and emerging ventures. FiCCC supports Finland's deep-tech growth by enabling access to chip design, advanced fabrication and packaging, and the EU's Design Platform and pilot lines - critical infrastructure for accelerating semiconductor startups from concept to silicon.

Pasi advocates a distinctly Finnish approach: open, pragmatic collaboration that turns national strengths into shared European capability. His mission at FiCCC is to ensure that startups and scaleups can build faster, safer, and more competitively on sovereign semiconductor technologies, both in Finland and across Europe.

Bernhard Bergmair



Dr. Bernhard Bergmair is Senior Manager at Silicon Austria Labs in Linz, where he coordinates sustainability research topics. His interdisciplinary work focuses on how companies can leverage policies to develop and scale sustainable innovations.

Previously, he worked at the intersection of sustainability and technology consulting at a global IT services company and led collaborative open-foresight projects on future business opportunities and risks at an RTO. He studied physics at the TU Wien.

Abstract:

The transgression of planetary boundaries requires economies to transition towards sustainable pathways. Policies increasingly drive this transformation by both incentivising and regulating economic activities to achieve long-term targets.

These policies create new opportunities for clean-tech innovation. This talk elaborates on this perspective: How can companies identify sustainable business opportunities based on environmental policies.

Johanna Zikulnig



Johanna Zikulnig (b. 1990, Graz) holds a Master's degree in Biomedical Engineering from Graz University of Technology and received a PhD in Electrical Engineering from École Polytechnique Fédérale de Lausanne. She works as a Scientist at Silicon Austria Labs with her research focusing on sustainable printed and hybrid sensor systems.

Abstract: The presentation explores different dimensions of sustainability and the challenges of evaluating sustainability in emerging technologies, particularly in pilot lines. It highlights both the complexity and the opportunities of conducting sustainability assessments at low TRLs. Furthermore, the presentation introduces the sustainability aspects and a proposed framework for assessing sustainability in pilot lines.

Mona Arnold



Ms Mona Arnold (Tech Lic., MBA) has +20 years of professional experience in innovation and R&D management in national and international projects relating to environmental technologies and environmental affairs. She is especially acknowledged in sustainable businesses, resource sufficiency, circular economy processes and the twin transition. In VTT, she is currently working as principal scientist, managing – among others the Zerochip joint project with the aim to develop circularity and sustainability in semiconductor fabrication. She has also lately been involved in sustainable mining and the resilience of critical raw materials

Silvan Schmid



Head of Research Unit of Micro and Nanosensors, Technical University of Vienna, Austria &
Co-founder of Invisible-Light Labs GmbH

Silvan Schmid, born 1977 in Lucerne, Switzerland, studied mechanical engineering at ETH Zurich and received his doctorate there in 2009, graduating with distinction and receiving the ETH Medal. After postdoctoral and faculty positions at the Technical University of Denmark (2009–2016), he joined TU Wien in 2016 as Professor and Head of the Micro and Nanosensors Research Unit at the Institute of Sensor and Actuator Systems. Since 2021, he has also served as Dean of Academic Affairs. His research centres on nanomechanical systems for ultrasensitive detection - from single-molecule photothermal spectroscopy to nanoplastic analysis and quantum-relevant optomechanics. He has secured major grants, including an ERC Starting Grant and funding from DARPA, the Novo Nordisk Foundation, and the FWF, and co-founded Invisible-Light Labs GmbH. Key contributions include elucidating dissipation in high-Q resonators and pioneering nanomechanical infrared spectroscopy.

Gerald Auböck

Principal Scientist and Head of Research Unit Photonic Systems, Silicon Austria Labs GmbH

Gerald Auböck holds a PhD in physics from the University of Technology Graz and worked for six years at EPFL before joining SAL in 2015. Throughout his career he developed and applied spectroscopic and other photonic measurement and sensing systems in fundamental as well as applied sciences. Today he leads the Photonic Systems Research Unit at Silicon Austria Labs which develops solutions for Analytics, Metrology and Sensing with a team of 28 scientists and engineers.

I will present examples of novel photonic online monitoring solutions, their underlying principles as well as an exemplary outlook on what is technically feasible. Based on these examples I want to discuss the interaction between technological progress, impact, market need and the influence of policy.

Tuomas Hieta



Dr. Tuomas Hieta is a project manager at Gasera Oy focused on advanced environmental sensing, measurement technologies, and the commercialization of scientific research. His work bridges cutting-edge instrumentation, data-driven analysis, and practical applications in climate, air quality, and industrial monitoring.

Nicolas Bellomo



Nicolas graduated from UCLouvain in 2017 with a master's degree in bioengineering: Chemistry and Bioindustries, before obtaining his PhD from the University of Luxembourg in materials science characterisation and synthesis. After a short period at Hydrogen Europe, he joined the Joint Research Centre in Sevilla, where he focuses on cement, lime, magnesium oxide and non-ferrous metals.

Abstract: European Innovation Centre for Industrial Transformation and Emissions (INCITE) is the forward-looking instrument of the Industrial Emissions Directive for identifying and assessing innovation. INCITE supports the Sevilla process (BREF revision) by feeding its innovation findings into the BREF.

Johanna Kirjavainen



Deputy Mayor, City of Tampere & University Teacher, Tampere University

Johanna Kirjavainen holds a Doctor of Science in Technology degree from Tampere University, where she specialised in technology and innovation management, with a focus on high-tech firms' product strategies. Her research spans innovation ecosystems, energy transition, technological disruption, sustainability, and foresight.

Currently, Johanna serves as Deputy Mayor of the City of Tampere, responsible for economic development, skills and employment, and real estate services — bringing a practitioner's perspective to the intersection of innovation policy and urban development