



Digitization of biology for circular bioeconomy applications – Speaker bios

Roman Brenne

Roman Brenne is a Policy Officer in the Bioeconomy & Food Systems Unit of the Directorate-General for Research & Innovation at the European Commission, mainly responsible for the implementation of the 2018 updated EU Bioeconomy Strategy, the organisation of the high-level bioeconomy conference in October 2022, and International Bioeconomy Cooperation. Roman has a Master of Science in International Politics from Trinity College Dublin and a Bachelor of Arts in History and Political Science from the University of Wuppertal. He started his career with the business consultancy Accenture in Dublin and joined the European Commission in March 2017.

Mart Loog

Mart Loog is a professor of molecular systems biology at the Institute of Technology, University of Tartu. Mart received his Ph.D. in medicinal biochemistry from Uppsala University, Sweden, in 2002, followed by postdoctoral training at the University of California, San Francisco (UCSF). In 2006, Mart established his independent laboratory at the newly established Institute of Technology, University of Tartu. He has received several international fellowships and awards including The Wellcome Trust Senior International Fellowship, and a startup research grant from European Molecular Biology Organization (EMBO) and Howard Hughes Medical Institute (HHMI). In 2015 he was awarded the European Research Council (ERC) Consolidator Grant and became a principal coordinator of H2020 ERA Chair projects SynBioTEC and GasFermTEC to establish the multidisciplinary Estonian Centre for Synthetic Biology & Biosustainability. Mart's research directions include phospho-regulation of the eukaryotic cell cycle, synthetic circuit design based on multi-site phosphorylation systems.

Christian Simon

CHRISTIAN SIMON (born 1959) received his Dr.Ing. degree in Physical Chemistry in 1985 from the University of Franche-Comté, France, with specialty Colloid and Surface Science. He came to Norway in 1986 as a Post-Doctoral fellow at the Department of Chemistry of the University of Oslo, until 1988. He has been employed at SINTEF since 1989 and is presently Senior Business Developer EU in the Administration Department of SINTEF Industry.



Lars K. Nielsen

Prof Nielsen is Professor and Chair of Biological Engineering at The University of Queensland, Senior Group Leader at the Australian Institute for Bioengineering & Nanotechnology (AIBN), and Scientific Director at the Novo Nordisk Foundation Center for Biosustainability, DTU, Denmark. He is Director of the Queensland Bioplatforms Australia Node, which provides systems and synthetic biology support to design and build cell factories for the production of fuels, chemicals and pharmaceuticals.

His core research interest is modelling of cellular metabolism and his team has made many contributions to the formulation and use of genome scale models. In 2015, he received a Novo Nordisk Foundation Laureate Research Grant to develop large scale, mathematical models to explore and explain the molecular basis for homeostasis – the self-regulating processes evolved to maintain metabolic equilibrium. Studying homeostasis is relevant for the understanding and treatment of complex diseases, particular with the emergence of personalized medicine. It is equally important when we seek to repurpose the cellular machinery for the production of desired chemicals, materials and pharmaceuticals.

Virginia Puzzolo

Virginia holds a PhD in plant ecology and biology and started her career with the European Commission in 2004 as a researcher in the Joint Research Center (JRC). In 2006, she was first seconded to DG 'Enterprise and Industry', where she actively contributed to the development of the European Union's Earth Observation Program: Copernicus. In 2009, she moved to the Research Executive Agency (REA) where she was responsible for the execution of part of the FP7 and Horizon2020 Research Framework Programmes. For 20 years, she has been working in developing and implementing EU Research and Innovation policies. Since September 2020, she is the Head of Programme in the Circular Bio-Based Europe Joint Undertaking (previously BBI JU).

Petri-Jaan Lahtvee

Petri-Jaan Lahtvee is a professor in Food Tech and Bioengineering at Tallinn University of Technology, where his research is focused on the valorisation of organic waste (mainly food and wood waste) into value-added food and feed supplements, but also biomaterials and chemicals. Petri defended his PhD in 2012 at TalTech, did his postdoc at Chalmers University of Technology in Sweden under the supervision of Prof. Jens Nielsen on systems biology of yeasts.



Then, he was recruited to lead the H2020 funded ERA Chair in Synthetic biology at the University of Tartu, Estonia. His research group has established the Design-Build-Test-Learn cycle approach for the construction of microbial cell factories, and they apply various techniques, including bioinformatics, synthetic biology, bioprocess optimization and additive manufacturing of living materials.

Kaspar Valgepea

Dr. Kaspar Valgepea is an Associate Professor and Group Leader at the ERA Chair in Gas Fermentation Technologies at the Institute of Technology, University of Tartu. He obtained his PhD in Chemistry and Gene Technology from Tallinn University of Technology, Estonia and has performed research in Japan and in the US biotech company Genomatica. He carried out postdoctoral research at The University of Queensland, Australia on developing an integrated systems and synthetic biology platform for acetogen gas fermentation. Dr. Valgepea is currently focusing on advancing gas fermentation technologies through its integration with systems, and synthetic biology to facilitate rationale metabolic engineering of super cell factories for sustainable production of chemicals and fuels. The laboratory actively collaborates with industry, including industry leader LanzaTech.

Kristjan Vassil

Kristjan Vassil has defended a PhD in Political and Social Sciences at the European University Institute in Firenze and his MA in Communication Studies in the University of Tartu. He is Associate Professor of Technology Research since 2016 and has also served as head of Center of IT Impact Studies (CITIS) – an integrated research and teaching program focusing on impact assessment of e-government and prototyping of new data-based predictive public e-services.

Kristjan's research focuses on the impact of ICT's on individual level behavior, impact assessment of e-governance and predictive modeling. Kristjan is one of the leading investigators in e-voting studies conducted in Estonia since 2005.

Kristjan Vassil has been the vice-rector for research at the University of Tartu since 2017.