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 acts and omissions trust
 Scots pine
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 justice microvesicles
bioeconomy



ACADEMY PROGRAMME 2017-2020



ACADEMY OF FINLAND



BioFuture2025 in brief

A biobased economy is evolving alongside the fossil-fuelled economy, promising solutions that will help curb climate change and excessive natural resource consumption. This shift has major implications for society and culture. Sustainable biobased solutions require broad public acceptance as well as active interaction between all actors involved. The BioFuture2025 Academy Programme creates a foundation for scientific innovation and promotes long-term self-renewal in society.

Bioeconomy refers to an economy that relies on renewable natural resources to produce food, energy, products and services. It strives to reduce our dependence on fossil natural resources, prevent biodiversity loss and create new economic growth in line with sustainable development principles.

Main objectives:

- increase understanding of the challenges of transitioning to a bioeconomy
- create a new knowledge base for the emergence of an economy based on sustainable biobased solutions
- strengthen multi- and interdisciplinary collaboration and foster new ways of doing science.

Themes:

Smart biomass and high-value-added products, production technologies and services as part of the circular economy

Bioeconomy value networks and associated new production technologies, products and services can bring new kinds of solutions and practices. They will require well-researched evidence about bioresources and

bioresource availability, biomass properties, production methods and use, and the impacts of biomass use on ecosystems, society and the economy.

Securing the sustainability of natural resource use will become a growing challenge with increased biomass use. Adverse environmental impacts can be reduced and organic side streams and waste from production processes be put to effective use by the application of smart technologies.

Impact of societal changes, values, ethics and behaviour on the use of biobased natural resources

The bioeconomy is a broad societal phenomenon that involves the sustainable management of natural resources. The BioFuture2025 programme considers the ethical, legal, societal and cultural dimensions of the bioeconomy. Changing values affect the relationship between humans and the natural environment, which has ethical and societal consequences for a sustainable bioeconomy.

Everyday practices and choices are shaping the consumer-driven bioeconomy. That is why research evidence is needed also about user needs and values and about how user choices can be influenced.

FUNDED PROJECTS

Business Models of Born Globals in Forest-based Bioeconomy

Mika Gabrielsson, University of Eastern Finland
Jouni Pykäläinen, University of Eastern Finland

Overcoming Technology Barriers with Tailored Catalysts: Design of Molecularly Functionalized Heterogeneous Catalysts for Selective Reductions of Biomass-derived Materials

Karoliina Honkala, University of Jyväskylä
Petri Pihko, University of Jyväskylä

Bioeconomy and Justice

Matti Häyry, Aalto University
Markku Wilenius, University of Turku

Taking the Leap across the Rationale Gap: the Role of Emotions in Making the Transition to More Sustainable Materials

Teemu Kautonen, Aalto University
Henri Hakala, University of Vaasa
Katariina Salmela-Aro, University of Jyväskylä

The New Road to Silk: Bio-based Production of Silk-like Materials

Markus Linder, Aalto University
Kirsi Niinimäki, Aalto University
Heikki Tenhu, University of Helsinki

3D-manufacturing of Novel Biomaterials

Jukka Seppälä, Aalto University
Jouni Partanen, Aalto University
Orlando Rojas, Aalto University

Genomic Selection: Towards more Efficient, Financially Viable and Resilient Wood Production

Teemu Teeri, University of Helsinki
Fred Asiegbo, University of Helsinki
Katri Kärkkäinen, Natural Resources Institute Finland
Outi Savolainen, University of Oulu

Orchestrating Sustainable User-driven Bioeconomy: Policy, Transformation and Benefits

Anne Toppinen, University of Helsinki
Lassi Linnanen, Lappeenranta University of Technology
Markku Ollikainen, University of Helsinki

Natural Secreted Nano Vesicles as a Source of Novel Biomass Products for Circular Economy

Seppo Vainio, University of Oulu
Henrikki Liimatainen, University of Oulu
Tuukka Petäjä, University of Helsinki
Raija Tahvonen, Natural Resources Institute Finland

Transforming Waste into New Antibiotics

Jari Yli-Kauhaluoma, University of Helsinki
Merja Hannele Kontro, University of Helsinki
Jouko Peltonen, Åbo Akademi University

NORDFORSK, NORDIC CENTRE OF EXCELLENCE

Nordic Bioeconomy Programme

An Integrating Nexus of Land and Water Management for a Sustainable Nordic Bioeconomy (BIOWATER)

Project manager:

Per Stålnacke, Norwegian Institute for Bioeconomy Research (Norway)

Finnish project leaders:

Seppo Hellsten, Finnish Environment Institute
Bjørn Kløve, University of Oulu
Artti Juutinen, Natural Resources Institute Finland

Nordic Centre for Sustainable and Resilient Aquatic Production (SUREAQUA)

Project manager:

Fiona Provan, International Research Institute of Stavanger (Norway)

Finnish project leader:

Mikko Kolehmainen, University of Eastern Finland

Towards Versatility of Aquatic Production Platforms: Unlocking the Value of Nordic Bioresources (NordAqua)

Project manager:

Eva-Mari Aro, University of Turku (Finland)

Finnish project leaders:

Kaarina Sivonen, University of Helsinki
Merja Penttilä, VTT Technical Research Centre of Finland Ltd
Pirjo Mattila, Natural Resources Institute Finland



FURTHER INFORMATION

ACADEMY OF FINLAND

Tuula Aarnio, PhD

Programme Manager
tuula.aarnio@aka.fi

Risto Vilkkö, PhD

Programme Manager
risto.vilkkö@aka.fi

Sanna Hytönen

Project Officer
sanna.hytönen@aka.fi

Academy of Finland, tel. +358 29 533 5000

Programme website: www.aka.fi/biofuture2025

 @AKA_ohjelmat, #BioFuture2025

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disease resistan
recombinant



ACADEMY OF FINLAND

Hakaniemenranta 6 • POB 131, FI-00531 Helsinki, Finland
Tel. +358 29 533 5000

www.aka.fi/eng

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