

SCIENCE DAY VIIKKI

ASPIRING RESEARCHER – FIND YOUR TEAM

LEARN ABOUT RESEARCH AND COLLABORATION OPPORTUNITIES

JANUARY 30, 2023
AT 14-16
INFOKESKUS OPPIMISTORI, VIIKKI

READ MORE:



HOH HELSUS

UNIVERSITY OF HELSINKI

HELSINKI ONE HEALTH

HELSINKI INSTITUTE OF SUSTAINABILITY SCIENCE

PROGRAM

INFOKESKUS OPPIMISTORI, VIIKKI CAMPUS, UNIVERSITY OF HELSINKI Address: Viikinkaari 11

14:00 Opening of Science Day

Tommi Taira, vice-dean of research, Faculty of Veterinary Medicine

14:10 Research group presentations

Emerging Infectious Diseases and One Health

Kirsi Aaltonen, EID group

Impacts of maternal microbiota on fetal development

Mikael Niku, Developmental Interactions

Exploring animal experiences: animal welfare science

Anna Valros & Laura Hänninen, Research centre for animal welfare

Organic matter flows in the changing Arctic

David Thomas, Arctic Ecosystems Research

Sustainable and affordable protein production

Michael Jeltsch, Protein Development Lab

Centre for Coastal Ecosystems and Climate Change Research (CoastClim)

Camilla Gustafsson, CoastClim

Instructions for poster session

Liisa Uotila

15:00 Poster session & refreshments

15:45 Return voting tickets!

16:00 Announcement of poster competition winner

POSTERS Viikki Science Day 30.1.2023

1. Impacts of maternal microbiota on fetal development **Mikael Niku**, [Developmental Interactions](#)
2. Exploring animal experiences: animal welfare science **Anna Valros & Laura Hänninen**, [Research centre for animal welfare](#)
3. Emerging Infectious Diseases and One Health **Tarja Sironen**, [EID group](#)
4. Organic matter flows in the changing Arctic **David Thomas**, [Arctic Ecosystems Research](#)
5. Sustainable and affordable protein production **Michael Jeltsch**, [Protein Development Lab](#)
6. Centre for Coastal Ecosystems and Climate Change Research (CoastClim) **Alf Norkko**, [CoastClim](#)
7. The role of biodiversity for transmission and outbreak of zoonotic and vector-borne diseases **Frauke Ecke**, [Rodent & Disease Ecology](#)
8. Microbial evolution beyond test tubes, **Ville Friman**, [Friman group](#)
9. Early-life stress affects the functional development of networks underlying emotional behaviours **Henrike Hartung**, [Brain development and neuropsychiatric disorders](#)
10. Fundamental and applied entomology **Ian Hardy**, [Agricultural entomology](#)
11. Crop trait assessment at NaPPI facility **Kristiina Himanen**, [National Plant Phenotyping Infrastructure](#)
12. Digging into the interactions between plant respiration and photosynthesis **Alexey Shapiguzov**, [Plant phenotyping / Center of Excellence in Tree Biology](#)
13. Animal welfare research at the University of Helsinki **Peter Krawczel**, [Animal Behavior and Welfare](#)
14. Politics and Power in International Forest Policy **Maria Brockhaus**, [International Forest Policy](#)
15. Deadwood, fungi and carbon **Taina Lundell**, [Fungal Co-life, Omics and Ecophysiology \(FungCo\)](#)
16. Water safety research to minimize waterborne infection risks **Tarja Pitkänen**, [Waterborne pathogens](#)
17. Zoonotic Antimicrobial Resistance **Annamari Heikinheimo**, [Zanres - Zoonotic Antimicrobial Resistance](#)
18. VITRI: Multidisciplinary research on tropical forest resources **Edward Webb**, [Viikki Tropical Resources Institute \(VITRI\)](#)
19. Novel mechanism to protect neuronal cell death **Mart Saarma**, [Saarma research group](#)
20. The ecology and evolution of warning signals **Johanna Mappes**, [Ecology and Evolution of Interactions](#)
21. Targets for protection and regeneration of pancreatic beta cells in diabetes **Maria Lindahl**, [Lindahl research group](#)
22. Ecological and Environmental Research in Urban areas **Heikki Setälä and Johan Kotze**, [Urban Ecosystems Research Group](#)
23. Viikki Food Design Factory changing the future food system **Laura Forsman**, [Viikki Food Design Factory](#)
24. Una Europa - alliance of 11 European universities **Stinne Vognaes**, [Una Europa](#) student engagement coordinator at UH
25. How to apply for a PhD study right at the University of Helsinki **Maija Tiippana & Anne Luoma**, Viikki doctoral education services (Viikki-PhD)

Viikki Science Day 30.1.2023

POSTERS

Poster number, poster title, **research group leader**, link to research group homepage, description of research

1. Impacts of maternal microbiota on fetal development

Mikael Niku, [Developmental Interactions](#)

We study how maternal microbiota modulates the fetal development, especially the intestinal immune system and brain. We focus on two potential mechanisms: microbial metabolites and microbial extracellular vesicles.

2. Exploring animal experiences: animal welfare science

Anna Valros & Laura Hänninen, [Research centre for animal welfare](#)

We study the welfare of animals under human care and try to find science-based solutions for how to improve animal welfare. Our research area is very broad and includes both companion and production animals, but with a focus on the latter. Our research is very near to the concept of One health - One welfare.

3. Emerging Infectious Diseases and One Health

Tarja Sironen, [EID group](#)

We study emerging zoonoses using a One Health approach aiming at understanding the drivers of disease emergence. We function both at the faculties of medicine and veterinary medicine

4. Organic matter flows in the changing Arctic

David Thomas, [Arctic Ecosystems Research](#)

We study the biogeochemistry of organic matter and inorganic nutrients as they pass from soils into rivers, then onto estuaries and eventually into coastal waters. This is done in boreal and Arctic systems and involves both chemistry and microbiology approaches. In particular the effect of climate-change on the processes in the land-ocean continuum are of particular priority.

5. Sustainable and affordable protein production

Michael Jeltsch, [Protein Development Lab](#)

We are disrupting the way proteins are produced. The current ways are inefficient, unsustainable, and expensive. There must be a better way...

6. Centre for Coastal Ecosystems and Climate Change Research (CoastClim)

Alf Norkko, [CoastClim](#)

The Centre for Coastal Ecosystem and Climate Change Research evaluates the links between coastal biodiversity, carbon cycling, and climate feedbacks. The data will serve as a foundation of a new decision-support system to improve the use and management of coastal ecosystems with the potential for climate change mitigation. The development of CoastClim is part of a strategic partnership between the University of Helsinki and Stockholm University that focuses on strengthening collaborative marine ecosystem and climate change research between universities.

7. The role of biodiversity for transmission and outbreak of zoonotic and vector-borne diseases

Frauke Ecke, [Rodent & Disease Ecology](#)

Our research focuses on rodent and disease ecology. We try to understand the biological and environmental factors that cause the transmission of pathogens among host species like rodents and bats and the transmission from non-human animals to humans. We have mounting evidence that biodiversity mitigates disease risk.

8. Microbial evolution beyond test tubes

Ville Friman, [Friman group](#)

We are interested in rapid microbial evolution in human and plant-associated microbiomes. This is important for developing new methods to slow down antibiotic resistance evolution or to use microbes in biocontrol to cut down crop losses to plant diseases. To achieve this, we use a combination of microbiology, evolutionary biology, ecology, genomics and plant biology.

9. Early-life stress affects the functional development of networks underlying emotional behaviours

Henrike Hartung, [Brain development and neuropsychiatric disorders](#)

We investigate the effect of early-life stress on the functional development of networks underlying emotional behaviors in rodent model. We use mainly in vivo electrophysiological recording techniques for this. We find that early-life stress affects both the firing activity of individual neurons in these immature networks and leads to abnormal functional long-range communication early on.

10. Fundamental and applied entomology

Ian Hardy, [Agricultural entomology](#)

Behavioural and applied ecology of insect natural enemies in natural and agricultural ecosystems. From evolutionary ecology to crop protection food security.

11. Crop trait assessment at NaPPI facility

Kristiina Himanen, [National Plant Phenotyping Infrastructure](#)

We use image based sensors to collect data of plant responses to environmental challenges. Currently we focus on facilitating the big data management. The project topics change frequently so just get in contact and come to see our activities.

12. Digging into the interactions between plant respiration and photosynthesis

Alexey Shapiguzov, [Plant phenotyping / Center of Excellence in Tree Biology](#)

We do molecular, physiological and genetic studies of interactions between plant respiration and photosynthesis. We build new tools and establish new methods to explore these processes in vivo, e.g., through chlorophyll fluorescence imaging. We work mostly in Arabidopsis, but translate our knowledge to other plant species.

13. Animal welfare research at the University of Helsinki

Peter Krawczel, [Animal Behavior and Welfare](#)

We study the effects of housing and management practices on the welfare of livestock species, mostly dairy cows, in an applied manner. Our general goal is to ensure the quality of life for animals within commercial production systems using a mix of behavior, biological function, and affective state. Broad topics of interest include the provision of outdoor access, cow-calf management, and early life management.

14. Politics and Power in International Forest Policy

Maria Brockhaus, [International Forest Policy](#)

Most of today's environmental policy problems such as deforestation and the existing inequities in rights and benefits from natural resources are deeply rooted in historical processes and patterns of global trade and investment within and beyond the forestry sector. Domestic and international agreements, policies and decisions affecting forests and people all over the world, and vice versa. In the recently established Chair of International Forest Policy we strive for a world in which forests are high on national and international agendas, and forest stewards' rights are acknowledged. We believe that research can make a difference through the provision of sound evidence of what is and what can be without prescribing what should be. Our aim is to provide critical analysis to better understand politics and power in highly contested domestic and international policy arenas, often beyond the forestry sector as such.

15. Deadwood, fungi and carbon

Taina Lundell, [Fungal Co-life, Omics and Ecophysiology \(FungCo\)](#)

We study functions and ecology of fungi and microbes of forest deadwood. We use modern sequencing techniques and omics bioinformatics together with analytical chemistry and bioactivity analyses. Our recent findings are fungal natural products and opening of biochemical processes on-going during fungal interactions.

16. Water safety research to minimize waterborne infection risks

Tarja Pitkänen, [Waterborne pathogens](#)

The research interests of Waterborne pathogens research group focus on environmental health and environmental microbiology. Specifically, the group expertise covers water microbiology in terms how waterborne microbes might endanger the health of water users. This entails microbes and methods used for water quality monitoring and fecal source tracking, and pathogens causing waterborne and zoonotic infections.

17. Zoonotic Antimicrobial Resistance

Annamari Heikinheimo, [Zanres - Zoonotic Antimicrobial Resistance](#)

Zoonotic Antimicrobial Resistance (ZANRES) research focuses on the epidemiology of zoonotic antimicrobial resistant (Z-AMR) bacteria (i.e. bacteria transmitting between animals and humans), aiming to improve knowledge on the occurrence and transmission routes of Z-AMR bacteria along the food chain and in companion animals. Our studies aim towards implementing strategies to mitigate development and spread of AMR in and between One Health entities animals, humans and their environment.

18. VITRI: Multidisciplinary research on tropical forest resources

Edward Webb, [Viikki Tropical Resources Institute \(VITRI\)](#)

19. Novel mechanism to protect neuronal cell death

Mart Saarma, [Saarma research group](#)

We study life and death of neurons using cellular and molecular biology methods, transgenic animals and animal models of neurodegenerative diseases.

20. The ecology and evolution of warning signals

Johanna Mappes, [Ecology and Evolution of Interactions](#)

Many animals that are toxic or distasteful exhibit colorful warning signals that deter predators. We study the appearance, chemical ecology, behavior, population dynamics, and genetic underpinnings of this strategy in the wood tiger moth. Our research shows how predator-prey interactions and mate choice can promote (or restrict) the evolution of animal diversity.

21. Targets for protection and regeneration of pancreatic beta cells in diabetes

Maria Lindahl, [Lindahl research group](#)

We study molecular mechanisms leading to pancreatic beta cell pathology and diabetes and how these could be prevented. We use transgenic and diabetes mouse models, primary mouse islets, beta cell lines and combine genomic, cellular and molecular biology approaches in our research. Our most recent findings are that neurotrophic factor MANF is needed for both human and mouse beta cell survival, proliferation and function by alleviating ER stress in beta cells.

22. Ecological and Environmental Research in Urban areas

Heikki Setälä and Johan Kotze, [Urban Ecosystems Research Group](#)

We study the response of insects and plants to the urban environment. Much of our work is field based, working in urban meadows, forests and parks. Our questions relate to habitat fragmentation, biodiversity and ecosystem services (including services provided by soils).

23. Viikki Food Design Factory changing the future food system

Laura Forsman, [Viikki Food Design Factory](#)

24. Una Europa - alliance of 11 European universities

Stinne Vognaes, [Una Europa](#) student engagement coordinator at UH

Una Europa is an alliance of 11 leading, research-intensive European universities. The aim is to build the university of the future by strengthening collaboration on education and research. Una Europa has six focus areas, among others One Health, sustainability, and future materials. There are initiatives for students at all level of studies, in addition to PhD candidates. Come and learn more about our Una Europa One Health Summer School at KU Leuven this summer, our online courses and student engagement activities!

25. How to apply for a PhD study right at the University of Helsinki

Maija Tiippana & Anne Luoma, Viikki doctoral education services (Viikki-PhD)