

AGENDA

JUNE 3 TO 5, 2019



Wacky windows for an underground art museum: Amos Rex on Lasipalatsin Square

MONDAY JUNE 3

Hanaholmen – Swedish-Finnish Cultural Centre

09:00 – 10:10

Introduction and Keynote

09:00 – 09:30

Welcome and Introduction**Martin Hrabě de Angelis**, *INFRAFRONTIER, Helmholtz Center Munich***Riina Vuorento**, *Ministry of Education and Culture, Finland***Riitta Majjala**, *Academy of Finland***Marja Makarow**, *Biocenter Finland***KEYNOTE**

09:30 – 10:10

Taina Pihlajaniemi, *University of Oulu*

The Great Power and Versatility of Mouse Models in Understanding MACIT and Multiplexin Collagens in Cell-Extracellular Matrix Interplay

10:10 – 10:30

COFFEE BREAK**SESSION 1**

10:30 – 12:30

Genomic Big Data from Population IsolatesChair: **Johanna Myllyharju**, *University of Oulu*

INFRAFRONTIER

10:30 – 10:35

Intro by Session Chair

KEYNOTE

10:35 – 11:15

Aarno Palotie, *Institute of Molecular Medicine Finland (FIMM)*

Finnish Disease Heritage and FinnGen

11:15 – 11:40

Guðrið Andorsdóttir Ellefsen, *The Genetic Biobank of the Faroe Islands*

FarGen: Genetics, longevity and public health within the Faroese population

11:40 – 12:05

Hardip Patel, *National Centre for Indigenous Genomics*

Australia's National Centre for Indigenous Genomics ensuring the inclusion of Indigenous Australians in Precision Medicine

12:05 – 12:30

Terry-Lynn Young, *Memorial University of Newfoundland*

The Newfoundland Curse

MONDAY JUNE 3

12:30 – 13:30

LUNCH

SESSION 2A 13:30 – 15:00



Emerging Insights into Genomic and Precision Medicine

Chair: Steve Brown, *IMPC, MRC Harwell*

13:30 – 14:00

Introduction to IMPC

- IMPC: brief summary update [Steve Brown, IMPC](#)
- International Mouse Phenotyping Consortium – Preparing for Horizon Europe and Beyond [Kalliopoi Kostelidou, IMPC](#)

14:00 – 15:00

Age-related Phenotyping in IMPC

- Progress (update on numbers), logistics, SOPs
[Sara Wells, MRC Harwell](#)
- DCC and data loading (what is displayed on the portal etc. Remaining tasks) [Piia Keskivali-Bond, MRC Harwell](#)
- Data analysis tools and initial data analysis [MPI2](#)
- Additional tests and frailty index [Antonio Aguilar-Pimentel, Helmholtz Center Munich](#)
- Pilot tests in the intervening periods [Silvia Mandillo, CNR, Jan Prochazka, IMG, Sara Wells, MRC Harwell](#)

15:00 – 15:15

COFFEE BREAK

SESSION 2B 15:15 – 17:40



Emerging Insights into Genomic and Precision Medicine

Chair: Mary Dickinson, *Baylor College of Medicine*

15:15 – 15:40

Immunophenotyping

- Implementation of immunophenotyping data analysis workflow and resulting biological insights [John Seavitt, Baylor College, Lauryl Nutter, TCP](#)
- EmbedSOM, a self-organizing map-based software tool for multi-dimensional cytometry data analysis [Vendula Novosadova, IMG](#)

MONDAY JUNE 3

15:40 – 16:05

Behaviour and Sensory

- Emerging insights from neurobehavioural pipeline: paper conclusions
Michelle Stewart, *MRC Harwell*, Ann Flenniken, *TCP*,
Elissa Chesler, *Jackson Laboratory*
- New phenotyping developments: Gait analysis, Adhesive removal test, Home cage analysis and ultrasonic vocalisations
Michelle Stewart, *MRC Harwell*, Silvia Mandillo, *CNR*

16:05 – 16:35

Cardiovascular and Metabolism

- Update on the IMPC Cardio Paper: New Biological Insights from Cardio Screen Nadine Spielmann, *Helmholtz Center Munich*
- Interplay between embryonic and adult phenotypes
Mary Dickinson, *Baylor College*, Lydia Teboul, *MRC Harwell*,
Henrik Westerberg, *MRC Harwell*

16:35 – 17:05

Embryo Phenotyping

- MicroCT imaging of early embryos in embryonic lethal pipeline
Michaela Prochazkova, *IMG*
- Embryo Analysis Update Henrik Westerberg, *MRC Harwell*
- Subviable Analysis Update Hugh Morgan, *MRC Harwell*

MONDAY JUNE 3

17:05 - 17:40

Morphology

- X-ray test annotation – Reference atlas update [Jesús Ruberte, UAB](#)
- Eye Morphology test annotation – Zegami online image library for baseline and mutant annotation training and jamborees
[Colin McKerlie, TCP](#)
- High-throughput in-vivo microCT in skeleton morphology phenotyping [Jan Prochazka, IMG](#)
- Gross Pathology test and Tissue Embedding test Enquiry function at IMPC portal – Implementation [Alba Gómez, EMBL-EMI](#)
- Histopathology test – Completing required annotation gaps in uploaded data, Displaying hits at the Portal, Preliminary LAP histopathology update [Colin McKerlie, TCP](#)

18:15

BUS DEPARTURE TO RESTAURANT

19:00

SOCIAL DINNER FOR ALL PARTICIPANTS

TUESDAY JUNE 4

Hanaholmen – Swedish-Finnish Cultural Centre

SESSION 2C 08:15 – 09:45



Emerging Insights into Genomic and Precision Medicine

Chair: Colin McKerlie, *TCP*

08:15 – 08:45

Molecular Phenotyping

- General Summary [Kent Lloyd, UC Davis](#)
- Metabolomics [Kent Lloyd, UC Davis](#)
- Developments in the analysis of the microbiome [Kent Lloyd, UC Davis](#)
- Proteomics [David Schibli, UVic](#)
- Epigenomics [Archana Tomar, Helmholtz Center Munich](#)
- PCDDP progress update [Anne Grobler, PCDDP](#)

08:45 – 09:45

Nociception

- Overview and outline of the hour session [Jacqui White, Jackson Laboratory](#)
- Formalin [Jacqui White, Jackson Laboratory](#)
- CFA – von Frey, Hargreaves', Edema [Ann Flenniken, TCP](#)
- Adaptations for HTP compatibility: CFA - Cage Lid Interaction, and Dynamic Weight Bearing [Rob Bonin, University of Toronto](#)
- Unchallenged strategies [Michelle Stewart, MRC Harwell](#)
- Landing page [Daniel Delbarre, MRC Harwell](#)
- Summary recommendations, Publication Plans, Acknowledgements & Questions [Jacqui White, Jackson Laboratory](#)

09:45 – 10:05

COFFEE BREAK

TUESDAY JUNE 4

SESSION 3 10:05 – 11:50



10:10 – 11:50

Understanding Genetic Variation using IMPC Big DataChair: [Ann-Marie Mallon](#), *MRC Harwell***MPI2: Informatics and Big Data**

- New website and comms [Terry Meehan](#), *EMBL-EBI*, [Kieran Gibson](#), *IMPC*
- Tracking precision medicine models [Alba Gómez](#), *EMBL-EBI*
- Data capture, standardisation and QC of phenotyping data [Luis Santos](#), *MRC Harwell*
- MPI2 Manuscript updates [Violeta Munoz Fuentes](#), *EMBL-EBI*
- Phenopackets and Statpackets [Jeremy Mason](#), *EMBL-EBI*
- Novel Disease Gene Discovery in the 100K Genomes using mouse data [Valentina Cipriani](#), *QMUL*
- Improvements to integration and comparative analysis of mouse and human large-scale datasets [Tomasz Konopka](#), *QMUL*
- RRIDS [Anita Bandrowski](#), *UC San Diego*

KEYNOTE 11:50 – 12:30

Translational insights to vascular growth factors

[Kari Alitalo](#), *University of Helsinki*

12:30 – 13:30

LUNCH

SESSION 4 13:30 – 17:30



INFRAFRONTIER 13:30 – 13:35

Model Organisms in Ageing ResearchChair: [Valérie Gailus-Durner](#), *Helmholtz Center Munich*

Intro by Session Chair

13:35 – 14:00

[Brun Ulfhake](#), *Karolinska Institutet*

Behavioural assessment of ageing and its dependence on the integrity of sensory mechanisms

TUESDAY JUNE 4

14:00 – 14:25 **Mart Saarma**, *University of Helsinki*
Development of growth factor therapies for Parkinson's disease

14:25 – 14:50 **Peppi Karppinen**, *University of Oulu*
Systemic long-term inactivation of hypoxia-inducible factor prolyl 4-hydroxylase 2 ameliorates aging-induced changes in mice without affecting the life span

14:50 – 15:50 **POSTER SESSION AND COFFEE BREAK**

15:50 – 16:15 **Bruno Reversade**, *A*Star Institute, Singapore*
Solved and unsolved premature ageing syndromes and our use of animal and patient-derived organoids for disease modeling

16:15 – 16:40 **Dan Ehninger**, *German Center for Neurodegenerative Diseases*
Lifespan and healthspan in mice: mechanisms and interventions

16:40 – 17:05 **Celia Martinez-Jimenez**, *Helmholtz Center Munich*
Effect of ageing on cellular variability and transcriptional dynamics

17:05 – 17:30 **Fabio Mammano**, *CNR*
An INFRAFRONTIER mouse model of partial connexin 26 deficiency provides critical insight into the etiopathogenesis of age-related hearing loss

17:30 – 20:00 **SOCIAL EVENT:**
BOAT TRIP ACROSS THE HELSINKI ARCHIPELAGO

WEDNESDAY JUNE 5

Hanaholmen – Swedish-Finnish Cultural Centre

SESSION 5 09:00 – 10:20

Animal Models for Studying Genetic Variation

Chair: Jukka Kallijärvi, *University of Helsinki*



INFRAFRONTIER 09:00 – 09:05

Intro by Session Chair

09:05 – 09:30

Hannes Lohi, *University of Helsinki*

Canine models of human disease

09:30 – 09:55

Anu Suomalainen-Wartiovaara, *University of Helsinki*

Mechanisms for mitochondrial disorders using genetically tailored disease models

09:55 – 10:20

Fuad Iraqi, *University of Tel Aviv*

Collaborative Cross mice offer the greatest genetic diversity resource population for studying complex diseases and modifiers for IMPC project

10:20 – 10:40

COFFEE BREAK

SESSION 6 10:40 – 12:20

Stakeholder Presentations

Chair: Michael Raess, *INFRAFRONTIER*



INFRAFRONTIER 10:40 – 11:00

Daniel Rhodes, *Queen Mary University of London (QMUL)*

Constraint and phenotypic similarity characterization of drug targets and their paralogs to inform on drug side effects

11:00 – 11:20

Eleonora Leucci, *KU Leuven, LifeTime*

PDX as relevant preclinical models: Trace experience

WEDNESDAY JUNE 5

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- 11:20 – 11:40 **Satu Kuure, *University of Helsinki***
Omics profiling as a tool to identify metabolic profiles of kidney progenitors
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- 11:40 – 12:00 **Jukka Kallijärvi, *University of Helsinki***
A spontaneous mitonuclear epistasis converging on Rieske Fe-S protein exacerbates complex III deficiency in mice
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- 12:00 – 12:20 **Pasi Kankaanpää, *Euro-Biolmaging***
Euro-Biolmaging can complement INFRAFRONTIER/IMPC services in life sciences
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- 12:20 – 12:30 **Wrap Up and Closing Remarks**
Michael Raess, *INFRAFRONTIER*
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- 12:30 – 13:30 **LUNCH**
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