

# INFRAFRONTIER CONFERENCE 2026

## Preliminary Agenda

23-24 June 2026

Rome

### DAY 1 – 23 June 2026

09:00 **Welcome**  
Prof. Francesco Dotta, Director of the Department of Biomedical Sciences of the CNR

09:10 **Opening remarks**  
Prof. Johannes Beckers, Scientific Director of INFRAFRONTIER ERIC

### 09:20 – 12:00 SESSION I: DATA ANNOTATION AND FUNCTIONAL ONTOLOGIES

09:20 **Korea Mouse Phenotyping Centre (KMPC), model generation and mouse genetic**

Prof. Je Kyung Seong, CNR IBF Korea, Seoul National University

9:50 **Epigenetic Legacy: The Role of Sperm miRNAs in the Paternal Inheritance of Diabetes and Obesity Development**

Katharina Laurent, Helmholtz Munich

10:10 **T-cell workflow for immunotherapy safety and tumour response optimisation via integrated discovery – a regulatory-grade NAM for decoding the pathogenic TCR-antigen landscape**

Dr. Raj Sewduth, VIB KU Leuven Centre for Cancer Biology

10:30 – 11:00 *Coffee Break*

11:00 **Towards controlling and imaging stem cell differentiation one cell at a time in organoids.**

Prof. Virgile Viasnoff, Centre National pour la Recherche Scientifique (CNRS)

11:30 **Advanced behaviour phenotyping for neurogenetic and preclinical studies in the laboratory mouse.**

Vivek Kumar, The Jackson Laboratory

12:00 – 13:20 *Lunch & Posters 1*

13:20 – 14:00 **Panel discussion**

14:00 – 17:00

**SESSION II: DATABASES AS ENGINES OF FUNCTIONAL GENOMICS**

**IMPC as a foundational dataset for understanding human disease**

14:00

Dr. Helen Parkinson, European Bioinformatics Institute, EMBL-EBI

**Functional Annotation of the Mouse Non-Coding Genome for Understanding Human Diseases**

14:30

Dr. Naoki Kubo, Director of the Transcriptome and Epigenome Research Team at RIKEN BRC

**Exploring large-scale mouse phenomic data to better understand genetic underpinnings of neuropsychiatric disorders**

15:00

Dr. Sabine Hölter-Koch, Helmholtz Munich

**A standardised mouse schema and integrated analysis tool for genotype-phenotype associations**

15:20

Dr. Pilar Cacheiro, Queen Mary University of London

15:40 – 16:00

*Coffee Break*

**FAIR and AI-ready image data resources at Euro-Biolmaging**

16:00

Dr. Claudia Pfander, Euro-Biolmaging

**scATLAS approaches and multimodal data integration for robust annotation of the immune system in preclinical models**

16:20

Herve Luchie, PHENOMIN-CIPHE INSERM

**Data Welfare is Animal Welfare: Leveraging the FAIR3R Initiative and WELLFAIR Concept**

16:40

Benoit Petit-Demoulière, Centre National pour la Recherche Scientifique (CNRS)

19:30

Social Dinner

**DAY 2 - 24 June 2026**

08:50 – 9:10 **Welcome coffee & Networking**

**09:10 – 12:00 SESSION III: MECHANISTIC IN SILICO DISEASE MODELING AND PREDICTIVE MEDICINE****AI in Human Genetics: Enhancing Discovery and Mapping Disease Mechanisms**

09:10

Dr. Francesco Paolo Casale, Helmholtz Munich & Faculty of Informatics, Technical University of Munich

**From Cells to Chips to Digital Twins: Statistically Sound Parameter Estimation for Agent-Based Models in Organ-on-Chip and Cancer-on-Chip Systems**

09:40

Prof. Andrea De Gaetano, Coordinator, CNR IASI UOS at Università Cattolica, Policlinico Gemelli & Professor of Mathematical Statistics, Dept. of Mathematics, Mahidol University

10:10 – 10:40

*Coffee Break*

**Leveraging mathematical model to advance vaccination against SARS-CoV-2: using virtual mice cohorts.**

10:40

Anne-Andrée Ruiz, Bordeaux Population Health Research Centre, Université de Bordeaux & Vaccine Research Institute, Université Paris-Est Créteil, Faculté de Médecine

**Designing biological molecules with generative AI: from RNA structure to synthesisable drugs**

11:00

Prof. Pietro Liò, Department of Computer Science and Technology, Cambridge Centre for AI in Medicine, University of Cambridge

**Towards AI-Generated Virtual Control Groups in Preclinical Research: Insights from the IHI VICT3R Project**

11:30

Dr. Davide Cirillo, Barcelona Supercomputing Centre

12:00 – 13:30

*Lunch & Posters 2*

13:30 – 14:30

**SESSION IV: ANIMAL MODELS TO DIGITAL HUMAN DISEASES**

**Evolving fundamental models into a personalized digital twin of the human brain**  
13:30

Prof. Viktor Jirsa, EBRAINS Chief Science Officer

**Multiscale modeling of Hippocampal CA1 networks**

14:00

Dr. Rosanna Migliore, Institute of Biophysics, National Research Council

14:30 – 16:00

**SESSION V: ETHICAL, REGULATORY AND REPRODUCIBILITY CHALLENGES**

**Beyond Modelling: The Future of Regulatory Evidence in Pharmaceutical Innovation**  
15:30

Dr. Gianluca Sferrazza, Italian National Research Council, Biomedical Science Department

**Supporting NAMs innovation: why standardisation and validation matter!**  
15:00

Monica Piergiovanni, NAM expert, Former European Commission, Joint Research Centre (JRC)

**Beyond Replacement: Transparent Integration and Communication of NAMs and Animal Research**  
15:30

Dr. Inês Serrenho, European Animal Research Association  
Dr. Marcello Raspa, Institute of Biochemistry and Cell Biology, National Research Council of Italy (CNR)

16:00 – 16:10 **Closing remarks**

16:10

*Coffee & Networking*

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