**Multi-Omics data integration**

8 & 9 October 2020 - Online

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**8 October 2020**

**13h20-13h30**  **Welcome**

**13h30-14h10**  **Trainer 1** Michel Dumontier, Institute of Data Science, Maastricht University, NL

*Accelerating biomedical discovery science with an Internet of FAIR data and services*

**SESSION 1: MULTI-OmICS FACTOR ANALYSIS**

**14h10-14h50**  **Trainer 2** Ricard Argelaguet, European Molecular Biology Laboratory European Bioinformatics Institute, Wellcome Trust Genome Campus, Cambridge, UK

*Multi-Omics Factor Analysis (MOFA): a statistical framework for the unsupervised integration of multi-omics data*

**14h50-15h30**  **Trainer 3** Edward Marcotte, Molecular Biosciences, College of Natural Sciences, University of Texas at Austin, US

*Integrating evolution into proteomics: a case study mapping biochemical machinery across plants and beyond*

**15h30-16h00**  **Coffee – networking break**

**SESSION 2: SINGLE CELL DATA INTEGRATION**

**16h00-16h40**  **Trainer 4** Yvan Saeys, VIB-UGent Center for Inflammation Research, BE

*Machine learning challenges for multi-modal single-cell data*

**16h40-17h20**  **Trainer 5** Carl Herrmann, Health Data Science Unit, Medical Faculty University Heidelberg and BioQuant, Heidelberg, DE

**17h20-17h50**  **Closing – networking**
9 October 2020

13h25-13h30  Welcome

SESSION 3: MACHINE LEARNING / DEEP LEARNING IN GENOMICS & PROTEOMICS

13h30-14h10  Trainer 6 Julien Gagneur, Department of Informatics, Technical University of Munich, DE

14h10-14h50  Trainer 7 Avi Ma’ayan, Department of Pharmacological Sciences, Mount Sinai Center for Bioinformatics, Icahn School of Medicine at Mount Sinai, New York, US
The Harmonizome-ML and Drugmonizome-ML Appyters: Web Interfaces to Impute Knowledge about Genes and Drugs with Machine Learning

14h50-15h30  Trainer 8 Sushmita Roy, Department of Biostatistics and Medical Informatics, University of Wisconsin-Madison, US
Network-based integrative approaches to examine complex systems

15h30-16h00  Coffee – networking break

SESSION 4: MACHINE LEARNING IN DRUG DISCOVERY & DISEASE

16h00-16h40  Trainer 9 Ernest Fraenkel, Department of Biological Engineering, Massachusetts Institute of Technology, Cambridge, US
Integrating Multi-Omic and Clinical Data to Understand Neurodegenerative Diseases

16h40-17h20  Trainer 10 Stephen MacKinnon, Cyclica, Toronto, CA
Designing Molecules to Satisfy Multiple Predictive Objectives

17h20-17h50  Closing – networking