

Aula III

12:30-13:30 **Lunch**

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13:30-14:15 **SS7: Computational Intelligence for Integrative Host-Microbe Genomics: From Single-Cell Regulation to Population-Scale Pangenomes**
Chair: Antonello Maruotti

13:30-13:45 **An entropy based method for mapping mixed lineage next generation sequencing data**
Gregory Fonseca

13:45-14:00 **MethylAging: A HiFi Long-Read Epigenetic Clock for Biological Age Prediction in an Emirati Blood Cohort Using Promoter-Aggregated Methylation Features**
Dalia Barayan · Layan Hattab · Hoor Nadhari · Amna Ahmed · Mauricio Paton · Michael Olbrich · Antonello Maruotti · Mira Mousa · Habiba Alsafar · Andre Barreiros

14:00-14:15 **Learned Indexing for Genome Exact Mapping: A Comparative Study**
Zeinab Hassaan · Eman Hassan · Baker Mohammad · Lobna Said

14:15-15:00 **SS13: Modern Bayesian Factor Models for Complex Biological Data**
Chair: Pantelis Samartsidis; Lorenzo Schiavon; Alejandra Avalos-Pacheco

14:15-14:30 **A Sparse Rotationally Invariant Integrative Factor Model**
Alejandra Avalos-Pacheco

14:30-14:45 **Tensor decompositions for Bayesian factor models with dynamic loadings: an application to causal inference**
Pantelis Samartsidis

14:45-15:00 **Informed Sparse Factorization for Psychometric Construct Recognition**
Lorenzo Schiavon

15:00-15:20 **Coffee Break**

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15:20-17:20	SS8: Computational Intelligence Methods for Complex, Compositional, and Longitudinal Microbiome Data in One Health Chair: Marta Avalos Fernandez
15:20-15:35	Benchmarking differential abundance methods in respiratory microbiome: evaluating the impact of confounder adjustment Céline Hosteins · John Barrera · Cristian Meza · Raphaël Enaud · Laurence Delhaes · Marta Avalos
15:35-15:50	Modeling Overdispersed Zero-Inflated Longitudinal Count Data: A Beta-Binomial Mixed-Effects Approach John Barrera · Ana Arribas-Gil · Dae-Jin Lee · Cristian Meza
15:50-16:05	Longitudinal Microbiome Analysis in R: Review and Selection Pipeline Irene Creus-Martí · Francisco José Santonja Gómez
16:05-16:20	MicroEnsemble: A Patient-Anchor and Label-Anchor Contrastive Ensemble for Longitudinal Microbiome Classification Amr Doma · Ahmed Wesal · Youssef Ellakany · Ghada El-Boghdady · Sama Mohamed · Yara Elshamy · Peter Salah · Tamer Basha
16:20-16:35	Machine learning identifies candidate microbiome features associated with rheumatoid arthritis risk despite limited external predictive performance Raissa Silva · Rachel Audo · Axel Finckh · Claire Immediato Daien · Zubeyir Salis
16:35-16:50	Leveraging hologenomic data for phenotypic prediction: potential and pitfalls Solène Pety · Ingrid David · Andrea Rau · Mahendra Mariadassou
16:50-17:05	Microbiomes Under Human Pressure: An Integrated One Health Data Analysis Pipeline Omar Orellana-Diaz · Gautier Chauvin · Luis Marti · Raphaël Enaud · Laurence Delhaes · Marta Avalos
17:05-17:20	Supervised NMF to unravel signature-class associations in microbiome composition: application to microbial signature of downy mildew epidemiology in vineyards. Alioune-Badara Diouf · Paola Fournier · Jean-Marc Frigerio · Corinne Vacher · Simon Labarthe