



Societat Catalana
de **BIOLOGIA**



BIOINFORMATICS
BARCELONA

XI Jornada de Bioinformàtica i Genòmica

Organitzada per:
Secció de Bioinformàtica i Genòmica de la SCB
Associació Bioinformatics Barcelona - BIB

Patrocinada per:



Fundació "la Caixa"



**Barcelona
Supercomputing
Center**

Centro Nacional de Supercomputación



Floxxics

PROGRAMA

Museu de la Ciència
COSMOCAIXA

C/ d'Isaac Newton, 26, Barcelona

15 i 16 de desembre de 2023

COMITÈ ORGANITZADOR:

Marta Melé (BSC)
Santiago Marco-Sola (UPC-BSC)
Mario Cáceres (ICREA, IMIM)
Roderic Guigó (CRG-UPF)

SUPPORT:

Mariàngels Gallego (SCB)
Paqui Lorite (SCB)
Rosa Bover (BIB)

PROGRAM (15th December)

8:45 - 9:15 Registration

9:15 - 9:30 Welcome and opening of the symposium
Valentí Farràs (Director del Museu de la Ciència, CosmoCaixa)
Marc Martí-Renom (president SCB)
David Torrents (vicepresident BIB)

SESSION I.

9:30 - 10:15 **Invited Lecture Alejandra Medina (UNAM)** Lupus RGMX: demographic, clinical and genomic characterization of systemic lupus erythematosus in a mexican population cohort

10:15 - 10:30 **Valentin Iglesias (IBB-UAB)** A3D Model Organism Database (A3D-MODB): a database for proteome aggregation predictions in model organisms

10:30 - 10:45 **Arnau Comajuncosa (IRB)** Comprehensive characterization of human druggable pockets through novel binding site descriptors built upon inverse docking

10:45 - 11:00 **Ivan Erill (UAB)** Discovery of flexible and interpretable DNA motifs incorporating structural features

11:00 - 11:30 Coffee Break

SESSION II.

11:30 - 11:45 **Ricardo Moreira (UAB)** Using long read data for a complete characterization of human polymorphic inversions

11:45 - 12:00 **Sara Azidane (STALICLA)** Identification of novel driver risk genes in CNV loci associated with neurodevelopmental disorders

12:00 - 12:15 **Rodrigo Martín (BSC)** A comprehensive benchmarking solution for monitoring, improving and harmonizing somatic variant calling across genomic oncology centers

12:15 - 12:30 **Noemia Morales-Díaz (CRAG)** Computational detection of a transposable element insertion associated with longer rice grain

12:30 - 12:45 **Audald Lloret (ETH Zürich)** Size and composition of haplotype reference panels impact the accuracy of imputation from low-pass sequencing in cattle

12:45 - 13:05 **Sponsored talk: Julien Lagarde (Flomics)** Liquid biopsies and next-generation sequencing for research and clinical applications

13:05 - 14:00 Lunch

14:00 - 15:00 **Poster viewing with authors 1 (posters 1-26)**

SESSION III.

15:00 - 15:45 **Invited Lecture Erik Garrison**

15:45 - 16:00 **Tamara Perteghella (CRG)** The role of GENCODE in unveiling the uncharted Non-Coding Layer of Human and Mouse Transcriptomes

16:00 - 16:15 **José Miguel Ramírez (BSC)** Transcriptional and epigenetic impact of cigarette smoking across human tissues

16:15 - 16:30 **Nadezhda Makarova (UB)** Uncovering the determinants of stop codon readthrough in insects

16:30 - 17:00 Coffee Break

SESSION IV.

17:00 - 17:15 **Miquel Anglada-Girotto (CRG)** Unraveling the splicing factor programs driving cancer

17:15 - 17:30 **Joan Pau Cebrià Costa (CRG)** Unveiling the role of histone post-translational modifications during cell differentiation beyond transcription

17:30 - 17:45 **Oleksandra Soldatkina (BSC)** Transcriptional and histological changes across tissues during human aging (and menopause)

17:45 - 18:00 **Max Ticó-Miñarro (UB)** Selenoproteins challenge genomic annotation in the era of massive sequencing

18:00 - 18:15 **Sílvia Pérez-Lluch (CRG)** The epigenetic logic of gene activation

18:15 - 18:35 **Sponsored talk: Anais González (AWS)** Unlashing the power of genomics: How AWS can help to improve your research and your patients

18:35 - 19:30 **Poster viewing with authors 2 (posters 27-52) and meet the companies**

19:30 - 20:30 Cocktail dinner at CosmoCaixa

PROGRAM (16th December)

SESSION V.

- 10:00 - 10:45 **Invited Lecture Laura Cantini (CNRS)** Multi-view learning for multi-omics single-cell data integration
- 10:45 - 11:00 **Franz Arnold Ake (IDIBELL)** Characterization of alternative polyadenylation at single-cell resolution
- 11:00 - 11:15 **Maria Sopena (BSC)** Transcriptional landscape of the aging immune system at single-cell resolution
- 11:15 - 11:30 **Marcel Schilling (IDIBELL)** Post-transcriptional regulation in iPSC derived neural and glial cells from Alzheimer disease patients
- 11:30 - 12:00 Brunch

SESSION VI.

- 12:00 - 12:15 **Elena Pareja (IRB)** Cell states exploration based on location and surrounding environment
- 12:15 - 12:30 **Murat Tugrul (FREIE Universität in Berlin)** Evolution of Nuclear Receptor Protein Sequences and DNA Binding Features (Motif and Sites) in Crustacean Genomes: A Case Study of the NR2B Family
- 12:30 - 12:45 **Marta Olivé-Muñiz (UB)** Genome size variation in Dysdera spiders: an evolutionary comparative analysis
- 12:45 - 13:00 **Miquel Àngel Schikora (IRB)** Recent gene selection and drug resistance underscore clinical adaptation across Candida species
- 13:00 - 13:15 **Aina Colomer (IBB-UAB)** Evaluating allele frequency trajectory and selection coefficient estimates from genealogies including ancient DNA
- 13:15 - 13:30 Best oral communication and poster award.
- 13:30 - 15:00 Free visit to CosmoCaixa