

MycOPORTO - SCIENTIFIC PROGRAMME

19th to 20th September 2019

ICBAS, Porto, Portugal

Thursday 19th September 2019

9:00 am Registration.

9:30 am - 10:00 am Welcome.

SESSION 1: GENETIC DIVERSITY AND EVOLUTION

Chairs: Iñaki Comas and Nuno Osório

10:00 am - 10:30 am KN1: Host-pathogen co-evolution: from mapping of candidate genes to prediction of worldwide genetic risk
Luísa Pereira, i3S, Porto

10:30 am - 10:45 am OC1: How close is close? The revolution has arrived to the taxonomy of *Mycobacterium*.
Maria Jesus Garcia, Autonoma University, Madrid

10:45 am - 11:00 am OC2: A high resolution picture of tuberculosis transmission obtained from direct-from-sputum whole-genome sequencing.
Galo A. Goig, CSIC, Valencia

11:00 am - 11:30 am Coffee Break.

11:30 am - 12:00 am KN2: The origin of tuberculosis in the Palaeolithic predicts unprecedented population growth due to female protection.
Pere Joan Cardona, Universitat Autònoma de Barcelona, CIBERES, Barcelona

12:00 am - 12:15 pm OC3: Uncovering the epitopes underlying the induction of varying adaptive immune responses by different *Mycobacterium tuberculosis* lineages.
Carlos Magalhães, ICVS, Braga

12:15 pm - 12:30 pm OC4: Using Whole Genome Sequencing to Decode *Mycobacterium tuberculosis* Transmission: application in a low-burden country
Irving Cancino-Muñoz, CSIC, Valencia

12:30 pm - 12:45 pm OC5: Whole-Genome Sequencing application to a fast-transmitted strain detected by classical methods
J Comin-Polo, Instituto Aragonés de Ciencias de la Salud, Zaragoza

**12:45 pm - 2:00 pm Lunch
Poster Session**

SESSION 2: TREATMENT AND DRUG RESISTANCE I

Chairs: Jose Antonio Ainsa and Salomé Gomes

- 2:00 pm - 2:30 pm KN3: *To be announced*
Pedro Pereira, i3S, Porto
- 2:30 pm - 2:45 pm OC6: Pretomanid derivatives formulated in π -Pepto-Micelles for tuberculosis therapy by the intravenous route in zebrafish embryo and mice
Nils-Jørgen Knudsen Dal, University of Oslo, Oslo
- 2:45 pm – 3:00 pm OC7: Anti-Tuberculosis activity of selected Nitronaphthofuran compounds
Noelia Alonso-Rodriguez, University of Oslo, Oslo & Institut Pasteur, Paris
- 3:00 pm - 3:15 pm OC8: *In silico* repurposing of approved drugs against tuberculosis: targeting membrane transporters and energy metabolism.
Liliana Rodrigues, GHTM, IHMT, Lisboa
- 3:15 pm - 3:30 pm OC9: Towards efficient *in vitro* screening tools to discover new clinical options in the treatment of non-tuberculous Mycobacteria
Marta Gomara, University of Zaragoza, Zaragoza

3:30 pm - 4:15 pm Coffee Break

SESSION 2: TREATMENT AND DRUG RESISTANCE II

Chairs: Jesus Blasquez and Sofia Samper

- 4:15 pm - 4:45 pm KN4: Teaching new tricks to an “old dog”: reprogramming Ethionamide to fight Multidrug Resistant Tuberculosis
Alfonso Mendoza, GSK, Madrid
- 4:45 pm – 5:00 pm OC10: Towards the elucidation of the rifampicin/beta-lactam synergy in Mycobacteria
Maria Pilar Arenaz-Callao, Research & Development Agency of Aragón (ARAID) Foundation & University of Zaragoza, Zaragoza
- 5:00 pm – 5:15 pm OC11: Mode of action elucidation studies of the avermectins against Mycobacteria
José Manuel Ezquerro, University of Zaragoza, Zaragoza
- 5:15 pm – 5:30 pm OC12: Mode of action elucidation studies of a new chemical series active against Mycobacteria and other microbial pathogens
Ana Cristina Millan, University of Zaragoza, Zaragoza
- 5:30 pm – 5:45 pm OC13: Phenotypical and molecular characterization of streptomycin-resistant *M. tuberculosis* clinical isolates from a Portuguese cohort
Deisy Rocha, ICVS, Braga & i3S, Porto
- 5:45 pm – 6:15 pm KN5: The story of MDR-TB in Portugal: a genomic perspective on a persistent public health problem
João Perdigão, Faculdade Farmácia, University of Lisbon, Lisbon
- 6:15 pm – 7:15 pm** **Wine tasting**
8:00 pm **Optional Dinner**

Friday 20th September 2019

09:00 am - 09:30 am Scientific and administrative meeting of CIBERES participants

SESSION 3: FIELD WORK IN TB

Chairs: Mireia Coscolla and Helder Bastos

09:30 am - 10:00 am KN6: Evaluation of the immune response in tuberculosis patients before and after receiving therapeutical surgery in Georgia
Cristina Vilaplana, Universitat Autònoma de Barcelona, CIBERES, Barcelona

10:00 am - 10:15 am OC14: Dynamics of TB mixed infections through space and time.
Miguel Moreno-Molina, CSIC, Valencia

10:15 am – 10:30 am OC15: Epidemiological dynamics of a 25 years outbreak in Gran Canaria inferred from whole genome sequencing
Mariana Lopez, CSIC, Valencia

10:30 am - 11:00 am KN7: The Bandim Health Project in Bissau
Christian Wesje (to be confirmed)

11:00 am – 11:30 am Coffee Break

SESSION 4: PHYSIOLOGY

Chairs: Rui Appelberg and Jerome Nigou

11:30 am - 12:00 am KN8: Connecting vesiculogenesis and cell wall remodelling in *Mycobacterium tuberculosis*
Rafael Prados-Rosales, Autonoma University, Madrid

12:00 am - 12:15 am OC16: Specificity and mutagenesis bias of the mycobacterial alternative mismatch repair analyzed by mutation accumulation studies.
I Martin-Blecua, CSIC, Madrid

12:15 am - 12:30 pm OC17: The FAD synthetase, an unexploited antimicrobial target against *Mycobacterium tuberculosis*.
Ernesto Anoz-Carbonell, Universidad de Zaragoza, Zaragoza & Università degli studi di Padova, Padova

12:30 pm - 12:45 pm OC18: Unveiling Mycobacterial methylmannose polysaccharide biosynthesis: a unique 1-O-methyltransferase specific for 3-O-methylated mannosides.
Jorge Ripoll-Rozada, i3S, Porto

**12:45 pm - 2:00 pm Lunch
Poster Session**

SESSION 5: HOST PATHOGEN INTERACTIONS I

Chairs: Esther Julian and Gil Castro

- 2:00 pm - 2:30 pm KN9: *To be announced.*
Egídio Torrado, ICVS, Braga
- 2:30 pm - 2:45 pm OC19: Extracellular vesicles of *Mycobacterium ulcerans*: involvement in bacterial toxin diffusion and pathogenicity
Melanie Foulon, INSERM, Angers
- 2:45 pm - 3:00 pm OC20: Safety and toxicity study of the immunomodulatory agent *Mycobacterium brumae* in two different animal models
Marc Bach, Universitat Autònoma de Barcelona, Barcelona
- 3:00 pm - 3:15 pm OC21: Experimental evidence for the *in vivo* attenuation of *Mycobacterium africanum*.
Baltazar Cá, i3S, Porto

3:15 pm – 3:45 pm Coffee Break

SESSION 5: HOST PATHOGEN INTERACTIONS II

Chairs: Rafael Prados Rosales and Margarida Saraiva

- 3:45 pm - 4:15 pm KN10: Cryo-EM beauty and benefit for Bionano: our experience with a macromolecular secretion system in *Mycobacterium tuberculosis*
Peter J. Peters, The Maastricht Multimodal Molecular Imaging institute, Maastricht
- 4:15 pm - 4:30 pm OC22: *Mycobacterium tuberculosis* modulates sialylation in the lung with an impact on disease susceptibility
Kaori Fonseca, i3S, Porto
- 4:30 pm - 4:45 pm OC23: Novel innate immunity mechanism impacting mycobacterial infections
Mariana Resende, i3S, Porto & ICVS, Braga
- 4:45 pm - 5:15 pm KN11: Living fossils? The African origins of the *M. tuberculosis* complex
Bouke de Jong, Institute of Tropical Medicine, Antwerp
- 5.15 pm - 5.30 pm Final remarks.

5:30 pm Walk by the river Douro and Port cellar visit

Optional Dinner

Organizing Committee

Margarida Saraiva, i3S, University of Porto

Salomé Gomes, ICBAS, University of Porto

Nuno Osório, ICVS, University of Minho

Hélder Bastos, Centro Hospitalar de S. João and i3S, University of Porto