

Hybrid BSC RS/Life Session: Multi-omics analysis of the host immune response to malaria infection

Objectives

Abstract: The disease burden of malaria remains a significant global public health challenge with >600,000 deaths in 2020. Inter-individual and inter-ethnic differences in susceptibility to malaria is multifactorial and has a significant heritable component but our understanding of host-parasite interactions in modulating host and parasite processes and the course of infection remains limited. We combine the power of longitudinal sampling of malarial children from two distinct ethnic groups in West Africa and demonstrate the power of host-parasite multi-omics profiling and integrative genomic data analysis to identify the molecular perturbations taking place in vivo in response infection. Examples of multi-omics approaches integrating genetic, transcriptomic and metabolomic data and the associated computational challenges will be presented.



Short bio: Dr. Youssef Idaghdour is an Assistant Professor of

Biology and Co-Principal Investigator of the Public Health Research Center at New York University Abu Dhabi. He received a Ph.D. in Genetics at North Carolina State University under a Fulbright Fellowship and did postdoctoral population genomic research at the University of Montreal. Youssef established a research program on population and medical genomics of complex traits in the United Arab Emirates, Morocco and West Africa. His research group uses quantitative, population and statistical genetic approaches to analyze multi-omics high-dimensional datasets.

Speakers

Speaker: Youssef Idaghdour, Assistant Professor of Biology and Co-Principal Investigator of the Public

Health Research Center at New York University Abu Dhabi

Host: Marta Melé, Transcriptomics and Functional Genomics Lab Group Leader

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Source URL (retrieved on 3 abr 2025 - 11:14): <https://www.bsc.es/ca/research-and-development/research-seminars/hybrid-bsc-rslife-session-multi-omics-analysis-the-host-immune-response-malaria-infection>