



## Program

09:00-09:15 Opening - Prof. Luis Monteiro Rodrigues, CBIOS director

### Session I (Moderators: Catarina Rosado, Luis Monteiro Rodrigues)

09:15-09:45 Invited Speaker – **Nuno C. Santos**, Instituto de Medicina Molecular: *Atomic force microscopy as a nanotool for cardiovascular research*

09:45-10:00 CBIOS Researcher – Catarina Pereira Leite: *On the trail of biomaterial-based nanosolutions for skin health*

10:00-10:10 Flash talk 1 – João Vieira: Multifunctional cerosomes: a triad to tackle Xeroderma Pigmentosum

10:10-10:20 Flash talk 2 – Cíntia Almeida: Further Exploring Solid Lipid Nanoparticles Based on the Lipid Fraction From Larvae Biomass Extract - In Vivo Safety and Efficacy Assays

10:20-11:00 Coffee break & Poster session I

### Session II (Moderators: Leandro Oliveira, Emília Alves)

11:00-11:30 Invited Speaker – **Paulo Matafome**, Universidade de Coimbra: *Neuroendocrine (dys)regulation of adipose tissue in obesity*

11:30-11:45 CBIOS Researcher – Regina Menezes: *Seeking natural compounds for pancreatic beta cell function in diabetes*

### Session III (Moderator: Ana Fernandes)

11:45-12:30 Invited Speaker – **Catarina Ramos**, Champalimaud Centre for the Unknown: *Why is science communication relevant?*

12:30- 13:45 Lunch

### Session IV (Moderators: Nuno Saraiva, João Costa)

13:45-14:15 Invited Speaker – **Maria José Oliveira**, I3S-Instituto de Investigação e Inovação em Saúde: *The immune suppressive role of the Extracellular Matrix*

14:15-14:30 CBIOS Researcher – Ana Fernandes: *LusoModLox: in search of therapeutic lysyl oxidase inhibitors*

14:30-14:40 Flash talk 3 – Margarida Florindo: The relationship between blood pressure hemodynamics and the lower limb perfusion asymmetries in healthy individuals

14:40-14:50 Flash talk 4 - Paulo Luz: Real-World Insights: Exploring Predictive Factors for Pathological Complete Response in HER2+ Breast Cancer

14:50-15:30 Coffee break & Poster session II



**Session V** (Moderators: Cíntia Pêgo, António Raposo)

- 15:30-15:40 Selected Flash talk 5 – José Brito: Structural and functional insights into hydrogen sulfide homeostasis in pathogenic bacteria
- 15:40-15:50 Flash talk 6 – Tatiana Fontes: Contribution of diet quality to cardiovascular risk: Mediterranean vs. Vegetarian dietary patterns
- 15:50-16:00 Flash talk 7 – Sofia Ferreira: Amyloidogenesis as a therapeutic target in diabetes: the power of urolithins in modulating IAPP aggregation and cytotoxicity

**Session VI** (Moderators: Patrícia Rijo, Daniel dos Santos)

- 16:00-16:30 Invited Speaker – **Maria Santos**, imed-Research Institute for Medicines: *Drug optimization approaches targeting p53 in the treatment of cancer*
- 16:30-16:45 CBIOS Researcher - **Andreia Rosatella**: *Photoswitchable materials based on Ionic Liquids*
- 16:45-16:55 Flash talk 8 – Márcia Filipe: Methanolic extracts from *Plectranthus* spp. and their biological activity for dermocosmetic uses.
- 16:55-17:05 Flash talk 9 – Vera Isca:  $7\alpha$ -acetoxy- $6\beta$ -hydroxyroyleanone from *Plectranthus* spp. as a lead compound for breast cancer therapy
- 17:05-17:15 Selected Flash talk 10 - Sofia Ramos: Synchronized expression dysregulation of Redox and Calcium-related genes: implications for breast cancer patient survival

- 17:15-18:00 Concluding remarks and prizes



## Invited Speakers

**Nuno C. Santos** graduated in Biochemistry from the Faculty of Science, University of Lisbon, in 1995, and received his PhD in Theoretical and Experimental Biochemistry in 1999 from the same University (experimental work was conducted at Instituto Superior Técnico and University of California). Currently, he is an Associate Professor with Habilitation of the Faculty of Medicine, University of Lisbon, and Head of the Biomembranes & Nanomedicine Unit at the Institute of Molecular Medicine (iMM). Among other distinctions, his research work was awarded with the Gulbenkian Prize for young researchers, Dr. José Luis Champalimaud Prize – Basic Research, Dr. José Luis Champalimaud Prize – Applied Research and Technology and the ULisboa – CGD Prize. He is (co)author of 181 articles in per-reviewed international journals, which received more than 9500 citations. He also (co)authored 10 articles in Portuguese scientific journals, 15 book chapters, 3 books and 2 international patents. Among different National and International research projects, he was the coordinator of a consortium funded by the 7th Framework Programme of the European Union, including 10 different research groups from Europe and Brazil. He is member of the Executive Committee of the European Biophysical Societies' Association (EBSA) since 2019, and the Director of the M2B-PhD Doctoral Program in Medical Biochemistry and Biophysics since 2016. He was President of the Portuguese Biophysical Society from 2015 to 2021. He has supervised 13 completed PhDs, 9 as main supervisor and 4 as co-supervisor.

**Paulo Matafome** holds a PhD in Biomedical Sciences (Faculty of Medicine, University of Coimbra, 2012). He is a Physiology Professor at the Coimbra Health School, Polytechnic University of Coimbra. He is also an integrated member of CIBB. He has published 91 research articles and 4 book chapters (>2000 citations; h factor = 25). He currently is associate editor of several journals and Deputy Editor-in-chief of Diabetology. He has supervised or co-supervised 10 PhD students, 18 MSc students, and 21 BSc Students, coordinating and participating in several national and international research projects. He currently is one of the co-coordinators of the Project PAS GRAS funded by the Horizon program—Cluster Health. His interests rely on the pathophysiology of metabolic diseases, namely obesity and type 2 diabetes, disclosing the mechanisms governing adipose tissue dysfunction in obesity and leading to insulin resistance, including the transgenerational risks of obesity. He has also been interested in identifying molecular and imaging biomarkers of the metabolic and vascular complications of metabolic diseases, and in identifying therapeutic targets for obesity based on the neuroendocrine mechanisms that govern adipose tissue function. Moreover, he has been involved in research projects aiming to identify new nutritional and food-derived compounds able to modulate key pathways to improve oxidative stress and metabolic fitness, as well as aiming to disclose the impact of food processing and contaminants, namely added sugars and glycation products, on metabolic and vascular complications associated to metabolic diseases.

**Maria J Oliveira** is the Coordinator of the Tumour and Microenvironment Interactions (TMI) Group and Principal Researcher at i3S- Institute for Research and Innovation in Health, at the University of Porto (Portugal). In 2004, she received her PhD in Health and Medical Sciences at the University of Ghent (Belgium), studying the role of bacteria on colorectal cancer invasion and dissecting the associated mechanisms. After a PostDoc at IPATIMUP (UPorto) working on gastric cancer invasion-associated signalling pathways, Maria joined the Institute for Biomedical Engineering (INEB, UPorto), where she initiated a new line of research. In 2017, Maria established the TMI group, focused on studying the role of the tumor microenvironment, particularly of immune cells, adipocytes and extracellular matrix components, on the modulation of cancer cell invasion and metastasis. Maria's research is also dedicated to understand how cancer cells escape immune surveillance, foreseeing the design of more efficient immunomodulatory therapies. Along her career she has co-authored over 110 publications and has received several awards as the Yamagiwa-Yoshida Award and the Medals L'Óreal Women in Science.



**Catarina Ramos** is the coordinator of the Communications, Events and Outreach (CEO) team at the Champalimaud Foundation. After being abroad as a PhD student in Biomedical Sciences, Catarina returned to Portugal to start her post-doc in Neuroscience. Later on, she did a Master's in Science Communication and, after 12 years as a scientist, she left the lab bench to found the Champalimaud Science Communication Office. In 2020 Catarina was responsible for the integration of three teams, which resulted in the creation of the Champalimaud CEO group. As the coordinator of this interdisciplinary team, she strives to be at the forefront of science communication, education and outreach by combining classic methods with innovative and experimental approaches.

Handles: <https://www.linkedin.com/in/catarina-el-ramos/>

**Maria Santos** graduated in Applied Chemistry (Organic Chemistry) at the New University of Lisbon (UNL). In 2000, she started a PhD in the field of indole alkaloids synthesis (organic synthesis) at the UNL (2000-2004). In 2004, she was awarded a post-doctoral FCT fellowship to work in asymmetric synthesis at the University of Barcelona. In 2006, she joined the group of Medicinal Chemistry of the Faculty of Pharmacy of the University of Lisbon (FFUL) as a post-doctoral fellow (Rui Moreira group, Portugal). In 2008, she started her independent career at FFUL. Currently, M Santos is professor at Faculty of Pharmacy of the University of Lisbon and leader of the Medicinal Organic Chemistry Group at the Research Institute for Medicines (iMed.Ulisboa). Her research is focused on medicinal chemistry, and methodology development for drug discovery. From 2016 to 2020, she was member of the executive committee of the medicinal chemistry division of Portuguese Society of Chemistry (SPQ) and the Portuguese NAO liaison officer of the European Federation of Medicinal Chemistry (EFMC). Currently, she is member of the International Advisory Board of ChemMedChem (Wiley), member of the MSCA Doctoral Network OncoProTools (Protease-guided tumor targeting tools to revolutionize cancer diagnosis and treatment) and coordinates a project based on the development of novel p53 small molecule activators. Her CV can be found at <http://www.ff.ul.pt/~mariasantos>



## POSTERS SESSIONS

### SESSION I

1. 3D-QSAR, pharmacophore modeling, and molecular docking for the identification of novel potential P-glycoprotein (P-gp) blockers.
2. A triazole derivative inhibits Lysyl oxidase like 2 and changes breast cancer cells migration
3. Adherence to the Mediterranean Diet among Portuguese health professionals
4. Adherence to the Mediterranean Diet of a sample of Portuguese over 60 years old
5. Adherence to the Mediterranean Diet, Stress and Eating Self-efficacy in Higher Education students in Portugal
6. An alternative assessment of the antioxidant activity of rutin: using HPLC-TBARS-EVSC
7. Antiglioblastoma potential of *Plectranthus* spp. isolated diterpenes
8. Antimicrobial activity of a peptide fraction derived from *Wickerhamomyces anomalus* metabolism against fruit juices pathogens
9. Antimicrobial activity of two mycocins produced by *Wickerhamomyces anomalus* for the preservation of cosmetic formulations
10. Assessment of chemical profile, cytotoxicity, and inhibition of osteoclast differentiation by Cõa Valley plant extracts
11. Assessment of nutritional knowledge in kindergarten teachers and pre-school children and its impact on the frequency of children's food intake
12. Chemical analysis and nutritional profile, health impacts, safety and quality control, and food Industry applications of agave syrup
13. Classification of molecules' interaction with ABC transporters.
14. Cleomiscosin B: A potent coumarinolignoid exhibits promising antagonist inhibition of phosphodiesterase-5: Rationale of usage *Paullinia pinnata* L. (Sapindaceae) in the management of erectile dysfunction
15. Composition of school lunch boxes for children aged between 7 and 9 years old
16. Design of a new DNA-FISH probe for the rapid identification of *Candida albicans* in food and cosmetic products
17. Determinants of preference for fast food among higher education students in Portugal
18. Development of gels incorporating nanoemulsions based on *Hermetia illucens* larvae extract: stability and skin compatibility studies



19. Evaluation of food labels knowledge in a sample of Portuguese adults
20. Evaluation of Phenolic compounds, Antioxidant and Anticholinesterase Activities of some medicinal plants
21. Exploring the impact of TMBIM Proteins on glioma: insights from tumour expression patterns and cellular functional studies
22. Identification and characterization of contaminants of food contact materials and associated risks: Analysis of the reports published in RASFF portal from 2020 to 2022.
23. Inflation Impact on Portuguese Eating Choices

## SESSION II

24. Integrative multi-omics approach for pancreatic islet cell reprogramming into insulin producers
25. Ionic Liquids as Efficient Sorbents for Chemical Warfare Agents
26. Long non-coding RNAs as potential biomarkers associated with pancreatic  $\beta$ -cell failure in diabetes
27. Mediterranean Diet: Relationship between Body Composition and Metabolic Markers in a sample of Portuguese University Students
28. Mediterranean food pattern and nutritional status of children/adolescents who practice sports.
29. Muscle-Strengthening Exercise Habits in Vegetarians and Omnivorous
30. Navigating the Hazards: Understanding Recreational Athletes' Perceptions on Food Supplement Contamination and Adulteration
31. New bioactive extracts with potential skin application from marine waste
32. Optimization of DASA Precursors Synthesis for Biological Applications
33. Paranaphthalene scaffold exhibits agonist modulatory influence on alpha subunit of PGE2-Bound EP2-GS Complex: Unveiling the mechanistic uterotonic property of *Harungana madagascariensis* Lam. (Hypericaceae) stem
34. Perception of Food Supplements safety associated with sports practice in an Azorean population
35. Polyphenol metabolites shaping kidney cancer development
36. Quantification of Nutrients and Metals in Touriga Nacional and Arinto Grape (*Vitis vinifera* L.) Pomace Varieties from Portugal
37. Relationship between demand for comfort-food and academic variables in Portuguese university students



38. Relationship Between Healthy and Balanced Eating Knowledge and Adherence to the Mediterranean Diet in Primary School Children: An Exploratory Study
39. Somaí Paradigm: Establishing Innovative Benchmarks in Medical Cannabis
40. Synthesis and biological activity of halimane amide derivatives from *Plectranthus ornatus* Codd.
41. The change in eating habits and the adherence to the Mediterranean diet in the Brazilian population living in Portugal
42. The Influence of Ionic Liquids and Deep Eutectic Solvents on DASA isomerization
43. The relationship between Nutrition Science Students and the self-perception of body image
44. The TMBIM4 Golgi ion channel shapes cancer cell survival by modulating the transsulfuration pathway
45. TransfersomILs for the skin delivery of ferulic acid: impact on permeation assays?
46. TransfersomILs loading caffeic or p-coumaric acids: an innovative approach for cutaneous delivery