



JOÃO PEDRO MONTEIRO

PhD

CONTACTS

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 Portugal

WORK EXPERIENCE

- Currently
2017 - 2021
- **Research Associate @ NYUAD** ▼ Abu Dhabi, UAE
 - **Post-Doc 4** ▼ Aveiro, Portugal
- At CESAM, University of Aveiro
GENIALG project, valorization of seaweeds.
- 2016 - 2017
- **Science Manager @ UMIB, ICBAS-UP**
 - **Post-Doc 3** ▼ Porto, Portugal
- At ICBAS, University of Porto
Working on male reproduction, namely trying to uncover importance of glycerol in infertility contexts and, more specifically, the role of aquaglyceroporins (glycerol-transporting aquaporins) in spermatogenesis, particularly in conditions involving the increase of plasma glycerol levels (obesity or in Diabetes mellitus).
- 2014 - 2015
- **Post-Doc 2** ▼ Porto, Portugal
- At CBQF, Catholic University of Portugal
Mostly managing tasks, such as operational cost estimate, lab maintenance, setting up new scientific equipments and supervision and support for equipment use for other Center researchers.
- 2013 - 2014
- **Post-Doc 1** ▼ Covilhã, Portugal
- At CICS, University of Beira Interior
Strategic planning and development of a new mass spectrometry laboratory and supervision and collaboration of the installation of the equipment (AB SCIEX 4000 QTRAP and 4800 Plus MALDI TOF/TOF) and support LC equipments.
- 2005 - 2006
- **Fellowship 1** ▼ Coimbra, Portugal
- At CNC, University of Coimbra
Project "Lipid peroxidation, inflammation and atherosclerosis", performing the determination of the total antioxidant capacity in human plasma samples of individuals with this condition, in different stages of treatment.

EDUCATION

- 2008 - 2013
- **PhD in Biosciences, Toxicology Branch** ▼ Coimbra, Portugal
- At FCT, University of Coimbra & University of Warwick ▼ Warwick, England
Approved with distinction and honors unanimously. Study of the dietary influence on rat liver mitochondrial membrane lipid composition. This study implied preparation of diets and animal handling, bioenergetic studies, extensive lipidic determinations (determination of lipid classes present and analysis of specific molecular species by gas-liquid chromatography and mass spectrometry).
- 2002 - 2007
- **MSc in Cell Biology** ▼ Coimbra, Portugal
- At FCT, University of Coimbra
Final classification of Very Good (18/20). Environmental toxicology was the scope of the research, namely the toxicity of the insecticide methoprene. This investigation allowed a comparison between alternative models of toxicological evaluation with models of animal origin, proving the usefulness of the first as preliminary screening tools.
- 1997 - 2002
- **Degree in Biochemistry** ▼ Coimbra, Portugal
- At FCT, University of Coimbra
Final classification of Good (15/20). Final internship: hydroxytamoxifen toxicity studied using a model extremophile microorganism, Bacillus stearothermophilus.

WHY ME?

My scientific/professional path so far has been quite diverse, demonstrating a high degree of adaptability and versatility. You may count on a person who is responsible, organized, pleasant and available, and also pro-active and independent enough to provide different perspectives and solutions.

Assets for this opportunity:

- 1) Experience in OMICS (especially lipidomics, but also proteomics and metabolomics) using different types of mass spectrometry equipment (lately Thermo Orbitrap Spectrometers).
- 2) Experience in GC-MS and in a remarkable set of other analytic techniques.
- 3) Experience in lab management (inventory, operation cost estimate, management of instrument use, interaction with company technicians and suppliers).
- 4) Experience in science management.
- 5) Proficiency in science communication.
- 6) Experience in scientific writing and in the conception and preparation of projects.

SKILLS



TECHNIQUES

- Bacterial cultures
- Cell cultures
- General Spectrometric Techniques
- General Analytic Techniques (lipid extraction; protein quantification)
- Thin Layer Chromatography
- HPLC (preparative and analytical)
- Differential Scanning Calorimetry
- Isolation of Mitochondria
- Polarographic Determination of Oxygen Consumption
- Determination of Mitochondrial Transmembrane Potential
- Electronic Microscopy
- Western Blotting
- TRAP/FRAP Determination
- PCR
- Spectrofluorimetric Techniques (steady-state and time-resolved)
- GC-MS
- ESI (Q-TRAP), MALDI (TOF/TOF) MS (certified courses by AB SCIEX)
- RMN
- Circular Dichroism
- ATR FTIR
- 2-D Electrophoresis
- ELISA
- SPE
- High Pressure Extraction/Pasteurization
- Compositional Analysis

LANGUAGES

- Portuguese
- English (English for Academic Purposes Course)
- French (6th Degree in Alliance Française)
- Italian (A1 Level)
- Spanish (Good Expression and Comprehension)

- 2003 Martins J. D., Monteiro J. P., Antunes-Madeira M. C., Jurado A. S. and Madeira V. M. C. Use of the microorganism *Bacillus stearothermophilus* as a model to evaluate toxicity of the lipophilic environmental pollutant endosulfan. *Toxicology in Vitro* 17: 595-601.
- Monteiro J. P., Martins J. D., Luxo P. C., Jurado A. S. and Madeira V. M. C. Molecular mechanisms of the metabolite 4-hydroxytamoxifen of the anticancer drug tamoxifen: use of a model microorganism. *Toxicology in Vitro* 17: 629-634.
- 2005 Monteiro J. P., Jurado A. S., Moreno A. J. M. and Madeira V. M. C. Toxicity of methoprene as assessed by the use of a model microorganism. *Toxicology in Vitro* 19: 951-956.
- 2008 Monteiro J. P., Oliveira P. J., Moreno A. J. and Jurado A. S. Disruption of hepatic mitochondrial bioenergetics is not a primary mechanism for the toxicity of methoprene - Relevance for toxicological assessment. *Chemosphere* 72(9): 1347-1354.
- Monteiro J. P., Videira R. A., Matos M. J., Dinis A. M. and Jurado A. S. Non-selective toxicological effects of the insect juvenile hormone analogue methoprene. A membrane biophysical approach. *Applied Biochemistry and Biotechnology* 150(3): 243-257.
- 2011 Monteiro J. P., Martins A. F., Lúcio M., Reis S., Geraldes C. F., Oliveira P. J. and Jurado A. S. Interaction of carbonylcyanide p-trifluoromethoxyphenylhydrazone (FCCP) with lipid membrane systems: a biophysical approach with relevance to mitochondrial uncoupling. *Journal of Bioenergetics and Biomembranes* 43(3): 287-298.
- Monteiro J. P., Martins A. F., Lúcio M., Reis S., Pinheiro T. J., Geraldes C. F., Oliveira P. J. and Jurado A. S. Nimesulide interaction with membrane model systems: Are membrane physical effects involved in nimesulide mitochondrial toxicity? *Toxicology In Vitro* 25(6): 1215-1223.
- 2013 Monteiro J. P., Silva A. M., Jurado A. S. and Oliveira P. J. Rapeseed oil-rich diet impacts hepatic mitochondrial physiology and in vitro menadione and nimesulide toxicity. *European Journal of Clinical Investigation* 43 (Suppl. 1): 53.
- Monteiro J. P., Pereira C., Silva A. M., Maciel E., Baldeiras I., Peixoto F., Domingues M. R., Jurado A. S. and Oliveira P. J. Rapeseed oil-rich diet alters hepatic mitochondrial membrane lipid composition and disrupts bioenergetics. *Archives of Toxicology* 87(12): 2151-2163.
- Monteiro J. P., Martins A. F., Lúcio M., Reis S., Pinheiro T. J., Geraldes C. F., Oliveira P. J. and Jurado A. S. A biophysical approach to menadione membrane interactions: relevance for menadione-induced mitochondria dysfunction and related deleterious/therapeutic effects. *Biochimica et Biophysica Acta (BBA) – Biomembranes* 1828: 1899-1908.
- Monteiro J. P., Oliveira P. J. and Jurado A. S. Mitochondrial membrane lipid remodeling in pathophysiology: A new target for diet and therapeutic interventions. *Progress in Lipid Research* 52: 513–528.
- Monteiro J. P., Silva A. M., Jurado A. S. and Oliveira P. J. Rapeseed oil-rich diet alters in vitro menadione and nimesulide hepatic mitochondrial toxicity. *Food and Chemical Toxicology* 60: 479-487.
- 2014 Rocha A. S., Santos F. M., Monteiro J. P., Castro-de-Sousa J. P., Queiroz J. A., Tomaz C. T. and Passarinha L. A. Trends in proteomic analysis of human vitreous humor samples. *Electrophoresis* 35(17): 2495-2508.
- Monteiro J. P., Morais C. M., Oliveira P. J. and Jurado A. S. Mitochondrial membrane lipids in life and death and their molecular modulation by diet: Tuning the furnace. *Current Drug Targets* 15(8): 797-810.
- 2015 Monteiro J. P., Santos F. M., Rocha A. S., Castro-de-Sousa J. P., Queiroz J. A., Tomaz C. T., and Passarinha L. A. Vitreous humor in the pathologic scope: Insights from proteomic approaches. *Proteomics – Clinical Applications* 9(1-2): 187-202.
- 2016 Monteiro J. P., Alves M. G., Oliveira P. F. and Silva B. Structure–bioactivity relationships of methylxanthines: Trying to make sense of all the promises and the drawbacks. *Molecules* 21(8): 974.
- 2017 Monteiro J. P., Jesus T. T., Crisóstomo L., Sousa M., Barros A. and Oliveira P. F., Alves M. G. (2017). mTOR coordinates the response to available energy substrates in human Sertoli cells: A defining point for male fertility? *FEBS Journal* 284 (Suppl. 1): SpT.5.4-002. DOI: 10.1111/febs.14171
- 2019 Rey F., Lopes D., Maciel E., Monteiro J., Skjermo J., Funderud J., Raposo D., Domingues P., Calado R. and Domingues M. R. (2019) Polar lipid profile of *Saccharina latissima*, a functional food from the sea. *Algal research* 39:101473.
- Monteiro, J. P., Alves M. G., Oliveira, P. F. and Silva. B. Pharmacological potential of methylxanthines: Retrospective analysis and future expectations. *Critical Reviews in Food Science and Nutrition* 6: 1-29.
- 2020 Monteiro J. P., Rey F., Melo T., Moreira A. S. P., Arbona J.-F., Skjermo J., Forbord S., Funderud J., Raposo D., Kerrison P. D., Perrineau M.-M., Gachon C., Domingues P., Calado R. and Domingues M. R. The unique lipidomic signatures of *Saccharina latissima* can be used to pinpoint their geographic origin. *Biomolecules* 10(1):pii: E107.
- Santos F., Monteiro J. P., Duarte D., Melo T., Lopes D., Costa E. and Domingues M. R. Unraveling the lipidome and antioxidant activity of native *Bifurcaria bifurcata* and invasive *Sargassum muticum* seaweeds: A lipid perspective on how systemic intrusion may present an opportunity. *Antioxidants* 9(7): 642.
- 2021 Monteiro J. P., Melo T., Skjermo J., Forbord S., Broch O. J., Domingues P., Calado R. and Domingues M. R. (2020) Effect of harvesting month and proximity to fish farm sea cages on the biochemical and lipid profile of cultivated *Saccharina latissima*. *Algal Research* 54: 102201.
- Monteiro J. P., Maciel E., Maia R., Pereira A. T., Calado R., Melo T., Eira C. and Domingues M. R. (2020) Characterization of the cardiac phospholipidome of small cetaceans provides adaptational insight and a foundation for indirect population health screening. *Marine Mammal Science* 2021: 1-22.
- Monteiro J. P., Maciel E., Melo T., Flanagan C., Urbani N., Neves J. and Domingues M. R. (2020) The plasma phospholipidome of *Tursiops truncatus*: From physiological insight to the design of prospective tools for managed cetacean monitorization. *Lipids* 2021: 10.1002/lipd.12307.


BOOK CHAPTERS (5)

- 2013 Monteiro J. P., Burgeiro A. and Oliveira P. J. Mitochondrial Lipids in Cell Physiology and Toxicology (Chapter in the book: “A toxicological/pharmacological approach to chemico-biological interactions at a membrane level”, Research Signpost, Transworld Research Networks).
- 2014 Monteiro J. P. and Jurado A. S., Methoprene. In: Wexler, P. (Ed.), *Encyclopedia of Toxicology*, 3rd edition vol 3. Elsevier Inc., Academic Press, 246–249.
- 2017 Moreira B. M., Monteiro J. P. and Meneses M. J. Testis Physiology (Chapter in the book: “Andrology: Current And Future Developments, Vol. I”, Bentham Science Publishers).
- Monteiro J. P. Basic aspects of testicular cells physiology and function (Chapter in the book: “Andrology: Current And Future Developments, Vol. I”, Bentham Science Publishers).
- Martins A. D. and Monteiro J. P. Male Puberty: A triggered biochemical event towards sexual maturation (Chapter in the book: “Andrology: Current And Future Developments, Vol. I”, Bentham Science Publishers).


ORAL COMMUNICATIONS (7)

- 2004 Monteiro J. P., Jurado A. S., Moreno A. J. M. and Madeira V. M. C. Toxicity of methoprene as assessed by the use of a model microorganism. *Invitox 2004* (Meeting of the “European Society of Toxicology In Vitro”-ESTIV) (08th-11th September, Zegze, Poland).
- 2010 Monteiro J. P., Martins A. F., Lúcio M., Reis S., Geraldes C. F. G., Oliveira P. J. and Jurado A. S. Interaction of carbonylcyanide p-trifluoromethoxyphenylhydrazone (FCCP) with lipid membrane systems: A biophysical approach with relevance to mitochondrial uncoupling. *International Courses on Toxicology “Survival or Death as a Matter of Fat”* (11th-14th May, Coimbra, Portugal).
- 2014 Mesquita J., Castro Sousa J. P., Rocha A. S., Santos F., Monteiro J. P., Passarinha L. and Tomaz C. Quantification and comparison of VEGF-B in the vitreous humor of patients with ocular diabetic pathology and a control group of non-diabetic patients. *ARVO Annual Meeting* (4th-8th May, Orlando, Fla., USA).
- 2017 Monteiro J. P., Jesus T. T., Crisóstomo L., Sousa M., Barros A., Oliveira P. F. and Alves M. G. mTOR coordinates the response to available energy substrates in human Sertoli cells: A defining point for male fertility? *FEBS Congress 2017* (10th-14th September 2017, Jerusalem, Israel).
- 2019 Monteiro J. P., Rey F., Melo T., Moreira A. S. P., Arbona J.-F., Skjermo J., Forbord S., Funderud J., Raposo D., Kerrison P. D., Perrineau M.-M., Gachon C., Domingues P., Calado R., Domingues M. R. *Saccharina latissima* polar lipidome adaptation in different growth locations: Weighing geographically-induced divergency and its biochemical meaning. *Oral communication at the 8th Workshop in Lipidomics – Marine Lipids, Universidade de Aveiro, 20th March, Aveiro, Portugal.*
- Monteiro J. P., Maciel E., Maia R., Pereira A. T., Calado R., Domingues P., Melo T., Eira C., Domingues M. R. Characterization of the cardiac phospholipidome of different small cetacean species provides adaptational insight and a foundation for indirect population health screening. *Oral communication at the Workshop “Contributions towards monitoring Cetacean population health in Portugal and Galicia” 21st November, CESAM, Aveiro, Portugal.*
- 2020 Monteiro J. P., Maciel E., Maia R., Pereira A. T., Calado R., Domingues P., Melo T., Eira C., Domingues M. R. Unveiling the cardiac phospholipidome of small cetaceans: From the promise of remote monitoring tools to evolutionary insights into cardiac physiology. *Oral communication at the Lipids in the Ocean 2020 Online Meeting, 18th November, CESAM, Aveiro, Portugal.*

POSTER COMMUNICATIONS (13)

- 2002 Monteiro J. P., Martins J. D., Luxo P. C., Jurado A. S. and Madeira V. M. C. Molecular mechanisms of the active metabolite hydroxytamoxifen of the anticancer drug tamoxifen: use of a model microorganism. *Invitox 2002* (Meeting of the "European Society of Toxicology In Vitro"-ESTIV) (16th-19th October, Formia, Italy).
- Monteiro J. P., Martins J. D., Luxo P. C., Jurado A. S. and Madeira V. M. C. Cytotoxicity of tamoxifen and its metabolite hydroxytamoxifen: use of microorganisms as models. III Meeting of Investigation in Medicine (12th-13th November, Coimbra, Portugal).
- Monteiro J. P., Martins J. D., Luxo P. C., Jurado A. S. and Madeira V. M. C. Tamoxifen and hydroxytamoxifen membrane interactions. Use of *Bacillus stearothermophilus* as model. XIII National Meeting of Biochemistry (5th-7th December, Lisbon, Portugal).
- 2004 Monteiro J. P., Videira R. A., Matos M. J., Dinis A. M. and Jurado A. S. Effects of methoprene on membrane lipid physical properties and implications for mechanisms of toxicity. 3rd Portuguese-Spanish Biophysics Congress (29th October to 1st November, Lisbon, Portugal).
- Monteiro J. P., Oliveira P. J., Moreno A. J. M., Jurado A. S. and Madeira V. M. C. Toxic effects of methoprene on the respiratory activity of *Bacillus stearothermophilus* and on mitochondrial bioenergetics. XIV National Meeting of Biochemistry (2nd-4th December, Vilamoura, Portugal).
- 2008 Monteiro J. P., Oliveira P. J., Moreno A. J. M. and Jurado A. S. Methoprene inhibits mitochondrial bioenergetics and Ca²⁺-induced mitochondrial permeability transition in rat liver mitochondria: is this important for altered apoptosis? Conference "Apoptosis and mitochondria: from normal to pathological signaling", (14th-15th February, Versailles, France).
- Monteiro J. P., Oliveira P. J., Moreno A. J. M. and Jurado A. S. Methoprene action on mitochondrial bioenergetics. Putative relevance for metamorphosis anomalies in non-target organisms. International Courses on Toxicology 2008 "Metabolic Toxicology: From Pathway to Organism" (09th-11th April, Coimbra, Portugal).
- 2009 Monteiro J. P., Oliveira P. J. and Jurado A. S. 2002 - 2003 biophysical approach to the role of lipids in hepatic mitochondrial toxicity. First Annual MIT-Portugal Program Conference (7th July, Lisbon, Portugal).
- 2010 Monteiro J. P., Martins A. F., Lúcio M., Reis S., Gerales C. F. G., Pinheiro T. J., Oliveira P. J. and Jurado A. S. Nimesulide dynamics in membrane model systems: can membrane effects determine activity? ESTIV 2010 - 16th International Congress on In Vitro Toxicology, EUSAAT 2010 - 13th Annual Congress of EUSAAT and Linz 2010 - 16th Congress on Alternatives to Animal Testing (2nd-5th September, Linz, Austria).
- Monteiro J. P., Pereira C., Silva A. M., Maciel E., Baldeiras I., Peixoto F., Domingues M. R., Jurado A. S., Oliveira P. J. Rapeseed oil-based diet alters rat hepatic mitochondria physiology and membrane composition. 46th Annual Scientific Meeting of the European Society for Clinical Investigation (ESCI) (22nd-24th March, Budapest, Hungary).
- 2013 Monteiro J. P., Silva A. M., Jurado A. S., Oliveira P. J. Rapeseed oil-rich diet impacts hepatic mitochondrial physiology and in vitro menadione and nimesulide toxicity. 47th Annual Scientific Meeting of the European Society for Clinical Investigation (ESCI) (17th-20th April, Albufeira, Portugal).
- 2019 Rey F., Lopes D. A., E. Maciel E., Monteiro J. P., Skjermo J., Funderud J., Raposo D., Domingues P., Calado R., Domingues M. R. M. (2019) Saccharina latissima: a promising marine source of health-giving compounds. 17th Euro Fed Lipid Congress and Expo, 20th-23rd October, Seville, Spain.
- Monteiro J. P., Rey F., Melo T., Moreira A. S. P., Arbona J.-F., Skjermo J., Forbord S., Funderud J., Raposo D., Kerrison P. D., Perrineau M.-M., Gachon C., Domingues P., Calado R., Domingues M. R. Saccharina latissima reveals remarkable lipid adaptability to different growth locations, Poster presentation at the APAA Conference, 21st-22nd October, CIIMAR, Porto, Portugal.

LECTURING

- 2002 - 2003 Collaboration in the lecturing of the Biochemical and Biophysical Toxicology subject, working with students conducting a small project in the scope of the course (a total of 12 classes and 65 hours).
- 2002 - 2003 Collaboration in the lecturing of the Biomembranes subject of the Cellular Biology Master's Degree of FCTUC (2 classes).
- 2011 - 2012 Collaboration in the lecturing of the Biomembranes subject of the Cellular Biology Master's Degree of FCTUC (1 class).
- 2016 - 2017 Collaboration in the lecturing of the Molecular Human Genetics subject of the Biomedical Sciences Master's Degree of UBI (8 hours).
- 2016 - 2017 Collaboration in the lecturing of the Genetics of Metabolic Diseases subject of the Biochemistry Master's Degree of UBI (8 hours).
- 2007 - 2017 Also actively collaborated in the supervision of undergraduates and master's degree students during the course of the PhD.

STUDENT SUPERVISION

- 2018/2019 Rita Maia, Final Project of the Biochemistry Degree, "Characterization of the lipid profile of three dolphin species native of the portuguese coast".
- Fábio Santos, Masters' Degree in Clinical Biochemistry, "A methodical screening for the bioactive activity of autochthonous algae: An opportunity to add value to endogenous resources".
- 2007 MSc: "Toxicologic evaluation of methoprene by two experimental models".
- 2013 PhD: "A lipidomic approach to hepatic mitochondrial function and toxicology: role of diet-induced modifications".

AREAS OF SCIENTIFIC INTEREST



ORGANIZATION OF SCIENTIFIC MEETINGS

- 2007 International Courses on Toxicology "Stem Cells as a Tool in Toxicology" (21st-23rd March, Coimbra, Portugal).
- 2008 International Courses on Toxicology "Metabolic Toxicology: From Pathway to Organism" (09th-11th April, Coimbra, Portugal).
- 2009 International Courses on Toxicology "Mitochondria: Between Life and Death" (05th-8th May, Coimbra, Portugal).
- 2010 International Courses on Toxicology "Survival or Death as a Matter of Fat" (11th-14th May, Coimbra, Portugal).
- 2013 47th Annual Scientific Meeting of the European Society for Clinical Investigation (ESCI) (17th-20th April, Albufeira, Portugal).
- 2016 1st Symposium of Diabetes and Fertility (22nd-23th September, Porto, Portugal).
- 2019 Workshop in Lipidomics - Marine Lipids, Universidade de Aveiro, 20th March, Aveiro, Portugal.

FELLOWSHIPS/PARTICIPATION IN PROJECTS

- 2007 PhD FCT fellowship (FCT reference SFRH/BD/37626/2007).
- 2013 Post-Doc fellowship HIB-3-001 within the project with reference CENTRO-07-ST24-FEDER-002015, titled "Hormonal and Inflammatory basis of age-related diseases", funded by QREN ("Mais Centro" Program), at CICS (University of Beira Interior).
- 2007 Post-Doc fellowship INCENTIVO/EQB/LA0016/2014 BPD_2 funded by FCT/MEC through national funds (PIDDAC), at CBQF (Catholic University of Portugal).
- 2014 Post-Doc fellowship ICBAS | 1 BPD | AQUAPORINAS funded by within the FCT funded project PTDC/BBB-BQB/1368/2014, at ICBAS, University of Porto.
- 2016 Post-Doc fellowship BPD - GENIALG funded by European Union's Horizon 2020 research and innovation program under grant agreement N. 727892, at CESAM, University of Aveiro.

SOCIETY MEMBERSHIP

Biochemistry Portuguese Society
European Society of Toxicology In Vitro (ESTIV)
European Society for Clinical Investigation (ESCI)

FRIENDLY SOFTWARE

Microsoft Office
Graphpad Prism & InStat
MzMine
R
ImageJ
MATLAB

IDENTIFIERS

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ORCID: [0000-0001-9585-9632](https://orcid.org/0000-0001-9585-9632)
Ciencia ID: [E911-925E-421A](https://ciencia.ua.pt/0000-0001-9585-9632)
Institutional: <http://www.cesam.ua.pt/index.php?tabela=pessoal&menu=95&user=1535>