



CURRICULUM VITAE

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Name	Clara Patrícia Andrade Lopes
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Date of Birth	08.01.1990
Nationality	Portuguese
Driving License	Category B

EDUCATION

- 2014 | Master in Biotechnology, **17/20**
Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal
Thesis: “Development and characterization of lipid nanoparticles prepared by miniemulsion technique.”, supervised by Professor Luís Fonseca
- 2012 | Degree in Biology – Molecular Biology and Genetics, **15/20**
Faculty of Sciences, University of Lisbon, Lisbon, Portugal
- 2011 | Erasmus programme
Faculty of Sciences, University of Paris Sud-11, Orsay, France

SCIENTIFIC/PROFESSIONAL ACTIVITIES

- Jun 2019 – present | **Technician at IPMA – Portuguese Institute for Sea and Atmosphere**
Technical coordination of descriptor 10 “Marine Litter” of Marine Strategy Framework Directive (MSFD) on Portugal Continental subdivision.
Study of microplastics in the marine environment (sediments, biota and water).
- Dec 2016 – May 2019 | **Research Assistant at IPMA – Portuguese Institute for Sea and Atmosphere**
Study of microplastics in the marine environment (sediments, biota and water).
Optimization and harmonization of methodologies for sampling, extraction and analysis of microplastics from different environmental matrices.
- Dec 2015 – Dec 2016 | **Professional Internship Programme in Central Public Administration (PEPAC)**
IPMA - Portuguese Institute for Sea and Atmosphere
Extraction of organic pollutants from environmental matrices (water, sediments and organisms) by Soxhlet and ASE. Quantification of organic pollutants by GC-MS and GC-ECD.
- Feb 2015 – Dec 2015 | **Research Assistant at iBB - Institute for Bioengineering and Bioscience**
Optimization of lipid nanoparticles production by mechanical stirring. Scale-up studies. Characterization of nanoparticles by TEM, DLS (Malvern Zetasizer), zeta potential, spectrophotometry (UV/Vis, Fluorescence)

PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH PROJECTS:

GIDLAM project	The main goal of Gidlam project (MAR2020 – Portaria 110) is to create a data management platform for processing and making available the marine litter data collected on the Portuguese coast to support the implementation of the Marine Strategy Framework Directive (MSFD-D10).
SARDINHA2020 project	The main goal of Sardinha 2020 project (MAR2020 - Portaria 118) is the Development of a Bioeconomic Management Plan for the purse-seine fishery, aligned with the Common Fisheries Policy and Marine Strategy Framework Directive, based on the principles of sustainability of fisheries resources, recovery of the pelagic habitat biodiversity and the fisheries industry profitability.
PLASTICGLOBAL project	The main goal of PlasticGlobal project (PTDC/MARPRO/1851/2014) is to assess the MP-mediated chemicals transfer in marine food webs and its effects on the biota under climate change scenarios.
BASEMAN project	<p>The JPI-Oceans BASEMAN (JPIOCEANS/0002/2015) project was an interdisciplinary and international collaborative research project that aimed to overcome the problem of the lack of standardization in field and laboratory methodologies through a detailed comparison and profound evaluation of all approaches regarding microplastics (MP). The two overall goals of the project were the “The validation and harmonisation of analytical methods” which is indispensable for the “Identification and quantification of MP”.</p> <ul style="list-style-type: none">▪ Participation in the cruise (BASEXPEMIPS 201704) conducted between April 17-24th of 2017, on board of R/V Ramón Margalef, off the coast of Galicia (NW, Spain). A total of 217 samples were collected involving the deployment of CTDs, van Veen grabs, Box corers, Manta nets, Vertical mouth manta nets, Bongo net, Niskin bottles and Van Dorn bottle.▪ Inter-method comparison of extraction, purification and identification approaches of MP from different environmental matrices (seawater, sediments and biota).▪ Inter-laboratory comparison of standardized test samples and environmental samples
REEUSE project	<p>The main goal of Reeuse project (PTDC/QEQ-EPR/1249/2014) was to improve the knowledge on recycling of REE and how it may prevent the dispersion of REE in the aquatic milieu. The project selected among conventional and nonconventional chemical or biological methodologies the best ways to remove REE from various urban and industrial effluents.</p> <ul style="list-style-type: none">▪ Laboratory exposition of white sea bream (<i>Diplodus sargus</i>) to lanthanum.

COMMITTEES

2019	Member of the jury of the Degree Thesis of Sara Alexandra Marques Alves, Presença de microplásticos na carpa (<i>Cyprinus carpio</i>) e tainha (<i>Chelon labrosus</i>) do Rio Minho: influência da espécie. Instituto Politécnico de Setúbal, Escola Superior de Tecnologias do Barreiro, 2019.
2018	Member of the jury of the Master Thesis of Ana Margarida Mastbaum Aleixo “Microplásticos em águas residuais domésticas - Emissão de microfibras poliméricas devido a lavagem mecânica”, Instituto Superior Técnico da Universidade de Lisboa, 2018
2017	Member of the jury of the IV National Congress "A Ponte entre a Escola e a Ciência Azul", 2017

THESIS SUPERVISING

- 2019 | Sara Alexandra Marques Alves, Degree Thesis supervisor, Presença de microplásticos na carpa (*Cyprinus carpio*) e tainha (*Chelon labrosus*) do Rio Minho: influência da espécie. Instituto Politécnico de Setúbal, Escola Superior de Tecnologias do Barreiro, 2019.
- 2017 | Nuno Coriel, Degree Thesis co-supervisor, Microplásticos em 3 espécies de peixes pelágicos de interesse comercial da costa portuguesa. Universidade Lusófona, 2017

PUBLICATIONS IN INTERNATIONAL SCIENTIFIC JOURNALS (INDEXED)

- 2020 | C. Lopes, J. Raimundo, M. Caetano and S. Garrido. (2020). Microplastic ingestion and diet composition of planktivorous fish. *Limnology and Oceanography Letters*. doi: <https://doi.org/10.1002/lol2.10144>
- 2019 | L.G.A. Barboza, C. Lopes, P. Oliveira, F. Bessa, V. Otero, B. Henriques, J. Raimundo, M. Caetano, C. Vale, L. Guilhermino, Microplastic in wild fish from North East Atlantic Ocean and its potential for causing neurotoxic effects, lipid oxidative damage, and human health risks associated with ingestion exposure, *Science of the Total Environment* (2019), doi: <https://doi.org/10.1016/j.scitotenv.2019.134625>
- 2018 | Figueiredo, C., Grilo, T.F., Lopes, C., Brito, P., Caetano, M., Diniz, M., Rosa, R., Raimundo, J. (2018). Accumulation, elimination and oxidative stress responses to lanthanum exposure in glass eels (*Anguilla anguilla*). *Chemosphere* 206, 414-423.10.1016/j.chemosphere.2018.05.029

COMMUNICATIONS

- 2019 | Raimundo, J., Lopes, C. (2019) Microplastics in the Portuguese Coast. Palestra Plastic Pollution in Marine Ecosystems organized pelo Conselho Cientifico do IPMA. Algés, Portugal, 22 de November 2019. (invited communication)
- Figueiredo, C., Lopes, A. R., Carvalho, F., Pinto, E., Lopes, C., Diniz, M., Caetano, M., Grilo, T. F., Raimundo, J. (2019) Lanthanum accumulation, elimination and Lipid and DNA damage in glass eels (*Anguilla anguilla*) under a warming scenario. CHEERS– Global changes in estuarine and coastal systems: innovative approaches and assessment tools, 4-8 November, Bordeaux, France.
- C. Lopes, P. Brito, O. Azevedo, M. Caetano, J. Raimundo. (2019). Accumulation and elimination patterns of lanthanum in white sea bream (*Diplodus sargus*). 42nd CIESM -Mediterranean Science Commission Congress. Cascais, Portugal, 7-11 October 2019
- C. Figueiredo, C. Lopes, M. Diniz, T. Grilo, J. Raimundo. (2019). Accumulation, elimination, and oxidative stress in glass eels (*Anguilla anguilla*) exposed to Lanthanum under a warming scenario. 42nd CIESM - Mediterranean Science Commission Congress. Cascais, Portugal, 7-11 October 2019
- Lopes, C., Garrido, S., Angélico, M.M., Caetano, M., Raimundo, J. 2019. Microplásticos nas águas da costa portuguesa. Workshop de Investigação sobre Microplásticos. 2^a Conferência Portuguesa sobre Lixo Marinho e Workshop de Investigação em Microplásticos. Setúbal, Portugal, 19 – 21 September 2019.
- Silva, C., Raimundo, J., Domingos, I., Garrido, S., Lopes, C. 2019. Presença de microplásticos em diferentes tecidos de pequenos pelágicos da Costa Portuguesa. Workshop de Investigação sobre Microplásticos. 2^a Conferência Portuguesa sobre Lixo Marinho e Workshop de Investigação em Microplásticos. Setúbal, Portugal, 19 – 21 September 2019.
- Guilhermino, L.; Martins, M.A.; Vieira, L.R.; Barboza, G.; Lopes, C.; Raimundo, J.; Caetano, M.; Vale, C. 2019. Contaminação de peixes do estuário do rio Minho e seus potenciais efeitos na Saúde – abordagem ‘One Health’. Workshop de Investigação sobre Microplásticos. 2^a Conferência Portuguesa sobre Lixo Marinho e Workshop de Investigação em Microplásticos. Setúbal, Portugal, 19 – 21 September 2019. (invited communication)

2018

C. Lopes (2019) Microplásticos: uma ameaça emergente. VI Jornadas de Biotecnologia/II Jornadas de Engenharia Biológica e Química da Escola Superior de Tecnologia do Barreiro do Instituto Politécnico de Setúbal. Barreiro, Portugal, 5 June 2019. (invited communication)

Figueiredo, C., Grilo, T.F., **Lopes, C.**, Brito, P., Diniz, M., Caetano, M., Rosa, R., Raimundo, J. (2018). Accumulation, elimination and neuro-oxidative damage under lanthanum exposure in glass eels (*Anguilla anguilla*). SETAC North America 39th Annual Meeting – Bridging Divides Between Environmental Stewardship and Economic Development. Sacramento, CA, USA. 4-8 November 2018.

Lopes, C., Fernández-González, V., Muniategui-Lorenzo, S., Caetano, M., Raimundo, J. (2018). The use of Polysorbate 20 as an “optimizer” component in the alkaline digestion of fatty fish digestive tract for microplastic extraction. MICRO 2018 Fate and Impact of Microplastics: Knowledge, Actions and Solutions, Arrecife, Lanzarote, Spain, 19 – 23 November 2018.

Lopes, C., Garrido, S., Angélico, M.M., Santos, I., Caetano, M., Raimundo, J. (2018) Microplastics in the Portuguese coastal waters. MICRO 2018 Fate and Impact of Microplastics: Knowledge, Actions and Solutions, Arrecife, Lanzarote, Spain, 19 – 23 November 2018.

Aleixo, M., De Pablo, H., **Lopes, C.**, Raimundo, J., Galvão, A. (2018). Emissão de microfibras poliméricas devido a lavagem mecânica em ambiente doméstico. 18.º ENASB/18.º SILUBESA, Porto, 10-12 October 2018.

Lopes, C., Raimundo, J., Caetano, M., Garrido, S. (2018). Importance of the feeding behaviour on the ingestion of microplastics by small pelagic fishes caught in south of the Iberian Peninsula. IX Symposium MIA 2018, Coimbra, 4-7 September 2018.

Figueiredo, C., Grilo, T.F., **Lopes, C.**, Brito, P., Diniz, M., Caetano, M., Rosa, R., Raimundo, J. (2018). Lanthanum-exposure influences trace element accumulation, elimination, and oxidative stress in glass eels under a warming scenario. 4th International Symposium, the Effects of Climate change on the World’s Oceans, Washington, DC, 4th-8th June 2018.

Lopes, C. (2018) Como é que as purpurinas deixam o Oceano sem brilho? Dia aberto do Departamento do Mar e Recursos Marinhos do IPMA, Lisbon, Portugal, 6 June 2018. (invited communication)

Raimundo, J., **Lopes, C.**, Ramos, P., Branco, S., Brito, P., Azevedo, O., Barata, M., Neira, P., Cesário, R., Pousão, P., Caetano, M. (2018). Tissue partitioning and enzymatic responses in white sea bream after exposure and elimination periods to Lanthanum. Workshop on Technology Critical Elements in Ecosystem and Human Health’ organized by COST action TD1407 – NOTICE and conducted in Tallinn, Estonia at the National Institute of Chemical Physics and Biophysics from 19 to 20 April 2018.

2017

Lopes, C., Caetano, M., Raimundo, J. (2017) Sediment sampling and processing. Workshop on Analytical Methodologies to Identify Microplastics organized by BASEMAN WP4 and conducted at IPMA, Lisbon, Portugal from 12 to 13 September 2017.

Lopes, C., Caetano, M., Raimundo, J. (2017) Biota selection and use for MP monitoring. Workshop on Analytical Methodologies to Identify Microplastics organized by BASEMAN WP4 and conducted at IPMA, Lisbon, Portugal from 12 to 13 September 2017.

Lopes, C., Caetano, M., Raimundo, J. (2017) Cross contamination: how to minimize it? Workshop on Analytical Methodologies to Identify Microplastics organized by BASEMAN WP4 and conducted at IPMA, Lisbon, Portugal from 12 to 13 September 2017.

Raimundo, J., Mil-Homens, M., **Lopes, C.** Jogos Ambientais (PRAIA DA TORRE) - (Camara Municipal de Oeiras) - Microplásticos (microbeads e pellets), 19 July 2017.

Lopes, C., Mil-Homens, M., Raimundo, J. Participação nas atividade do Dia Aberto IPMA (atividade das areias e à caça dos microplásticos na praia de Algés), 8 June 2017

- 2016 **Lopes, C.**, Godinho, L., Azevedo, O., Caetano, M., Raimundo, J. (2016). Aplicação de microscopia de fluorescência na identificação de partículas de microplásticos em conteúdos estomacais de pata-roxa (*Scyliorhinus canicula*) da costa portuguesa. 1º Congresso Português sobre Microplásticos. 19-20 December, Porto, Portugal (Poster).
- Mil-Homens, M., **Lopes, C.** (2016). De contaminantes do passado a poluentes emergentes, o que sabemos nós? Ciclo de palestras organizado pelo IPMA no âmbito de “A Semana da Ciência e Tecnologia” promovida pelo Programa Ciência Viva, Lisbon, Portugal, November 2016.
- Lopes, C.** (2016). Oceanos de Plástico: um Problema que não se vê. Noite Europeia dos Investigadores. 30 September 2016, Lisbon, Portugal
- 2015 C.D. Pfluck, Ana, P.C. de Barros, Dragana, **A. Lopes, Clara**, P. Fonseca, Luís. (2015). Optimization of Miniemulsion Process Using Different Solvents. Conference: 4th 2015 IEEE – Portuguese Meeting on Bioengineering, Porto, Portugal

SCIENTIFIC/TECHNICAL REPORTS

- 2019 - Filipa Bessa, João P.G.L. Frias, Tanja Knögel, Amy Lusher, Jose Manuel Andrade, Joana Antunes, Paula Sobral, Elena Pagter, Róisín Nash, Ian O’Connor, Maria Luiza Pedrotti, Maria Emmanuelle Kerros, Victor León, Valentina Tirelli, Giuseppe Suaria, **Clara Lopes**, Joana Raimundo, Miguel Caetano, Jesús Gago, Lucía Viñas, Olga Carretero, Kerstin Magnusson, Maria Granberg, Rachid Dris, Marten Fischer, Barbara Scholz-Böttcher, Soledad Muniategui, Gloria Grueiro, Verónica Fernández, Luca Palazzo, Andrea de Lucia, Andrea Camedda, Carlo Giacomo Avio, Stefania Gorbi, Lucia Pittura, Francesco Regoli, Gunnar Gerdts (2019). Harmonized Protocol for monitoring microplastics in biota JPI-Oceans BASEMAN project. DOI: 10.13140/RG.2.2.28588.72321/1
- Ana Filgueras, Jesus Gago, Maria Luiza Pedrotti, Guiseppe Suaria, Valentina Tirelli, Jose Andrade, João P.G.L. Frias, Róisín Nash, Ian O’Connor, **Clara Lopes**, Miguel Caetano, Joana Raimundo, Olga Carretero, Lucía Vinas, Joana Antunes, Filipa Bessa, Paula Sobral, Alenka Goruppi, Stefano Aliani, Luca Palazzo, Giuseppe Andrea de Lucia, Andrea Camedda, Soledad Muniategui, Gloria Gruceiro, Veronica Fernandez, Gunnar Gerdts, (2019). Standardised protocol for monitoring microplastics in seawater JPI-Oceans BASEMAN project. 10.13140/RG.2.2.14181.45282
- 2018 - João P.G.L. Frias, Elena Pagter, Róisín Nash, Ian O’Connor, Olga Carretero, Ana Filgueiras, Jesus Gago, Joana Antunes, Filipa Bessa, Paula Sobral, Alenka Goruppi, Valentina Tirelli, Maria Luiza Pedrotti, Giuseppe Suaria, Stefano Aliani, **Clara Lopes**, Joana Raimundo, Miguel Caetano, Luca Palazzo, Giuseppe Andrea de Lucia, Andrea Camedda, Soledad Muniategui, Gloria Grueiro, Veronica Fernandez, José Andrade, Rachid Dris, Christian Laforsch, Barbara M. Scholz-Böttcher, Gunnar Gerdts, (2018). Standardised protocol for monitoring microplastics in sediments. JPI-Oceans BASEMAN project.10.13140/RG.2.2.36256.89601/1
- 2017 - Carretero, O., Frias, J., Pereiro, D., **Lopes, C.**, Antunes, J., Andrade, J., Camedda, A., Goruppi, A., de Lucia, G., Pedrotti, M. L., Sobral, P., Caetano, M., Tirelli, V., Nash, R., Gago, J. (2017). Technical Report. Microplastic sampling comparison. 10.13140/RG.2.2.27319.32162.

PERSONAL SKILLS

Language	<p>Portuguese – native speaker</p> <p>English – advanced writing, speaking and comprehension skills.</p> <p>French – writing, speaking and comprehension skills.</p>
Computing	<ul style="list-style-type: none">▪ Advanced use of Microsoft Office (Word, Excel, Power Point, Outlook, Access)▪ Use of ImageJ▪ Basic skills of image edition software (Illustrator and Photoshop)▪ Basic skills of QGIS▪ Statistical analysis (STATISTICA and MATLAB)▪ Modeling and Simulation of Biological Processes (metabolic networks, cell-signaling pathways, regulatory networks) with COPASI.▪ Bioinformatics software & tools: Sequence Alignments, Sequence Analysis, Genome Assembly, Biological database, Gene Predication and Protein Structure Prediction.
Other activities	<ul style="list-style-type: none">▪ Member of the Organizing Committee of the 2nd Conference on Biotechnology, Instituto Superior Técnico, Lisbon, Portugal – 21st March 2014▪ Member of the Organizing Committee of the 1st Conference on Biotechnology at Instituto Superior Técnico – 19th March 2013▪ Volunteer Work at Portuguese Youth Institute – Forest Fire Surveillance – 2011▪ Volunteer Work at Aquarium Vasco da Gama, Lisbon, Portugal – Fish Feeding and Aquarium/Tank Cleaning (September - December 2010)