# Ulisses

## UNIVERSITY OF LISBON
## INTERDISCIPLINARY STUDIES
## ON SUSTAINABLE ENVIRONMENT AND SEAS

# Course Guide
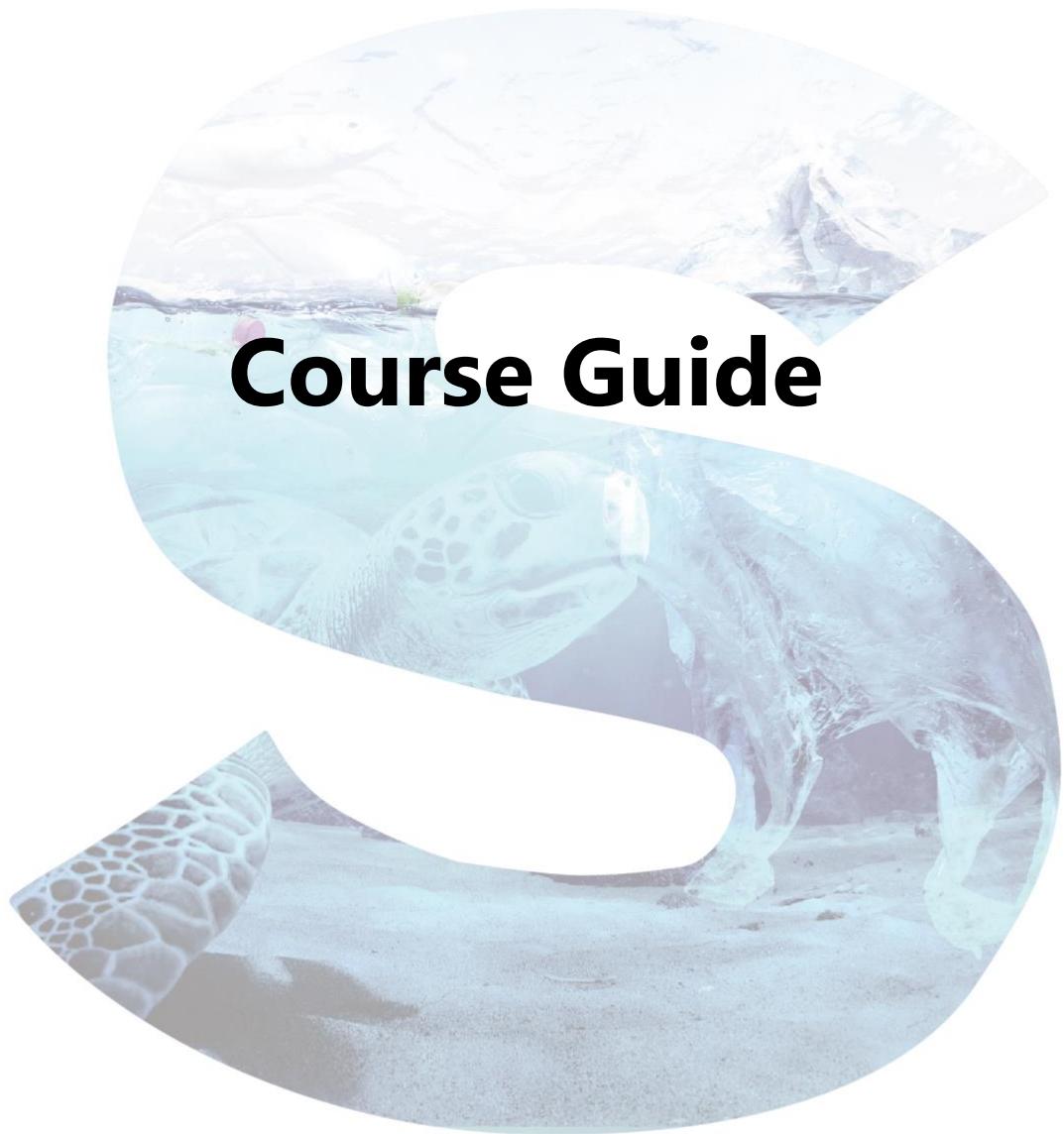
# Ulisses course guide

## 1.    Welcome aboard!

You will take part of a multidisciplinary team of highly qualified and motivated colleagues with diverse nationalities and different scientific backgrounds that aim to deepen their knowledge and understanding about relevant issues related to the sustainability of our oceans.

In this document you may find all details related to the ULisses Moodle course: the learning outcomes, a brief description of the different topics to be addressed, the course timeline, the organization of the resources that will be made available and a description of the activities and self-assessment tasks you are supposed to perform.

## 2.    ULisses preparatory course

In this preparatory course, a wide range of online lectures and learning materials will be provided. The main goal is to summarize the fundamental and core competencies of the disciplines involved in the project, giving students with different academic backgrounds an overview of all the relevant scientific areas. This ensures that all participants can comfortably engage in discussions during the main project event.

The e-learning materials are accompanied by dedicated quizzes and also suggested activities (assignments) in order to evaluate the students' progress. For a successful completion of the preparatory course and qualification for participation in the Team Project Phase, passing them is required.

The communication tools available in Moodle will allow for advice and feedback from the instructors as well as discussion between the participants.

## 3.    Learning outcomes

On successful completion of the course, students will be familiar with:

•     the fundamentals of diverse disciplines related to ocean sciences;

- the central principles of material science related to polymers;

- the impact of plastic pollution in the metabolism of biological systems;

- the basic principles of robotics and the design of autonomous vehicles for sea exploration;

- the basic techniques used to recycle materials and the principles of circular economy;

- project management methods;

and will be able to:

- analyse biodiversity and sustainability issues raised by ocean pollution;

- contribute to the development of innovative technological solutions targeting ocean pollution;

- provide alternatives for the sustainable reuse of ocean plastics in applications with economic value;

- plan and manage independently their online study process;

- use the functions of a digital learning environment for their learning process;

- connect with their colleagues in an international and interdisciplinary environment;

- improve their English language skills.

## 4.    Topics to be covered

The ULisses course will cover 11 topics related to the main theme of the project: "Oceans without plastic".

The course will begin with a set of subjects related to the importance of the Oceans in the life of our planet. Several aspects will be addressed and discussed, namely the relevance of marine resources, the impact of climate changes and the use of microalgae biomass as sustainable food sources.

The second topic will be related to the ocean pollution and its impact. Special attention will be given to ocean pollution by plastics, but other issues will be also discussed, such as the importance of the salt marsh areas in the bioremediation of waters.

The third topic will be dedicated to plastics and polymer material science. Several subjects will be

covered in this topic: the definition of polymers and its production, the characterization of different plastic waste types, the transformation from macro (macroplastics) to molecular scale (polymer molecules) and the polymers degradation in the environment

The fourth topic will treat several techniques that can be used to characterize the level of pollution. How to define water quality is the first subject to be addressed. The laboratory techniques that can be used to evaluate the level of water pollution in terms of chemical and microbiologic contaminants are then discussed and contaminants of emerging interest are reviewed. Ecotoxicology tests and the use of biomarkers will be also discussed.

The impact of plastic pollution in human health will be discussed in the fifth topic. How micro and nanoplastics enter the food chain is the initial subject to be discussed. Then, different health implications according to the size scale (macro vs micro vs nano) are addressed. It will be showed that microplastics can be vehicles for other pollutants and release additives (e.g., phthalates) during their passage through the digestive system. To conclude this topic, a brief introduction to epigenetics will be presented.

The mitigation techniques and methodologies will be treated in topic number six. Several subjects will be addressed here: the use of alternative materials (bioplastics), the techniques based on the use of microbial and enzymatic degradation of synthetic plastics, the importance of materials recycling.

The existing ocean data platforms and the use of numerical simulation based on computational models are nowadays important tools to understand and forecast the ocean behaviour. These tools will be presented and discussed in topics seven and eight.

The ninth topic will explore the use of technologies for ocean exploration and environmental status assessment. An introduction to the topic will be made with the help of compelling examples of scientific and commercial missions at sea. The role of aerial drones, surface and underwater gliders, autonomous marine robots will be discussed, and the steps involved in the planning, programming, and execution of missions with single and multiple vehicles acting in cooperation will be described.

The use of remote sensing techniques will be presented in topic number ten. The use of satellite images combined with spatial data science algorithms for the detection of floating debris is addressed. This topic will also illustrate the potential of geophysical methods for the study of the water column and for the detection of macro and microplastics.

In the last topic of the course, some concepts about project management, circular economy and life cycle design (life cycle cost and life cycle assessment) will be treated.

Throughout the course, a set of soft-skill topics will be included. These will discuss issues related to team building actions, creativity, innovation and design thinking methodologies. These concepts will be quite important for the second stage of ULisses: the Virtual Team Project phase.

In Table 1 you may find a list with all the topics and also the timeline for the course. The course will last 10 weeks.  It starts on the 22nd of March, finishing on the 28th of May. All suggested activities and quizzes must be concluded before the 11th June.

Table 1: List of topics and course schedule

| Topic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| The Ocean and our planet | ■ | ■ | | | | | | | | |
| Ocean pollution and its impact | | ■ | | | | | | | | |
| Plastics and Microplastics | | | ■ | ■ | | | | | | |
| Techniques to characterize water pollution | | | | ■ | | | | | | |
| Impact of plastic pollution in human health | | | | | ■ | | | | | |
| Mitigation techniques and methodologies | | | | | ■ | ■ | ■ | | | |
| Ocean data platforms and their use | | | | | | | ■ | | | |
| Numerical models and simulation to study Ocean behaviour | | | | | | | | ■ | | |
| Ocean exploration using aerial and marine robotic systems | | | | | | | | | ■ | |
| Ocean exploration with remote sensing and geophysics | | | | | | | | | ■ | ■ |
| Circular economy and project management | | | | | | | | | | ■ |

## 5.    Organization of the course: resources and activities

The Moodle course will be completely asynchronous. You may access the materials and program your activities according to your own schedule.

Every Monday, the learning materials for the week will be disclosed. A "weekly guide" will be included in that material with the list of topics that are going to be addressed that week and the activities that will be proposed.

The structure of the Moodle course will be the same every week. The first resource will be always a motivational video. Just after the video, you may find the above-mentioned weekly guide. Then, the learning material is presented following the indication of the topic being addressed. The title of each topic is preceded by the icon 📝 . At the end, you always find the assignments (suggested activities) or quizzes you are supposed to deliver. These tasks, which are mandatory to ensure a successful completion of the course, will be denoted by the icon 📝.

All learning material has to be carefully followed. We consider the study of this learning material as essential for a successful completion of the first phase of the project. Advanced materials will be also provided. The goal is to provide students with a set of additional documents that may be used to

deepen their knowledge. These materials will always be named "Advanced Learning Materials". The reading of these materials is not mandatory.

A key aspect for the success of the project is the cooperation between all participants. For this, it is important your active participation in the forum discussions. Specific activities will be launched in the social forum to enhance the development of the ULisses online community and its "team spirit". To facilitate and enhance this social networking, our Ulisses monitors will be interacting with since "day 1". They will present themselves using the social forum. Stay alert and engage in the interesting and motivating surprise activities they are preparing!

The four ingredients of our preparatory course are the following: self-study, quizzes, suggested activities and social networking. All of them are important to ensure a motivating and successful learning experience.

## 6.    Assessment

The assessment will be based on a set of quizzes to be launched through Moodle platform and also on a set of activities that will be proposed throughout the course. You can repeat each quiz once.

## 7.    Ulisses team

ULisses is being organized by an interdisciplinary group. The scientific aspects are being organized by professors coming from Instituto Superior Técnico, from the School of Agriculture, from the Faculty of Pharmacy and from the Faculty of Sciences. For the didactic aspects, we have the support of our colleagues from the Institute of Education.

Here you may find a short CV of each professor involved in the preparation of this course. You may find additional details by following the link which is included at the end of each professor's profile.

Alexandra Moutinho

Alexandra Moutinho has a master's degree in Mechanical Engineering (2001) and a PhD in Mechanical Engineering (2007), both from Instituto Superior Técnico. The title of her PhD thesis is "Modeling and Nonlinear Control for Airship Autonomous Flight". She is an assistant professor in the Mechanical Engineering Department of Instituto Superior Técnico, and her scientific interests are focused on mobile robotics, with special emphasis on unmanned aerial vehicles (UAVs). Her main research concerns the different aspects of UAVs, namely modelling, identification, simulation, instrumentation, estimation, and control. Being actively involved in the development of different

aerial platforms like airships and quadcopters, her research combines both theoretical and experimental developments. She teaches course units such as Control Systems and Flight Control. She developed and presents the MOOC Técnico course "Simulation and Control of Drones" since 2018.

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### Ana Carvalho

Ana Isabel Carvalho is an Associate Professor at Instituto Superior Técnico. She obtained her PhD in Chemical Engineering in 2009 by Instituto Superior Técnico in collaboration with Technical University of Denmark. Her research contributes to circular economy in several research areas, namely through sustainable operations management, sustainable supply chain management in closed-loop systems, environmental and social Life Cycle Assessment, and Corporate Social Responsibility in a Circular Economy perspective. She has been invited to give seminars in different institutions as for example the Environmental Protection Agency in USA. She has been awarded by several national and international awards, in pedagogical and scientific activities (e.g. Sustainable Engineering Forum Student Paper Award- AIChE, Green Project Awards).

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### Ana Clara Marques

Ana C. Marques is Assistant Professor of the Chemical Engineering Department, at IST, since 2017 and belongs to the research unit CERENA. She graduated in Materials Engineering from Instituto Superior Técnico - Universidade de Lisboa (IST-UL), Lisbon, Portugal, in 2000 and obtained her Ph.D. degree in Materials Sci. & Eng. from the same institution in 2005. She was a Post-Doc at the International Materials Institute for New Functionality in Glass of Lehigh University, USA, before joining the chemical company Dow Corning in Belgium, as an R&D Chemist, from 2007 to 2011. At Dow Corning, she was the leader of R&D projects, aiming at new chemical products development (e.g. halogen-free flame retardant additives) for large-scale production. This was followed by R&D Coordination roles at Ynvisible S.A. and Greenseal Research Ltd., for the development of electrochromic displays and greener components for polyurethane foams, respectively. In 2014, while holding a FCT Post-Doc grant, she started a Technology Platform on Microencapsulation and Immobilization, her main current research interest, aimed at customized solutions for enabling active materials and advanced products. She has implemented the Lab Hands-on-Polymers, for polymer processing and characterization, in the framework of a Pedagogical Innovation Project. 9

international patents and more than 50 papers have resulted from her work in the academia and collaboration with the industry. She joined the group of Prof. Markus Niederberger at the Department of Materials at ETH Zürich (Switzerland) as an Academic Guest from April to July 2019.

Research Interests: Chemical and Materials Engineering (microencapsulation; sol-gel; porous support materials; polymers; materials synthesis and characterization)

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http://handsonpolymers.tecnico.ulisboa.pt

Anabela Raymundo

Anabela Raymundo is Chemical engineer, MSc in Food Science and Technology and a PhD in Food Engineering. Assistant Professor with Habilitation, integrating the LEAF (Linking Landscape, Environment, Agriculture and Food). Responsible by the areas of Rheology and Food Texture and Quality Control in Food Engineering Graduation and Master and in the Master of Gastronomic Sciences. Main research areas of interest: functional properties of macromolecules - proteins and polysaccharides; development of new food products; evaluation of the rheological behaviour of different food matrices and relations with the structural composition. Main work focused on the use of poorly exploited food sources (e.g., microalgae biomass and food industry by-products) for the development of high added value products. Participates in several national and international research projects and, actually, supervises 6 doctoral theses and several master projects. She published 85 papers in international ISI journals, authored 4 international book chapters and has presented communications in various national and international congresses as guest speaker.

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António Pascoal

António M. Pascoal received the Ph.D. degree in Control Science from the Univ. Minnesota, Mpls, USA in 1987. Since 1988 he has been with the Department of Electrical Engineering of the Instituto Superior Tecnico (IST), Lisbon, PT where he lectures in the areas of Control and Robotics. From 1996-1998 he was a Visiting Associate Professor with the Department of Aeronautics and Astronautics of the US Naval Postgraduate School of Monterey, California, USA. He is currently an Associate Professor of IST, a senior researcher with the Institute for Systems and Robotics (ISR), and coordinator of the Thematic Area "Technologies for Ocean Exploration and Exploitation" of the Laboratory of Robotics and Systems in Engineering and Science (LARSyS). Since 2012, he has been an Adjunct Scientist with the National Institute of Oceanography, Goa, India. He is a Visiting Faculty with the

Department of Ocean Engineering, IIT Madras, under the Indian Sparc Programme. He was elected Chair, IFAC Technical Committee Marine Systems, from 2008-2014. He has coordinated and participated in a large number of international projects that have led to the design, development, and field-testing of single and multiple autonomous marine and air vehicles in cooperation with partners in India (National Institute of Oceanography, Goa), USA (Naval Postgraduate School, Monterey, CA), Korea, (KAIST), and Europe. His research interests include Dynamical Systems and Robotics with applications to the development of aerial and marine robots for ocean exploration and exploitation.

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Augusto Moita de Deus

Augusto Moita de Deus was born in Grândola, Portugal in 1966. He graduated in Physics at the University of Lisbon in 1989 and obtained his PhD in Mechanical Engineering from the University of Illinois at Urbana-Champaign in 2004. He has been a member of faculty at Instituto Superior Técnico (IST) since 1989, having taught courses such as Materials Science, Modelling in Materials Engineering, Materials in Engineering, Processing and Recycling of Polymers, Surfaces and Interfaces and Solid State Physics. He is currently an Assistant Professor at the Department of Mechanical Engineering of IST, University of Lisbon. His research interests include Modelling in Materials Science and Engineering, the Finite Element Method, High Temperature Deformation of Metals and Polymers, Additive Manufacturing of Metals and Polymers and Honeycomb Structures. He has collaborated in national and international projects and published more than 40 papers in international journals and conferences.

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Cristina Almeida

Cristina Almeida has a Degree in Pharmaceutical Sciences, Industrial Area (1990) and a PhD degree (2001) also in Pharmaceutical Sciences, specialty "Chemistry and Microbiology of Water", both from the Faculty of Pharmacy of the University of Lisbon. She Assistant Professor and coordinator of the Water Laboratory at the Faculty of Pharmacy and member of Portuguese Pharmacopeia. Her research interests include advanced analytical techniques, mainly chromatographic, especially as applied to food and environmental problems. The basic research is focused on method validation and monitoring of compounds of emerging concern and contaminants in environmental and food

matrices. The main compounds under study include the endocrine disrupter compounds, mycotoxins and pharmaceutical active compounds.

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### Francisco Campuzano

Francisco Campuzano is an oceanographer formed in the University of Las Palmas de Gran Canaria (Spain) with a PhD in in Environmental Engineering from Instituto Superior Técnico (Portugal) and an M.Sc. in Estuarine and Coastal Management and Science at the University of Hull (U.K.). He has been involved in more than 20 research projects at the European, national and regional level in different areas as assessing ecological status, socioeconomics and conceptual and numerical modelling. He is the current co-chair of the ICES WGOOFE WG and member of three EuroGOOS Working Groups: IBI-ROOS, MONGOOS and Coastal. He is member of Copernicus Marine Service Champion User Advisory Group (CUAG) and member of the MARETEC scientific council. In recent times, he was involved in the development of oceanographic operational systems linking watersheds, estuaries and the open ocean (Brito et al., 2015; Campuzano et al., 2016; Campuzano, 2018). He has led several European projects of operational oceanography and environmental management (e.g., Atlantic Area iFADO & CMEMS-LAMBDA) and is the author/co-author of 21 scientific papers and 26 book chapters. He joined CoLAB +ATLANTIC in 2021 to co-orientate operational modelling activities.

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### Joana Ferreira Soares

Joana Ferreira Soares (Lisbon, 1981) graduated in Philosophy at the Faculty of Social and Human Sciences of NOVA University of Lisbon. In 2010, she obtained her PhD in Contemporary Philosophy from NOVA University of Lisbon. She is the coordinator of the Lifelong Learning Unit at the University of Lisbon where, since 2006, she has been essentially responsible for the entrance of the non-traditional public in the university, in a logic of valuing life paths and acquired skills, and for the promotion of initiatives in the training for seniors, teachers and students. Her main interests are in the fields of Philosophy, Literature and Adult Education.

### Joana Viana

Joana Viana is a professor and researcher in Educational Sciences, in the areas of curriculum development, educational technology, teacher education, innovative learning environments, and higher education pedagogy at the Instituto de Educação, Universidade de Lisboa. She is a member

of the Education Research and Development Unit (UIDEF). She has a Ph.D in Education - Curriculum Development from the University of Lisbon. She focuses her research on the curriculum development and pedagogical use of ICT. She participated in different projects and studies in these areas, and she has also published articles and chapters in educational books.

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Leonardo Azevedo

Leonardo Azevedo has a degree in Geological Engineering in (2007) and MSc. on Marine Geology and Geophysics(2009) both from U. Aveiro. Leonardo concluded his Ph.D. in 2013 with the development of novel geostatistical methodologies for geophysical data integration into subsurface Earth models (Técnico, U. Lisboa). Currently his main research interests are related to the development of spatial data sciences methods to model natural phenomena, geostatistical geophysical inversion for subsurface characterization and uncertainty assessment in natural systems.

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Leonor Morais

Leonor Morais Cecílio, is an Assistant Professor in the Department of Natural Resources, Environment and Territory at the School of Agronomy with a PhD in Genetics from the University of Wales. Her main scientific interests are in the fields of Genetics and Epigenetics linked to development and differentiation focused on studies of chromatin organization and genome interactions. She is currently investigator at LEAF Research Centre- Linking Landscape Agricultural and Food and is a member of the Associated Laboratory TERRA. She authored more than 40 publications in scientific journals indexed in Web of Science (WoS), participated in 18 national and international FCT-funded projects, some as Principal coordinator or co-Principal investigator, and supervised or mentored 5 PhD, several master and final undergraduate and internships students.

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Luís Tinoca

Luís Tinoca is an Assistant Professor at the Institute of Education, University of Lisbon, with experience in the development of both graduate and undergraduate courses, as well as an active researcher in

the areas of teacher education, competence-based curriculum design, innovative learning environments, and Higher Education Pedagogy. He is a member of the Education Research and Development Unit, a collaborator at the Distance Education Laboratory, and a member of the special interest group on Teacher Education at the European Association for Research on Learning and Instruction. He earned his Ph.D. in Science Education from the University of Texas at Austin in 2004. He is the author of over 40 scientific publications and has supervised 4 Post-Doc projects, 6 PhD thesis and 26 Master dissertations in institutions from 7 different countries. Recently, he has been the national coordinator and work package leader for both EDiTE (EU Marie-Sklodowska-Curie) and EdUSchool (EU Erasmus). Since 2004 he has participated in 22 national and international research projects, funded by several organizations, such as: the European Commission, the Portuguese Foundation for Science and Technology, the Bill and Melinda Gates Foundation, the Association for the Advancement of Computing in Education, and the Society for Information Technology and Teacher Education.

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Maria Beatriz Silva

Maria Beatriz Silva holds a PhD in Mechanical Engineering from Instituto Superior Técnico (IST), ULisboa and is currently an Associate Professor with tenure at the Manufacturing and Industrial Management Unit of the Mechanical Engineering Department of IST. Her pedagogical activity includes teaching and coordinating courses in Mechanical Processing Materials. She has also been supervising and co-supervising several Master and PhD students, and postdoc fellows. Her scientific activity covers the areas of experimental and numerical simulation of materials forming, being co-author of more than 100 papers published in internationally reviewed journals and international conferences. She has collaborated in national projects and with Universities from Spain, Italy, Germany, Denmark and USA.

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Maria Henriques Ribeiro

Maria H Ribeiro is Associate Professor at Faculty of Pharmacy (FFUL), and PhD in Pharmaceutical Biotechnology by Universidade Lisboa. President of Pedagogical Council of FFUL. Member of Scientific Council and School Councial, at FFUL. Coordinator of the Integrated Masters in Pharmaceutical Sciences (MICF). Member of the Scientific Board of the Doctoral Program in Pharmacy and of Sustainability Doctoral Program. Responsible for several curricular units in pre and

post-graduate training. Maria H. Ribeiro leads investigation at Research Institute for Medicines (iMed.ULisboa) (FFUL), exploring biotechnology processes to health promotion and disease prevention. She is the head of Biotechnology&Bioproducts Lab and Group Leader of Chemical Biology and Toxicology (iMed.ULisboa) focused on the design, development and characterization of new (bio)materials and bioactive compounds towards therapeutics and functional food. Her research interests include also the development innovative bioconversions using renewable resources, biodegradable packaging with improved biologic proprieties, analysis of consumer perception of biological products. Moreover, is coordinator and participant of several scientific and pedagogical research projects. Author or co-author of multiple publications and communications, in international and national scientific congresses and meetings.

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Maria João Pereira

Maria João Pereira is a Full Professor at Instituto Superior Técnico, Universidade de Lisboa. She conducts research on geostatistics and modelling uncertainty assessment and her interests are mainly on environmental applications, including air and soil quality modelling, remote sensing and environmental health problems. She is currently President of CERENA and Coordinator of the Doctoral Program in Earth Resources. Author of about 70 peer-reviewed papers and conference proceedings.

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Maria Rosário Bronze

Maria Rosário Bronze was born in Lisbon in 1962. She graduated in Pharmaceutical Sciences in 1986 and completed her PhD in 1999 at Lisbon University. Since 2012   she is an Associate Professor at Pharmacy Faculty and Head of the Structural Analysis Laboratory at the same institution. Since 2017 she is Head of Food & Health Division at iBET. Her main research interests are the evaluation of food quality and study of bioactive compounds in foods and related products using chemical, instrumental, in vitro and in vivo tools. M.R. Bronze has collaborated in national and international projects and published more than 100 papers in internationally reviewed journals.

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## Marcos Mateus

Marcos Mateus has a degree in Marine Biology from the University of Algarve, with a master's degree in Marine Sciences (2001) and a PhD in Environmental Engineering, both from Instituto Superior Técnico. He was an Assistant Researcher at Instituto Superior Técnico from 2007 to 2020, where he has developed research activities in ocean modelling and marine ecology. He is now an auxiliary teacher, also at IST. Over the past years he has been involved in more than 15 national and international research projects, and responsible for several in his institution. He participated as team leader in consulting projects in the private sector and is currently Principal Investigator in a project dedicated to aquaculture. Throughout his academic career, he has published more than 45 articles in international scientific journals, 17 book chapters, edited 2 books and 4 special issues in renowned scientific journals. In recent years he has developed his research in the use of modelling tools in the context of aquaculture and marine ecology, as well as in the management of aquatic resources.

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## Maria Luísa Serralheiro

Maria Luísa Serralheiro graduated in Chemistry (1980), Faculty of Sciences of the University of Lisbon, obtained a Master's degree in Biotechnology (Biochemical Engineering) (1990), from Instituto Superior Técnico, PhD in Biochemistry (Technology Biochemistry) (1997) from the University of Lisbon and the Aggregation in Biochemistry (Biotechnology) (2013). Associate Professor with Aggregation since September 8, 2020. She is currently integrated in the Institute of Biosystems and Integrative Sciences (BioISI), FCUL. The research activity focused on the use of biocatalysts in unconventional systems, and recently on Food Biochemistry and Nutrition with studies carried out on dairy products, and on "infusions" of medicinal plants and edible algae. Development of biochemical studies, enzymes activity inhibition with bioactive compound, its metabolism as well as its involvement in hypercholesterolemia reducing effects. Methodologies for studying the effect of compounds on cellular metabolites (metabolomics) is under development. Main research areas: Biocatalysis, Biochemistry and Molecular Nutrition. Supervised / co-supervised 8 PhD Theses (3 in progress), 32 Master's Theses and 14 Bachelor's Theses. PI in several FCT. Publications: 87 articles, 68 international communications, 2 national patents, 3 awards and 1 article in the «top ten accessed articles». 1511 citations, h = 20.

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Ramiro Neves

Environmental Modeler with Mechanical Engineering background. Professor of Fluid Mechanics and Environmental Modelling related courses at the Instituto Superior Técnico (IST), University of Lisbon. Promotor of the development of the integrated modelling system MOHID (www.mohid.com) that includes hydrodynamics and water quality in free surface flows with emphasis for coastal and oceanic system and a plastic debris transport model. In the framework of the development of this model he has supervised 24 PhD thesis and participated in more than 70 international projects. His publication record includes 168 documents listed in

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together with some of the research projects.

Rita Tomé Rocha

Rita Tomé Rocha is the Coordinator of Tec Labs, the incubator and tech transfer office from Faculdade de Ciências of Universidade de Lisboa. She supports on a daily basis entrepreneurs, researchers & students to do amazing things that challenge the status quo and create sci-tech innovative solutions for a wide range of societal, technological, healthcare and environmental challenges. She's also a passionate facilitator on creativity, innovation, entrepreneurship, design thinking, communication and marketing. In the past and for more than 5 years she also worked as a journalist and producer which allow her to gain expertise in communication, digital marketing, events production & project management.

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Rui Rosa

Rui Rosa graduated in Marine Biology by the Faculty of Sciences of the University of Lisbon (FCUL) in 1999 and completed a PhD degree in Biology by the same institution in 2005. After post-doctoral activities at the University of Rhode Island (USA), he became Senior Researcher and Auxiliary Professor with Habilitation at FCUL. He published 205 peer reviewed publications (h-factor of 33), 3 books and 10 book chapters. He has co-edited 2 books and conducts editorial activities in several international journals. His research seeks to understand how climate-related drivers of change affect marine biodiversity.

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Vasco Branco

Vasco Branco completed his PhD in Pharmacy (specialization in Toxicology) in 2012 at the Faculty of Pharmacy University of Lisbon (FFUL). Afterwards(2013), he was awarded a Post-Doc Fellowship from Fundação para a Ciência e Tecnologia to study the interaction between mercury compounds and the thioredoxin system, namely to understand if this event was related to the unfolding of cell death. This project, took place at iMed.ULisboa and at the Division of Biochemistry, Department of Molecular Biochemistry and Biophysics, Karolinska Institute, Stockholm. Currently, he is a Junior Researcher at iMed.ULisboa, FFUL. Since 2010, he is an Invited Assistant Professor in Toxicology and Bromatology at the Faculty of Pharmacy University of Lisbon. He collaborates in Biochemistry and Toxicology courses at other Higher Education Institutions. He has supervised Graduate and undergraduate students including several Masters Students and PhD students. He is author of several peer reviewed papers and communications in conferences and seminars.

https://scholar.google.com/citations?user=dmrlpD8AAAAJ&hl=pt-PT

Vítor Alves

Vitor Alves is Assistant Professor in the area of Food Engineering at School of Agriculture, University of Lisbon.  He has a graduation in Chemical Engineering and possesses a PhD in Chemical Engineering (membrane processes), both at NOVA University Lisbon. His research interests include the development of biodegradable films for food packaging using biopolymers, encapsulation of natural bioactive functional compounds in biopolymeric matrices and release studies, healthy food products development and membrane processes. He has participated (some still ongoing) in 13 research projects and in 5 bilateral projects/scientific networks/COST actions. He supervised/co-supervised 6 PhD thesis (one ongoing), 1 Post-doc project and more than 30 Master theses. He is co-author of 96 publications in international journals and books with referee and 2 international patents (h index WOS = 25, ORCID iD: 0000-0002-4117-5582). He received the Scientific Award University of Lisbon/Santander Universities in the field of Agronomy (including Silviculture and Food Technology) (2018).

https://fenix.isa.ulisboa.pt/qubEdu/homepage/isa2827/template-lateral/apresentacao