



ANNUAL RESEARCH ACTIVITY REPORT 2022

October 2023



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<https://rem.rc.iseg.ulisboa.pt/>

<https://twitter.com/ResearchRem>



REM - Research in Economics and Mathematics

- 6** research groups
- 92** integrated members
- 50** collaborators
- 3** doctoral programmes
- 712** articles in international journals,
2012 – October 2023 (highly ranked in Web of Science, Scopus, ABS, and FT)
- 25** recently funded FCT research projects
- 301** REM WPs 2017 – November 2023

1. Introduction

REM - Research in Economics and Mathematics is a research consortium hosted by ISEG, the School of Economics and Management of Universidade de Lisboa, which is the largest and most reputed Portuguese University. The consortium was formed in the middle of 2017 by bringing together two research centres:



Mathematics Applied to Forecasting and Economic Decision



Research Unit on Complexity and Economics

REM produces original research in Economics and Mathematics, both theoretical and applied, taking a multidisciplinary stance at complex problems in economies and societies. The consortium encompasses several areas of research covering economics, mathematics and finance, behavioural and political economy. The research produced is a useful instrument for the formulation and the critical analysis of public policy in connection with industry stakeholders. Moreover, REM bears strong cooperation ties with governmental institutions, Central Banks (notably Banco de Portugal), and international organisations (IMF, OECD, and ECB), and regulators to drive an updated agenda of research into economic and societal challenges.

REM's researchers are organized in six groups: Econometrics; Mathematical Analysis and Computational Finance; Macroeconomics; Mathematics of Complex Systems; Microeconomics; and Statistics and Actuarial Science. At the end of 2021, there were 80 integrated members and around 50 collaborators encompassing research associates and Ph.D. students.

REM hosts and coordinates three doctoral programmes at ISEG, being committed to research-based advanced teaching. Ph.D. students are integrated members of research teams, often in international consortia, and M.Sc. students prepare their dissertations in close articulation with ongoing research lines.

Regarding impact, REM ranks high in publication records according to international standards. There is an active policy for promoting publication in excellent scientific journals and books published by international publishers. Nonetheless, we are also strongly committed to make our research outputs freely available via working papers and open-access publications. Indeed, REM members have published more than 500 articles in international peer-reviewed journals, with more than 20% of them placed in the first quartile of Web of Science (or Scopus). These publications are also highly ranked in the ABS and FT journal rankings. In addition, REM has its own Working Paper series indexed in IDEAS/RePEc, with 160 published WPs.



REM is a member of the **EconPol Europe** – the European network for economic and fiscal policy research – a network of 14 policy-oriented university and non-university research institutes across 12 countries (Czech Republic, the Netherlands, Portugal, Spain, Switzerland, Germany, France, the UK, Finland, Austria, Italy and Belgium).



EconPol Europe was founded by:

- ifo Institute – Leibniz Institute for Economic Research at the University of Munich e. V. (ifo; Munich, Germany)

REM also participates in, and manages **XLAB – Behavioural research Lab**, a laboratory for scientific research and data collection whose main goal is the study of decision-making processes and economic, political, and social behaviour. This infrastructure conducts experimental studies, surveys about economic and social behaviour, and measurement tests. **XLAB** is located at the Lisbon School of Economics & Management of the University of Lisbon.



XLAB is a component of PASSDA (*Production and Archive of Social Science Data*) is the Portuguese infrastructure for the collection, archive and dissemination of data about social and political attitudes, values, and behaviours. It is the national node of several international research networks and infrastructures that collect these types of data through surveys applied to representative samples of the population, such as the **European Social Survey-ERIC** or the **Comparative Study of Electoral Systems**, as well as of the Consortium of European Social Science Data Archives (**CESSDA-ERIC**).

PASSDA is integrated in the [Portuguese Roadmap of Research Infrastructures](#) supported by the Foundation for Science and Technology, and was instituted as a partnership between research centres and units of the University of Lisbon, ISCTE-IUL, the University of Coimbra and the University of Porto.



2. Research Groups

2.1. Econometrics

The **Econometrics group** consists of 18 researchers who are mostly full-time lecturers at ISEG. The group is heterogeneous and conducts research in distinct areas of Econometrics. While some members exclusively conduct empirical research, others focus on theory. The majority, however, combine these two strands of research.

We highlight three principal areas of research: i) microeconometrics, more specifically, panel data, discrete choice models, fractional regression models, sample selection, quantile regression (mostly on cross-section analysis), conditional moments constraints, missing data, attrition, discrete-continuous choice models, endogeneity in nonlinear models and spatial econometrics; ii) time series, in particular, clustering and classification, multivariate Markov chain, regression-based tail index estimation, double unit roots and value-at-risk and expected shortfall; iii) applied economics on poverty, social exclusion, income distribution and social policy.

On top of these main areas, our group occasionally conduct research in areas close to statistics such as nonparametric estimation (e.g., density forecast based on time- and state-domain, expected time to cross a threshold, and structural change test in duration).

2.2. Economics and Mathematics of Complex Systems

The **Economics and Mathematics of Complex Systems group** is a multidisciplinary group that consists of 7 mathematicians and 8 economists who contribute to tackling human problems using their modelling expertise. Many of these contributions rely on the feedback of social phenomena, which, in addition to material constraints, are also a result of human decision processes.

We believe that modelling can only be relevant to the society if it addresses real and actual problems. Therefore, the joint expertise from mathematics and social sciences is needed. The members of this group have different backgrounds and diverse scientific training and work together in a true interdisciplinary spirit.

The group comprises four main research lines: i) non-linear dynamical systems (theory and applications), including computational economics and finance; ii) innovation studies, which includes modelling and reconstruction of innovation processes; iii) bibliometric and scientometric research, and iv) network structure and dynamics.

2.3. Macroeconomics

The **Macroeconomics Group** has 20 members, some of them also with links with Banco de Portugal. Several topics of research include fiscal policy, monetary policy alongside macroeconomic modelling and DSGE modelling.

Other lines of research deal with macroeconomic dynamics, macroprudential policies and household indebtedness, government efficiency analysis, and international economic and

financial integration, euro area long-term sovereign bond yields, macroeconomics of imperfect competition, firm dynamics and macroeconomic dynamics, or on the mathematics of macroeconomic dynamics, measuring the output gap, and the relevance of public investment for economic activity.

Members of the group organise a regular workshop on macro issues that takes place around the economics' schools in Lisbon.

2.4. Mathematical Analysis and Computation Finance

The **Mathematical Analysis and Computation Finance group** consists of 8 researchers whose expertise relies on a strong quantitative background that allows tackling open questions in a set of diversified pure and applied domains that nowadays require an exigent mathematical framework.

In mathematical finance: nonlinear Black-Scholes equation and option pricing with transaction costs; stochastic analysis, control theory and optimal stopping problems, and applications to portfolio theory, option pricing, and real options; risk measures in complex markets; numerical and mathematical analysis of partial integro-differential equations and delay differential equations in option pricing with memory effects; parallel solution methods for linear systems that enable to overcome the curse of dimensionality in financial applications.

In mathematical analysis with applications to Economics, Finance, Medicine and Physics: combinatorial game theory concerning impartial games and the generation of all complete lattices with a well-chosen initial set of combinatorial games; approximation of parabolic PDEs arising in finance; evolution equations associated with strongly continuous Markov processes and controlled versions of such equations, with optimal control problems in view; numerical and mathematical analysis of partial differential equations of elliptic/parabolic type; parallel solution methods for linear systems arising in the solution of partial differential and integro-differential equations with biomedical applications; dispersive differential equations with quantum mechanics and dynamics of wave propagation in dispersive media in view.

2.5. Microeconomics

The **Microeconomics group** consists of 19 researchers, and most of them are also full-time lecturers at public universities. The group conducts both theoretical and applied research using lab and field experimental methods and non-experimental survey data. Three research areas have been particularly productive.

In Urban Economics, with focus on transport (efficiency and distributional effects of transportation policies on urban form and mode choices; linkages between transport investment, agglomeration economies, and economic performance) and on regional development (causes of spatial disparities in regional development and socio-economic outcomes). Previous work resulted in an extensive list of publications and in the near future, the group aims at examining the relationship between the expansion of the road network and the urban spatial structure in Portugal over the last 30 years.

In the field of Behavioural and Experimental Economics, previous work dealt with testing matching mechanisms in the lab, as well as investigating the role of information in coordination,

cooperation, and competition games. Also, field and lab experiments investigate gender differences in economic decision-making and explore various institutional and policy interventions that possibly reduce the gender gap inefficiencies in labour markets. For the near future, the group aims at linking overconfidence to other aspects of decision-making and real world outcomes, with a focus on information processing and group dynamics. These experiments will be conducted at XLAB – Behavioural Research Lab.

At last, International Trade, whose main contributions focus on multi-country dynamic trade models to study entry and exit from export markets, on the relevance of geography for multinational production, on exporters' strategies, and on the effects of managers' mobility on trade performance. For the near future, we aim at quantifying the effects of trade and labour market integration in the context of economic integration.

2.6. Statistics and Actuarial Science

The **Statistics and Actuarial Science group** is composed of 13 researchers, 9 of whom are also full-time lecturers at ISEG.

In this group, we explore a variety of themes, such as uncertainty quantification and model selection/hypotheses testing using a Bayesian approach. Current projects in this line involve the application of uncertainty quantification techniques to economic models and Bayesian hypotheses testing in the context of proportions. In another ongoing project, we focus on bivariate counting distributions with the objective of modelling dependence of risks in actuarial science and its implications on ratemaking. Yet another research topic focuses on the optimal reinsurance strategy from the cedant's point of view when the risks for which reinsurance is sought are dependent. In this topic, we consider several optimization criteria, from single to multi-period models, and use approaches related to the theory of stochastic control. Finally, there are several ongoing projects in the area of ruin theory.

3. Publications

a) Articles

In 2022 REM published 126 articles in peer reviewed journals, as listed in the Appendix. REM members published in several **top journals** such as:

Economic Journal
Dynamic Games and Applications
Energy Economics
Ergodic Theory and Dynamical Systems
European Journal of Operational Research
Experimental Economics
Industrial and Corporate Change
Journal of Business and Economic Statistics
Journal of Development Economics
Journal of Economic Dynamics and Control
Journal of International Money and Finance
Journal of Money, Credit and Banking

Journal of Political Economy
 Journal of Statistical Physics
 Journal of the American Statistical Association
 Oxford Bulletin of Economics and Statistics
 Research Policy
 Urban Studies

b) Working papers

REM published 43 WPs in 2022, in its WP Series and at the date of the Report, published 43 WP in 2023. ([rem wps](#))

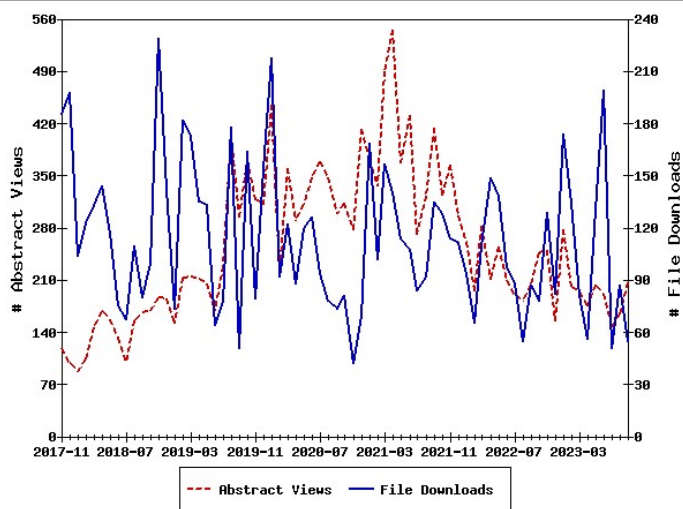
REM WPs are indexed in IDEAS/EconPapers: [ideas](#)

The Figure below contains access statistics for REM's Working Paper Series (up to September 2023).

Access Statistics for Working Paper Series

Working Paper Series	File Downloads			Abstract Views				
	2023 09	3 months	12 months	Total	2023 09	3 months	12 months	Total
Working Papers REM ISEG - Lisbon School of Economics and Management, REM, Universidade de Lisboa	55	193	1,256	8,067	206	518	2,411	17,998

There are currently 287 items in this series, of which 287 are downloadable.



4. Conferences, seminars and workshops

Afonso, A., Alves, J., Jalles, J.
 10th UECE Conference on Economic and Financial Adjustments. July 22, 2022. ISEG/UL Lisbon, Portugal. [Link to conference](#)

Workshop from project TiTuSS: [Transportes, Território e Economia](#), September 21, 2022.



On the profitability of selfish blockchain mining under consideration of ruin - 25/05/2022 - 11h, 25 May

Congresso 75 anos IAP, 24 May 2022

FIMA 2022 - On the interplay between Finance and Insurance Mathematics, 23-24 May

New trends in Lyapunov exponents, 7-11 February 2022

Lisbon Economics and Statistics of Education, 20-21 January 2022

5. Ph.D. programs

REM currently hosts together with ISEG several Doctoral programs, notably: Economics; Applied Mathematics for Economics and Management; and Development Studies.

The (co-)coordination of these three programs is done by REM members while the teaching of the first two programs is also mainly done by REM members. In addition, REM is also linked to the Ph.D. in Management and to the Ph.D. in Economic and Social History as one of the host institutions.

The Ph.D. courses have been accredited for six years by the Portuguese national agency A3ES ("Agência de Avaliação e Acreditação do Ensino Superior", Agency for Assessment and Accreditation of Higher Education - A3ES). The PhD in Economics and the PhD in Applied Mathematics for Economics and Management were accredited for six years in 31/7/2020. The PhD in Management was also accredited for six years after 2019.

Ph.D. in Economics

The Ph.D. in Economics is designed for those who are looking for an advanced education and wish to carry out research in Economics, macro- or micro-related, in preparation for a highly qualified role in the public or private sector, university teaching and research, the leadership and management of national and international organizations, consulting, training, and research projects and studies. It is a research-focused plan that prepares for a profession that demands a high level of technical and scientific qualification, enabling graduates notably to pursue an international career.

Ph.D. in Applied Mathematics for Economics and Management

The Ph.D. in Applied Mathematics for Economics and Management is designed to meet the needs of those who wish to enhance their proficiency of mathematical methods and techniques in order to make original contributions in the fields within the scope of knowledge of this Ph.D. Programme or to develop and implement solutions for problems in the areas of Economics and

Management. It targets both those who want to pursue an academic career and professionals who want to develop the skills to devise and implement innovative quantitative approaches for real-world problems.

Ph.D. in Development Studies

The Ph.D. in Development Studies is a research-focused program in the interdisciplinary area of the process of economic, social and political changes in modern societies. This program, originally hosted by ISEG, became after 2017/18 a joint PhD of ISEG (School of Economics and Management), ICS (Institute of Social Sciences), IGOT (Institute of Geographic and Spatial Planning) and ISA (School of Agriculture) of Universidade de Lisboa, with some changes in its content, recently approved by the national agency A3ES.

6. Recent funded research projects

FCT research projects in REM

UECE as Principal Organization

- *PTDC/EGE-ECO/28814/2017 - Markups, Fluctuations, and Financial Frictions*
Oct 1, 2018 - Sep 30, 2022, Principal Researcher Luís Costa. Funding €239.543,00
Luís Costa (UECE) - PI, Paulo Brito (UECE) - Co-PI, Carlos Santos (Nova SBE), Cláudia Custódio (Imperial College B.S.), Huw Dixon (Cardiff B.S.)
- *PTDC/EGE-ECO/28805/2017 - Transport Infrastructure and Urban Spatial Structure: Economic, Social and Environmental Effects*
Oct 1, 2018 - Mar 31, 2022, Principal Researcher Patrícia Melo. Funding €229.539,27
Patrícia Melo (UECE) - PI, João de Abreu e Silva (IST-ID) - Co-PI, Sofia Franco (UECE and NOVA SBE), Marcos Correia (IST-ID)
- *PTDC/EGE-IND/31081/2017 - Firms, competition and social welfare in a global economy*
Oct 1, 2018 - Sep 30, 2022, Principal Researcher Filomena Garcia. Funding €239.990,02
Filomena Garcia (UECE) - PI, Gustavo Torrens (Indiana University) - Co-PI, Jose Manuel Paz y Mino (Indiana University), Cecilia Vergari (Università di Bologna), Joana Resende (FEUP), Muxin Li (Indiana University)
- *PTDC/GES-GCE/4046/2021 - Transport Infrastructure and Urban Spatial Structure: Economic, Social and Environmental Effects*
Mar 1, 2022 - Feb 28, 2025, Principal Researcher Patrícia Melo. Funding €153.304,56
- *PTDC/EGE-ECO/5020/2021 - Representação feminina e dinâmicas do mercado laboral: uma abordagem experimental*
Jan 1, 2022 - Dez 31, 2024, Principal Researcher Sandra Maximiniano. Funding €243.391,87
- *2022.01500.PTDC - Os impactos socioeconómicos da migração de retorno*
01 fev 2023 - 31 jul 2024. Principal Researcher João Pereira do Santos. Funding €49.437,87

- *2022.09333.PTDC - Percepções de (in)justiça: mercado trabalho, políticas contra a discriminação e algoritmos*

01 fev 2023 - 31 jan 2026. Principal Researcher Joana Pais. Funding €212.816,27

UECE as Participating Organization

- *PTDC/EGE-ECO/29365/2017 - Welfare Intervention by the State and Economic Resilience in Portugal*

15 Out 2018 – 14 Out 2022. Principal Researcher Marta Simões. Funding €8762,50

Marta Simões (Universidade de Coimbra) - PI, Co-PI - Adelaide Duarte (Universidade de Coimbra); João de Sousa Andrade (Universidade de Coimbra); Sílvia Sousa (Universidade do Minho); Maria Teresa Garcia (UECE)

- *PTDC/GES-TRA/3353/2020 - Mobility as a Service and Socio-Territorial Inequalities*

01 Mar 2021 – 29 Feb 2024. Principal Researcher David Vale. Funding €41591,70€

David Vale (Faculdade de Arquitectura da Universidade de Lisboa) - PI, Filipe Moura (Co-PI), Cristina Henriques, Cristina Cavaco, João Santos, Luís Carvalho, Patrícia Melo (UECE), Rosa Félix, Vítor Escária (UECE).

- *PTDC/ECI-TRA/4841/2021 – Repensar a Mobilidade, Padrões de Localização e Forma Urbana no Pós Pandemia de Covid-19. Os Efeitos do Teletrabalho e E-shopping*

02 Jan 2022 – 01 Jan 2025. Principal Researcher João de Abreu e Silva. Funding €245.592,15

João de Abreu e Silva (Instituto Superior Técnico – ID) – PI, (IGOT), Patrícia Melo (UECE).

CEMAPRE as Principal Organization

- *PTDC/MAT-STA/7455/2020 - Análises de dados longitudinais de grande volume em Educação*

Sept 1, 2020- Aug 2023, Principal Researcher Maria Eugénia Ferrão. Funding: 173.364,00€

Maria Eugénia Ferrão (CEMAPRE) – PI, Co-PI Paulo Fazendeiro e Maria Sousa (Instituto de Telecomunicações)

- *PTDC/EGE-IND/2175/2020 - Medição e mitigação do risco climático: uma abordagem financeira*

Sept 1, 2020- Aug 2023, Principal Researcher Carlos Oliveira. Funding: 152.451,33€

Carlos Oliveira (CEMAPRE) – PI, Co-PI - Manuel Guerra (CEMAPRE)

- *PTDC/EGE-ECO/7850/2020 - Acessibilidade aos Cuidados de Saúde dos Idosos Portugueses – Uma análise Económica Espacial*

Principal Researcher Isabel Proença (CEMAPRE). Funding € 135.487,58

Isabel Proença (CEMAPRE) – PI, Co-PI - Filipa Sampayo (ISCTE)

- *EXPL/EGE-ECO/0886/2021 - Optimal-Re: Optimal reinsurance with dependencies*

PI: Alexandra Moura. Total Funding: 49 836.62€

01/01/2022 to 31/12/2023

- [EXPL/EGE-IND/0351/2021 - Sustainable Management of Fisheries with Stochastic Differential Equations](#)

PI: Nuno Brites. Total Funding: 31765€
01/01/2022 to 30/06/2023

CEMAPRE as Participating Organization

- [PTDC/MAT-PUR/29126/2017 – ExLy: New trends in Lyapunov exponents](#)

Sep 1, 2018 - Aug 31, 2021. Principal Researcher Pedro Miguel Nunes da Rosa Dias Duarte (FCiências ID). Funding €231.546,68

Pedro Miguel Duarte (FCiências ID) – PI, Co-PI - João Lopes Dias (CEMAPRE-ISEG/ULISBOA), Universidade da Beira Interior (UBI), Universidade do Minho (UM).

- [POCI-01-0145-FEDER-028234 – VOLANTIS: Advances in Nonlinear Time Series Econometric Modelling and Applications](#)

Oct 1, 2018 - Sep 30, 2021. Principal Researcher Cristina Alexandra de Oliveira Amado (Universidade do Minho). Funding €173.245,62

Cristina de Oliveira Amado (Universidade do Minho) – PI, Co-PI - Esmeralda A. Ramalho (CEMAPRE-ISEG/ULISBOA).

- [PTDC/MAT-PUR/1788/2020 – Sistemas Dispersivos e Elípticos Não Lineares – novos horizontes em regularidade, dinâmica e análise assintótica](#)

Mar 01, 2021 - Feb 29, 2024. Principal Researcher Hugo Ricardo Nabais Tavares (IST- ID).

Funding €249.512,18

Hugo Ricardo Nabais Tavares (IST- ID) – PI, Filipe Oliveira (CEMAPRE-ISEG/ULISBOA), FCiências.ID

- [PTDC/SAU-DES/4753/2020 - Atividade Física e Regulação da Saúde Musculoesquelética em Mulheres com Terapia Hormonal para o Cancro da Mama](#)

Principal Researcher Maria Batista (CIPER/FMH/ULisboa). Funding € 249.552,50€

Maria Batista (CIPER/FMH/ULisboa) - PI, Co-Pi, Nicoletta Rosati (CEMAPRE)

- [PTDC/HAR-HIS/7627/2020 - Ensinaamentos a partir dos mercados de capitais de uma economia periférica: Portugal, 1837-1913](#)

Principal Researcher Rita Sousa. Funding € 234.633,49€

PI - Rita Sousa, Co-Pi, Pedro Neves, Maria Dias (GHES/ISEG/ULisboa) e Nuno Sobreira (CEMAPRE).

- [PTDC/EMD-EMD/1230/2021 - Fluid-structure interaction for functional assessment of ascending aortic aneurysms: a biomechanical-based approach toward clinical practice](#)

Principal Researcher José Xavier. Total Funding: 249.371,00€

01/01/2022 to 31/12/2024

- [Os benefícios sociais e económicos da igualdade salarial entre mulheres e homens](#)

Principal Researcher Heloísa Perista

Financiador: Comissão para a Cidadania e Igualdade de Género - EEA Grants. Total Funding: 59995,20€

15/09/2020 to 15/03/2022



- *PTDC/MAT-PUR/29126/2017 - ExLy: New trends in Lyapunov exponents*
Principal Researcher Pedro Miguel Nunes da Rosa Dias Duarte. Total Funding 231.546,68€
01/09/2018 - 30/06/2022
- *PTDC/GES-GCE/4046/2021 - Crescimento ou Relocalização? O papel da acessibilidade na localização da atividade económica da escala micro à macro*
Principal Researcher Patrícia Sofia Coelho de Melo. Total Funding: 35239,37€
1/9/2022 to 31/8/2025
- *PTDC/MAT-PUR/1788/2020 - Sistemas Dispersivos e Elípticos Não Lineares- novos horizontes em regularidade, dinâmica e análise assintótica"*
Principal Researcher Hugo Ricardo Nabais Tavares

7. REM Award

REM – Research in Economics and Mathematics, launched in 2019 the **REM Young Researcher Award**, with a monetary value of 1000 EUR. The prize awards the best Master thesis defended at ISEG, until 31st December of the civil year, and whose supervisor is a member of REM in one ISEG Master courses. A jury set up for the purpose will make the selection. The members of the jury are a member of REM, who will preside, and two other researchers from other Universities.

Award recipients

2022

Prize recipients (ex-aequo)	Thesis	Supervisors	Master Course
Daniel Baptista	STOCHASTIC DIFFERENTIAL EQUATIONS DEATH RATES MODELS: THE PORTUGUESE CASE	Nuno Brites	Actuarial Science
Gabriela Fraga	GOVERNMENT SPENDING EFFICIENCY IN LATIN AMERICA	António Afonso	Economics
Miguel Reis	STOCHASTIC DIFFERENTIAL EQUATIONS HARVESTING MODELS: SIMULATION AND NUMERICAL SOLUTION	Nuno Brites	Mathematical Finance



8. Staff

REM Executive board

António Afonso, Principal Researcher, President of REM

Manuel Guerra, Board member

Teresa Garcia, Board member

CEMAPRE Board

Manuel Guerra, Scientific Coordinator

Alexandra Moura, Board member

Paulo Parente, Board member

Raquel Bernardino, Board member

João Janela, Board member

UECE Board

António Afonso, Principal Researcher, President of UECE

Cândida Ferreira, Board member

Teresa Garcia, Board member

Members



Ana Paula Fernandes

Ph.D. in Economics, University of Essex, UK (2007)

International Trade, Global Value Chains, Development Economics, Labor Economics, Industrial Organization, Applied Microeconomics



Ana Sofia Monteiro

PhD in Economics, Faculty of Economics - University of Coimbra, Portugal (2022)

Financial economics, econometrics, portfolio management, sustainability in finance, sovereign risk, and sovereign debt dynamics



Adriana Cornea-Madeira

Doctorate, Economy, Economics, Aix-Marseille U., France (2008)

Bootstrap, time series, COVID, macroeconomics, finance



Agnieszka Bergel

Doutoramento em Matemática Aplicada à Economia e Gestão, Universidade de Lisboa, Portugal (2013)

Actuarial science, statistics, risk theory, financial mathematics



Alberto Lopez Martín

Doutoramento em matemática, Universität Zürich, Switzerland (2010)

Algebraic/tropical geometry, auction and matching theory, combinatorial optimization



Alda Carvalho

Doutoramento em Matemática Aplicada à Economia e Gestão, Universidade Técnica de Lisboa, Portugal (2010)

Time series



Alexandra Moura

Dottore di Ricerca in Mathematical Engineering, Politecnico di Milano, Italy (2007)

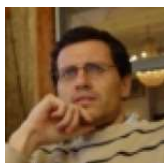
Applied Mathematics, Mathematical Engineering, Numerical Analysis, Statistics and Actuarial Sciences



Alfredo D Egidio dos Reis

PhD in Actuarial Mathematics and Statistics, Heriot-Watt University, UK (1994)

Actuarial science, risk theory, credibility theory, ruin theory



Álvaro Novo

PhD in Economics, University of Illinois at Urbana-Champaign, USA (2001)

Labor economics



Álvaro Manuel Pina

PhD in Economics, European University Institute, Italy (2001)

Fiscal policy in the European Monetary Union, Fiscal rules and institutions, Monetary integration and business cycles, macroeconomic modelling



Amélia Bastos

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal (1999)

Social economics, poverty and social exclusion, child poverty



António Afonso

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal (2002)

Applied Economics, Public Finances, Financial Economics, Fiscal Policy



Bruno T. da Rocha

PhD in Economics, University of Essex (2014)

Transport infrastructure and economic geography, systemic banking crises, quantitative economic history, comparative economics



Cândida Ferreira

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal (1996)

Monetary and Financial Economics, Financial Markets and the Macroeconomy, Financial Integration



Carlos Daniel Santos

PhD in Economics, London School of Economics and Political Science – University of London, UK (2008)

Data Science, Economics, Econometrics, Quantitative Marketing. Sub-areas: Firm dynamics, Productivity, Customer Markets.



Carlos Farinha Rodrigues

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal (2005)

Distribuição do Rendimento, Desigualdade e Pobreza; Política Social, Avaliação de Políticas Públicas, Redistribuição do Rendimento, Microsimulação de Políticas Sociais e Fiscais.



Carlos Oliveira

Doutoramento em Matemática, Instituto Superior Técnico, Portugal (2018)

Real Options Valuation, Optimal Stopping, Stochastic Optimal Control, Statistics and Actuarial Sciences



Caterina Mendicino

PhD in Economics, Stockholm School of Economics, Sweden (2006)

Macro-Financial Linkages, Monetary and Macro-Prudential Policy, General equilibrium models of banks and of the credit channel transmission mechanism



Esmeralda A Ramalho

PhD in Economics, University of Bristol, UK (2002)

Microeconometrics



Fernando F Gonçalves

PhD in Mathematics and Statistics, University of Edinburgh, UK (2007)

Financial mathematics and applied econometrics



Fernando Martins

Doutoramento em Economia, Universidade de Lisboa, Portugal (2015)

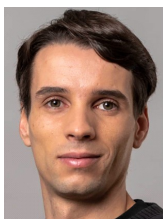
Microeconomics



Filipe Oliveira

Docteur en Mathématiques, Université Paris XI, France (2001)

Partial Differential Equations



Filipe Rodrigues

Programa doutoral em Matemática Aplicada das Universidades Minho, Aveiro e Porto, Aveiro, Portugal (2019)

Optimization under uncertainty, Robust optimization, Stochastic Programming, Maritime transportation and port planning operations



Filomena Garcia

Docteur en Sciences Économiques, Université Catholique de Louvain, Belgium
(2006)

Industrial Organization, Game Theory, Matching, Networks, Banking, Economics of Education



Francisco Louçã

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal
(1996)

Macroeconomic dynamics, Complexity, Evolutionary economics, History of economic thought



Francisco Nunes

Doutoramento em Economia, Universidade Técnica de Lisboa, Portugal
(2005)

Pobreza e Exclusão Social, Sistemas de Segurança Social, Solidariedade e Acção Social, Protecção Social, Rendimento Mínimo Garantido



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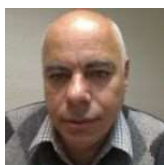
Combinatorial Optimization, Metaheuristics



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Mathematical finance, Term Structure Models, Interest rate & Credit Risk Models, Convexity Adjustments, Structured Products



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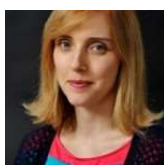
Capital Markets, Dividend and taxes, Capital Markets Efficiency, Bank and Assurance, Financial System and Risk, Financial Economics



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Annex – publications

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