# iscte <br> INSTITUTO UNIVERSITÁRIO DE LISBOA 

## Ciência-IUL

## Public Profile

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## Vivaldo Manuel Pereira Mendes

## Professor Associado

Department of Economics (IBS)

Associate researcher without FCT funding
BRU-Iscte - Business Research Unit (IBS)


## Contacts

## E-mail <br> Office <br> Telephone <br> Post Box <br> Curriculum

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Vivaldo Mendes has been a Professor of Economics at the Instituto Universitário de Lisboa (ISCTE-IUL) since 1998. He holds a Ph.D. in Economics from the University of Sussex and a degree in Economics from the Instituto Superior de Economia e Gestão of the University of Lisbon. He has held several university management positions in the last two decades always at ISCTE-IUL, from Vice-Rector between 2005 and 2009, President of the General Assembly between 2002 and 2005, Director of the Department of Economics between 2010 and 2014, elected member of the General Assembly between 2000 and 2002, member of the Scientific Council between 2010 and 2014, and Director of the Master in Economics between 2010 and 2013. He was also a member of two specialized committees of the Council of Rectors of Portuguese Universities (CRUP) representing ISCTE-IUL between 2005 and 2009, and a guest lecturer at the Higher Institute of Military Studies (IESM) between 2010 and 2016. Vivaldo Mendes has taught various subjects over the years, ranging from macroeconomics, introduction to computation for economics and finance, monetary and financial economics, to international economics, microeconomics, and game theory. He has published in macroeconomics, optimal monetary policy, and complex dynamical systems. He is a committed supporter of the "open-source software" movement and an active member of the Julia computing language. For more information, see his website:
https://vivaldomendes.org

## Research Interests

Macroeconomics, Fiscal and Monetary Policy, Applied Computation to Economics

| Academic Qualifications |  |  | Period |
| :--- | :--- | :--- | :--- |
| University/Institution | Type | Degree | 1998 |
| University of Sussex | PhD | Economia | 1991 |
| University of Sussex | M.Sc. | Economia | 1987 |
| Instituto Superior de Economia e <br> Gestão - UTL | Licenciate | Economia |  |

## External Professional Activities

| Period | Employer | Country | Description |
| :--- | :--- | :--- | :--- |
| $2012-2016$ | COST Action IS1104 <br> (European Commission)- The <br> EU in the new complex <br> geography of economic <br> Systems: models, tools and <br> policy evaluation, (DE, EE, EL, <br> ES, FR, HU, LU, NL, PT, SE, SK, <br> UK) | -- | Researcher and vice-coordinator in <br> Portugal |
| 2010-2016 | IESM (Higher Institute for <br> Military Studies) | -- | Professor |

## Other Professional Activities

| Period | Activity Type | Activity Description | More Info URL |
| :--- | :--- | :--- | :--- |
| 2021-2022 | Sustained professional work | Macroeconomics I (Bachelor degree in <br> Economics: L0271): 12 Pluto notebooks <br> using the Julia Language (see menu <br> Slides and Exercises" in the website <br> below) | View More |
| 2021-2022 | Sustained professional work | Macroeconomics I (Bachelor degree in <br> Economics: L0271): 12 sets of slides (see <br> menu Slides and Readings in the link) | View More |
| 2020-2022 | Sustained professional work | Advanced Topics in Macroeconomics II: <br> (PhD course: 03107): A Brief <br> Introduction to DSGEM (a 60 pages <br> lecture notes document to support PhD <br> students) | View More |
| 2017-2022 | Sustained professional work | Introduction to Computation for <br> Economics and Finance (Master short <br> course: 02877): 6 Pluto notebooks in | View More |
| Julia computing language |  |  |  |


| 2017-2022 | Sustained professional work | Advanced Topics in Macroeconomics II: (PhD course: 03107): 12 Pluto and Jupyter notebooks in Julia computing language) | View More |
| :---: | :---: | :---: | :---: |
| 2017-2022 | Sustained professional work | Advanced Topics in Macroeconomics II: (PhD course: 03107): 6 sets of slides about DSGEM | View More |
| 2017-2022 | Sustained professional work | Macroeconomics (Bachelor degree in Finance and Acounting: L0236): 12 sets of slides (see menu Slides and Readings in the link) | View More |
| 2017-2022 | Participation in business professional associations, professional standard setting of policy-making bodies | Member of the International Society of Difference Equations | View More |
| 2019-2022 | Documented continuing professional education experiences | Attendance of JuliaCon 2021 (Annual conference of the Julia programming language) | View More |
| 2017-2020 | Sustained professional work | Macroeconomics (course in the Master of Economics: M8674): 8 Matlab scripts and 2 Julia scripts | View More |
| 2017-2020 | Sustained professional work | Macroeconomics (course in the Master of Economics: M8674): 12 set of slides and exercises (see menu "Readings, Slides and Problems") | View More |
| 2017-2020 | Sustained professional work | Macroeconomics I (Bachelor degree in Economics: L0271): 12 sets of slides (see menu "Textos, Slides e Exercícios" | View More |
| 2020 | Consulting activities | Attendance of JuliaCon 2020 (Annual conference of the Julia programming language) | View More |
| 2019 | Documented continuing professional education experiences | Attendance of JuliaCon 2019 (Annual conference of the Julia programming language) | View More |

## Teaching Activities

| Teaching Year | Sem. | Course Name | Degree(s) | Coord |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $2024 / 2025$ | $2^{\circ}$ | Macroeconomics |  | Bachelor Degree in Finance and <br> Accounting; Bachelor Degree in <br> Management; | Yes |
| $2024 / 2025$ | $2^{\circ}$ | Macroeconomics | Master Degree in Economics; | Yes |  |
| $2024 / 2025$ | $1^{\circ}$ | Introduction to Computation for <br> Economics | Institutional Degree in ISCTE <br> Business School; | Yes |  |
| $2024 / 2025$ | $1^{\circ}$ | Advanced Topics in Macroeconomics | Doctorate Degree (PhD) in <br> Economics; | No |  |
| $2024 / 2025$ | $1^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and | Yes |  |
| Accounting; Bachelor Degree in |  |  |  |  |  |
| Management; |  |  |  |  |  |


| 2024/2025 | $1^{\circ}$ | Macroeconomics I | Bachelor Degree in Economics; | Yes |
| :---: | :---: | :---: | :---: | :---: |
| 2023/2024 | $2^{\circ}$ | Research Seminar in Economics II | Master Degree in Economics; | No |
| 2023/2024 | $2^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and Accounting; Bachelor Degree in Management; | Yes |
| 2023/2024 | $2^{\circ}$ | Macroeconomics | Master Degree in Economics; | Yes |
| 2023/2024 | $1^{\circ}$ | Introduction to Computation for Economics | Institutional Degree in ISCTE Business School; | Yes |
| 2023/2024 | $1^{\circ}$ | Advanced Topics in Macroeconomics II | Doctorate Degree (PhD) in Economics; | No |
| 2023/2024 | $1^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and Accounting; Bachelor Degree in Management; | Yes |
| 2023/2024 | $1^{\circ}$ | Macroeconomics I | Bachelor Degree in Economics; | Yes |
| 2022/2023 | $2^{\circ}$ | Research Seminar in Economics II | Master Degree in Economics; | No |
| 2022/2023 | $2^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and Accounting; Bachelor Degree in Management; | Yes |
| 2022/2023 | $2^{\circ}$ | Macroeconomics | Master Degree in Economics; | Yes |
| 2022/2023 | $1^{\circ}$ | Introduction to Computation for Economics | Institutional Degree in ISCTE Business School; | Yes |
| 2022/2023 | $1^{\circ}$ | Advanced Topics in Macroeconomics II | Doctorate Degree (PhD) in Economics; | No |
| 2022/2023 | $1^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and Accounting; Bachelor Degree in Management; | Yes |
| 2022/2023 | $1^{\circ}$ | Macroeconomics I | Bachelor Degree in Economics; | Yes |
| 2021/2022 | $2^{\circ}$ | Research Seminar in Economics II | Master Degree in Economics; | No |
| 2021/2022 | $2^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and Accounting; Bachelor Degree in Management; | Yes |
| 2021/2022 | $2^{\circ}$ | Macroeconomics | Master Degree in Economics; | Yes |
| 2021/2022 | $1^{\circ}$ | Introduction to Computation for Economics | Institutional Degree in ISCTE Business School; | Yes |
| 2021/2022 | $1^{\circ}$ | Advanced Topics in Macroeconomics II | Doctorate Degree (PhD) in Economics; | No |
| 2021/2022 | $1^{\circ}$ | Macroeconomics I | Bachelor Degree in Economics; | Yes |


| $2019 / 2020$ | $2^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and <br> Accounting; ;achelor Degree in <br> Management; | Yes |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2019/2020 | $1^{\circ}$ | Introduction to Computation for <br> Economics | Institutional Degree in ISCTE <br> Business Schoof; | Yes |
| $2019 / 2020$ | $1^{\circ}$ | Macroeconomics | Bachelor Degree in Finance and <br> Accountin;; Bachelor Degree in <br> Management; | Yes |
| $2019 / 2020$ | $1^{\circ}$ | Macroeconomics 1 | Bachelor Degree in Economics; | Yes |
| $2019 / 2020$ | $1^{\circ}$ | Macroeconomics | Master Degree in Economics; | Yes |

## Supervisions

- Ph.D. Thesis


## - Ongoing

|  | Student Name | Title/Topic | Language | Status | Institution |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | Ihor Titov | Capital taxation and <br> wealth inequality | English | Developing | ISCTE-IUL |
| 2 | Ricardo Marcelo Gouveia <br> Mendes Martins | Interests, growth and <br> returns: something is <br> missing | Portuguese | Developing | ISCTE-IUL |
| 3 | Telma Gonçalves | -- | English | Developing | ISCTE-IUL |
| 4 | João Gonçalo Lima Braz <br> Vieira Pinto | Hiding or missing: essays <br> in search for inflation | English | Developing | ISCTE-IUL |

## - Concluded

|  | Student Name | Title/Topic | Language | Institution | Concluding <br> Year |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | Orlando Manuel da <br> Costa Gomes | Dinâmica Comparativa e <br> Crescimento de Longo Prazo <br> em Modelos com Economias <br> Interdependentes | Portuguese | ISCTE-IUL | -- |
| 2 | Sofia de Sousa Vale | Crescimento e Convergência <br> da Economia Portuguesa, <br> $1950-2000$ | Portuguese | ISCTE-IUL | -- |
|  |  |  |  |  |  |

## - M.Sc. Dissertations

## - Ongoing

|  | Student Name | Title/Topic | Language | Status | Institution |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | Dapeng Nie | -- | English | Developing | ISCTE-IUL |

## - Concluded

| Student Name | Title/Topic | Language | Institution |  |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Nuno Rodrigo Basilio <br> Soares | Hunting for Bubbles: A <br> Predictive Model of New York <br> City's Real EstateMarket | English | ISCTE-IUL |

## - M.Sc. Final Projects

## - Concluded

|  | Student Name | Title/Topic | Language | Institution |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Ana Paula Pinto <br> Delgado | Gestão de Tesouraria em <br> Year |  |  |
| Clientes: Depósito Remoto | Portuguese | ISCTE-IUL | 2013 |  |

Scopus

## Publications

## - Scientific Journals

- Scientific journal paper

1 Gomes, O. \& Mendes, V. (2011). Sluggish information diffusion and monetary policy shocks. Economics Bulletin. 31 (2), 1275-1287

- Times Cited Web of Science®: 1

2
Mendes, D. A. \& Mendes, V. (2008). Stability analysis of an implicitly defined labor market model. Physica A. 387 (15), 3921-3930

- Times Cited Web of Science®: 1
- Times Cited Scopus: 1
- Times Cited Google Scholar: 3

3
Gomes, O., Mendes, D. A. \& Mendes, V. (2008). Bounded rational expectations and the stability of interest rate policy. Physica A. 387 (15), 3882-3890

- Times Cited Web of Science®: 1
- Times Cited Scopus: 3
- Times Cited Google Scholar: 3

4
Gomes, O., Mendes, V., Mendes, D. A. \& Sousa Ramos, J. (2007). Chaotic dynamics in optimal monetary policy.
European Physical Journal B. 57 (2), 195-199

- Times Cited Scopus: 2
- Times Cited Google Scholar: 4

5
Mendes, D. A. \& Mendes, V. (2005). Control of chaotic dynamics in an OLG economic model. Journal of Physics: Conference Series (JPCS). 23 (1), 158-181

- Times Cited Web of Science®: 7
- Times Cited Scopus: 10
- Times Cited Google Scholar: 21


## - Books and Book Chapters

- Book chapter

1
Mendes, D. A. \& Mendes, V. (2014). Parametric Models in Spatial Econometrics: A Survey. In Pasquale Commendatore, Saime Kayam, Ingrid Kubin (Ed.), Complexity \& Geographical Economics: Topics and Tools. (pp. 3-18). Berlin, Germany: Springer.

- Times Cited Scopus: 3
- Times Cited Google Scholar: 2

2
Mendes, V. \& Mendes, D. A. (2011). Adaptive Learning and Central Bank Inattentiveness in Optimal Monetary Policy. In Peixoto, Mauricio Matos; Pinto, Alberto Adrego; Rand, David A. (Ed.), Dynamics, Games and Science I, II. (pp. 0-0).: Springer .

Mendes, D. A., Mendes, V., Sousa Ramos, J. \& Gomes, O. (2009). Computing Topological Entropy in Asymmetric Cournot Duopoly Games with Homogeneous Expectations. In Saber Elaydi (Trinity University), Kazuo Nishimura (Kyoto University), Mitsuhiro Shishikura (Kyoto University), Nobuyuki Tose (Keio University) (Ed.), Advances In Discrete Dynamical Systems. (pp. 169-178). Kyoto, Japão: World Scientific.

## - Conferences/Workshops and Talks <br> - Publication in conference proceedings

1
Mendes, D. A., Ferreira, N. B. \& Mendes, V. (2023). Data frequency and forecast performance for stock markets: A deep learning approach for DAX index. In Rocío Martínez-Torres, Sergio Toral (Ed.), Proceedings of the 5th International Conference on Advanced Research Methods and Analytics (CARMA2023). (pp. 39-39). Sevilha: Editorial Universitat Politècnica de València.

2 Mendes, D. A., Mendes, V., Ferreira, N. B. \& Menezes, R. (2010). Symbolic shadowing and the computation of entropy for observed time series. In Misako Takayasu, Tsutomu Watanabe, Hideki Takayasu (Ed.),
Econophysics Approaches to Large-Scale Business Data and Financial Crisis. (pp. 227-246). Tokyo: Springer Japan.

- Times Cited Google Scholar: 1

3
Mendes, V., Gomes, O. \& Mendes, D. A. (2009). Optimal Monetary Policy with Partially Rational Agents. In Martin Bohner and Memet Unal (Ed.), Proceedings of the 14th International Conference on Difference Equations and Applications - ICDEA 14. (pp. 187-194). Istambul: Bahcesehir University Publishing Company.

## - Talk

Ferreira, N. B., Mendes, D. A. \& Mendes, V. (2024). Does data frequency mean better stock market forecasting performance? The German and US case study. 1st Artificial Intelligence in Finance Conference (AIIFC).

2 Mendes, D. A., Mendes, V. \& Ferreira, N. B. (2023). Multivariate forecast for financial stock prices: A hybrid VAR-LSTM deep learning model. COMPSTAT 2023.

Mendes, D. A. \& Mendes, V. (2023). Nonlinear factor analysis for large sets of macroeconomic time series. COMPSTAT 2023.

Mendes, D. A., Ferreira, N. B. \& Mendes, V. (2023). Could data frequency imply better forecast performance for stock markets? A case study for G7 economies. 9th International conference on Time Series and Forecasting.

Mendes, D. A. \& Mendes, V. (2021). Occasionally Binding Constraints in the New Keynesian Model. ICDEA 2021.

Mendes, D. A., Ferreira, N. B. \& Mendes, V. (2020). A comparative time series analysis to improve US Stock Market forecast performance by using univariate and multivariate deep learning algorithms . CARMA20.

Mendes, V. \& Mendes, D. A. (2019). Occasionally Binding Constraints in the New Keynesian Model: Solution by Time Iteration. JuliaCon2019.

Mendes, D. A. \& Mendes, V. (2019). A NONLINEAR FACTOR ANALYSIS FOR LARGE SETS OF MACROECONOMIC TIME SERIES. JuliaCon2019.

Mendes, D. A., Ferreira, N. B. \& Mendes, V. (2019). Could the supply of a chain big data analytics market register a better forecast performance for the Stock Markets? - A comparative software analysis. ITISE 2019.

Costa, A., Ramos, F.R., Mendes, V. \& Mendes, V. (2019). Forecasting financial time series using deep learning techniques. IO2019-XX Congresso da APDIO 2019.

- Times Cited Google Scholar: 6

Ramos, F.R., Costa, A., Mendes, V. \& Mendes, V. (2018). Forecasting financial time series: a comparative study. JOCLAD 2018, XXIV Jornadas de Classificação e Análise de Dados.

Costa, A., Mendes, V., Ramos, F.R. \& Mendes, V. (2018). Forecasting financial time series: a comparative study. IO2018 - XIX Congresso da APDIO 2018.

- Times Cited Google Scholar: 6

Mendes, V. (2016). O Orçamento de Estado 2016. Grande Conferência Orçamento de Estado 2016.
Mendes, D. A. \& Mendes, V. (2014). Forecasting the Iberian Electricity Market Demand by using Nonlinear Time Series Tools. International Interdisciplinary Business-Economics Advancement Conference (IIBA 2014).

Mendes, V. \& Mendes, D. A. (2014). Revisiting Chaotic Interest Rate Rules. International Interdisciplinary Business-Economics Advancement Conference (IIBA 2014).

Gonçalves, T., Mendes, V. \& Mendes, D. A. (2014). Nonlinear Fiscal Multiplier: Evidence From Portugal. 3rd International Conference on Dynamics, Games and Science.

Mendes, D. A. \& Mendes, V. (2014). Volatility and Risk Estimation with Nonlinear Methods. 3rd International Conference on Dynamics, Games and Science.

Mendes, D. A. \& Mendes, V. (2013). Stability in Nonlinear Macroeconomics and the Role of Policy. CFE'2013, Computational Financial Econometrics.

Mendes, D. A. \& Mendes, V. (2013). Classifying nonlinearities in ?nancial time series. CFE'2013, Computational Financial Econometrics.

Mendes, D. A. \& Mendes, V. (2013). Learning to play Nash in deterministic uncoupled dynamics. NED'2013 Nonlinear Economic Dynamics.

Mendes, D. A. \& Mendes, V. (2013). Nonlinear dynamics and social networks: some examples and applications in economics. COST Action IS1104 - The EU in the new economic complex geography, Madrid Meeting.

Mendes, D. A. \& Mendes, V. (2013). Empirical methods applied to regional economics . COST Action IS1104 The EU in the new economic complex geography, Lisbon Meeting.

Mendes, V., Mendes, D. A. (2012). Rational Bubbles and Economic Policy. ICDEA 2012 - International Conference on Difference Equations and Applications.

Mendes, D. A. \& Mendes, V. (2012). Cournot duopoly games with heterogeneous players. ICDEA 2012.

Mendes, V. (2012). O Que Fazer com a Dívida Pública?. O Que Fazer com a Dívida Pública: Prpopostas e Perspectivas, Conferência organizada por AE e NAE ISCTE-IUL, 26 Novembro 2012, Lisboa, ISCTE-IUL.

Mendes, V., Mendes, D. A. \& A. Guedes (2011). Characterization and prediction of the electricity demand in the Iberian peninsula by using nonlinear time series analysis. 5th CSDA International Conference on Computational and Financial Econometrics (CFE11).

Mendes, D. A. \& Mendes, V. (2011). A nonlinear factor analysis for large sets of macroeconomic time series. CFE11.

32 Mendes, D. A. \& Mendes, V. (2011). New results about triangular maps. NOMA11 - Nonlinear Maps and Applications .

Mendes, D. A. \& Mendes, V. (2011). Applications of dynamical systems in economy and biology. International Collquium Poincaré, Problems and Perspectives.

34 Mendes, V. \& Mendes, D. A. (2011). Learning to Play Nash in Uncoupled Deterministic Dynamics. International Workshop on Nonlinear Maps and their Applications -- NOMA 11.

Mendes, V., Mendes, D.A. (2011). New results for skew-product maps: Applications in Economics. NOMA'11Nonlinear Maps and Applications.

36 Mendes, V., Mendes, D. A. \& Orlando Manuel da Costa Gomes (2009). Are There Simple Adaptive Heuristics that Secure Nash Equilibria?. International Conference on Difference Equations and Applications.

Mendes, V., Mendes, D. A. \& Orlando Manuel da Costa Gomes (2008). Learning to Play Nash Equilibrium in Deterministic Uncoupled Dynamics. International Conference on Difference Equations and Applications.

Mendes, V., Mendes, D. A. \& Orlando Manuel da Costa Gomes (2008). Learning to Play Nash Equilibrium in Deterministic Uncoupled Dynamics. International Conference on "Dynamics \& Applications", in Honor of Mauricio Peixoto and David Rand.

## Academic Management Positions

Coordenador do $2^{\circ}$ Ano (2024-2026)
Unit/Area: [9081] Economics
Coordenador do $2^{\circ}$ Ano (2022-2024)
Unit/Area: [9081] Economics
Membro (Docente) (2016-2020)
Unit/Area: Plenário da Comissão Científica

Membro (Docente) (2016-2020)
Unit/Area: Comissão Científica

Director (2011-2012)
Unit/Area: [B110] Economics

Membro (Docente) (2010-2014)
Unit/Area: Plenário do Conselho Científico

Director (2010-2011)
Unit/Area: [B110] Economics

Membro (Docente) (2010-2014)
Unit/Area: Plenário da Comissão Científica

Membro (Docente) (2010-2014)
Unit/Area: Comissão Científica

Director (2010-2014)
Unit/Area: Department of Economics

Presidente (2010-2014)
Unit/Area: Comissão Científica

## Awards

Best teacher in the MSc in Economics (2013)

