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Luís Carvalho

Professor Associado

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Department of Mathematics (ISTA)



Contacts

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Academic Qualifications

University/Institution	Type	Degree	Period
Nova School of Business and Economics	PhD	Quantitative Economics Doctorate	2013
Instituto Superior de Economia e Gestão - UTL	M.Sc.	Economia	2004
Instituto Superior de Economia e Gestão - UTL	Licenciante	Matemática Aplicada à Economia e à Gestão	1998

Supervisions

• M.Sc. Dissertations

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Danilo Castilho Silva Bindi	Quais os determinantes do incumprimento no mercado de crédito bancário brasileiro e seu impacto no Produto Interno Bruto?	Portuguese	Iscte	2018

• M.Sc. Final Projects

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Ana Catarina Vieira Páscoa Esteves	Avaliação do Impacto do OEE	Portuguese	Iscte	2018
2	Eivind Høyland Helander	International Marketing - Reentering the Chinese Salmon Market: A case study of Leroy Seafood ASA.	English	Iscte	2017

Total Citations

Web of Science®	36
Scopus	40

Publications

• Scientific Journals

- Scientific journal paper

1	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2025). Quaternionic essential numerical range of complex operators. <i>Linear and Multilinear Algebra</i> . 73 (7), 1332-1345
2	Carvalho, L., Costa, J. L., Mourão, J. & Oliveira, G. (2025). The positivity of the neural tangent kernel. <i>SIAM Journal on Mathematics of Data Science</i> . 7 (2), 495-515 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 14
3	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the convexity of the quaternionic essential numerical range. <i>Proceedings of the Edinburgh Mathematical Society</i> . 67 (3), 838-851 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3

4	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). A note on the essential numerical range of block diagonal operators. <i>Forum Mathematicum</i> . 36 (5), 1147-1157 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1 - Times Cited Google Scholar: 2
5	Carvalho, L., Diogo, C., Mendes, S. & Soares, H. (2024). On the relation between S-spectrum and right spectrum. <i>Complex Analysis and Operator Theory</i> . 19 (1) - Times Cited Google Scholar: 2
6	Carvalho, L., Diogo, C. & Mendes, S. (2023). S-spectrum and numerical range of a quaternionic operator. <i>Journal of Mathematical Analysis and Applications</i> . 519 (2) - Times Cited Web of Science®: 4 - Times Cited Scopus: 4
7	Carvalho, L., Diogo, C. & Mendes, S. (2022). A new perspective on the quaternionic numerical range of normal matrices. <i>Linear and Multilinear Algebra</i> . 70 (20), 5068-5074 - Times Cited Scopus: 4
8	Carvalho, L., Diogo, C. & Mendes, S. (2021). Quaternionic numerical range of complex matrices. <i>Linear Algebra and its Applications</i> . 620, 168-181 - Times Cited Web of Science®: 6 - Times Cited Scopus: 6
9	Carvalho, L. (2021). Proportional bargaining solutions, strictly comprehensive sets and the axiom of continuity. <i>Annals of Operations Research</i> . 301, 41-53 - Times Cited Web of Science®: 2 - Times Cited Scopus: 1
10	Carvalho, L., Diogo, C. & Mendes, S. (2020). The star-center of the quaternionic numerical range. <i>Linear Algebra and its Applications</i> . 603, 166-185 - Times Cited Web of Science®: 5 - Times Cited Scopus: 6
11	Carvalho, L., Diogo, C. & Mendes, S. (2019). A bridge between quaternionic and complex numerical ranges. <i>Linear Algebra and its Applications</i> . 581, 496-504 - Times Cited Web of Science®: 7 - Times Cited Scopus: 7
12	Carvalho, L., Mendes, S. & Diogo, C. (2019). On the convexity and circularity of the numerical range of nilpotent quaternionic matrices. <i>New York Journal of Mathematics</i> . 25, 1385-1404 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7
13	Carmona, G. & Carvalho, L. (2016). Repeated two-person zero-sum games with unequal discounting and private monitoring. <i>Journal of Mathematical Economics</i> . 63, 131-138 - Times Cited Web of Science®: 1
14	Carvalho, L. (2015). An alternative proof for Nash's bargaining theorem. <i>Economics Bulletin</i> . 35 (4), 2518-2522

• Other Publications

- Working Papers

1	Carvalho, L. (2015). Multiplayer Bargaining with Delayed Agreement. BRU-IUL Working Paper.
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2	Carvalho, L. (2014). A Constructive Proof of the Nash Bargaining Solution. Working Paper series - BRU-IUL. 1-11
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• Conferences/Workshops and Talks

- Talk

1	Diogo, C., Carvalho, L., Mendes, S. & Soares, H. (2025). FROM COMPLEX TO QUATERNIONIC NUMERICAL RANGE. IX International Workshop on Non-Associative Algebras in Lisbon.
2	Diogo, C., Carvalho, L. & Mendes, S. (2025). NUMERICAL RANGE IN THE REALM OF QUATERNIONS. NTQO 2025.
3	Soares, H., Carvalho, L., Diogo, C. & Mendes, S. (2025). On the relation between S-spectrum and right spectrum. IWOTA2025.
4	Soares, H., Mendes, S., Diogo, C. & Carvalho, L. (2025). The right spectrum and the S-spectrum. Workshop on New Trends in Quaternions and Octonions - NTQO 2025.
5	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2024). Quaternionic essential numerical range of complex operators. 35th International Workshop on Operator Theory and its Applications.
6	Mendes, S., Carvalho, L., Diogo, C. & Soares, H. (2024). S-spectrum and Numerical Range of Bounded Operators on Quaternionic Hilbert Spaces. Eighth Workshop New Trends in Quaternions and Octonions - NTQO 2024.
7	Diogo, C., Carvalho, L. & Mendes, S. (2024). Characterizing quaternionic numerical range through complex numerical range. IWOTA 2024.
8	Diogo, C., Carvalho, L. & Mendes, S. (2024). On quaternionic numerical range and its relation with S-spectrum. International Conference on Hypercomplex Analysis and its Applications.
9	Soares, H., Carvalho, L., Mendes, S. & Diogo, C. (2023). On the convexity of the quaternionic essential numerical range. 16th Workshop on Numerical Ranges and Numerical Radii.
10	Diogo, C., Carvalho, L. & Mendes, S. (2023). Quaternionic numerical range. Seminar - Center for Research Development in Mathematics and Applications Functional Analysis and Applications Group.
11	Diogo, C., Carvalho, L. & Mendes, S. (2023). S-spectrum and numerical range of a quaternionic operator. 16th Workshop on Numerical Ranges and Numerical Radii.
12	Mendes, S., Carvalho, L. & Diogo, C. (2023). Aspects of quaternionic linear operators: S-spectrum and numerical range. Workshop on Operator Theory, Complex Analysis, and Applications 2023 - WOTCA 2023.
13	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Anual do CIMA.
14	Soares, H., Diogo, C., Mendes, S. & Carvalho, L. (2022). Quaternionic Numerical Range. Encontro Nacional da Sociedade de Matemática Portuguesa 2022.
15	Diogo, C., Mendes, S. & Carvalho, L. (2020). A bridge between quaternionic and complex numerical ranges. New Trends in Quaternions and Octonions.

16	Mendes, S., Carvalho, L. & Diogo, C. (2020). The star-center of the quaternionic numerical range. New Trends in Quaternions and Octonions.
17	Mendes, S., Carvalho, L. & Diogo, C. (2019). On the convexity and circularity of the numerical range for quaternionic matrices. New Trends in Quaternions and Octonions.
18	Carvalho, L. (2017). "Proportional Bargaining Solution, Strictly Comprehensive Sets and the Axiom of Continuity". Lisbon Meetings in Game Theory and Applications,.
19	Carvalho, L. (2016). A Perfect Equilibrium Concept for the Multiplayer Bargaining Game. GAMES 2016, the 5th World Congress of the Game Theory Society.
20	Carvalho, L. (2015). An Alternative Axiomatization of the Proportional Bargaining Solution. Annual Meeting of the Portuguese Economic Journal.
21	Guilherme Carmona & Carvalho, L. (2015). Repeated Two-Person Zero-Sum Games with Different Discount Factors and Private Monitoring. Lisbon Meetings in Game Theory and Applications 2015.
22	Carvalho, L. (2013). Equilibria and Outcomes in Multiplayer Bargaining. Game Theory and Applications.
23	Carvalho, L. (2013). Equilibria and Outcomes in Multiplayer Bargaining. Spain Italy Netherlands Game Theory Meeting.
24	Carvalho, L. (2013). A Constructive Proof of Nash Bargaining Solution. Game Theory and Applications,.
25	Carvalho, L. (2013). Equilibria and Outcomes in Multiplayer Bargaining. Association for Public Economic Theory Conference.
26	Carvalho, L. (2013). "Perfect Equilibria in Replies in Multiplayer Bargaining". Quantitative Economics Conference.
27	Carvalho, L. (2013). Multiplayer Bargaining. NovaSBE, IRW .

Academic Management Positions

Director (2025 - 2028)
Unit/Area: null

Director (2025)
Unit/Area: Department of Mathematics

Presidente (2025 - 2028)
Unit/Area: Comissão Científica

Director (2025 - 2028)
Unit/Area: Department of Mathematics

Coordenador de ECTS (2024 - 2025)
Unit/Area: Department of Mathematics

Coordenador de ECTS (2024)
Unit/Area: Department of Mathematics

Sub-diretor (2021 - 2025)
Unit/Area: Department of Mathematics

Coordenador de ECTS (2021 - 2024)
Unit/Area: Department of Mathematics

Membro (Docente) (2021 - 2023)
Unit/Area: Plenário do Conselho Pedagógico

Coordenador de ECTS (2020 - 2021)
Unit/Area: Department of Mathematics

Membro (Docente) (2019 - 2021)
Unit/Area: Plenário do Conselho Pedagógico

Sub-diretor (2017 - 2021)
Unit/Area: Department of Mathematics

Coordenador de ECTS (2017 - 2020)
Unit/Area: Department of Mathematics

Membro (Docente) (2015 - 2017)
Unit/Area: Comissão Pedagógica