MARIA LEITE

Curriculum Vitae

Email: mcleite@usf.edu

Tel: 727.873.4801

ACADEMIC QUALIFICATIONS

- 2005 Ph.D. in Mathematics, University of Houston.
- 2001 M.S. in Mathematics, University of Porto, Faculdade de Ciências, Porto, Portugal.
- 1995 M.S. in Quality Compliance, Welding and Quality Institute, Porto, Portugal.
- 1993 B.S. in Chemical Engineering, University of Porto, Faculdade de Engenharia, Portugal.

***Languages*:** English (Fluent), Portuguese (Native), Spanish (Fluent), and French (basic)

PROFESSIONAL SELECTED POSITIONS

- Sept 2021 - April 2022: Research Visiting Fellow, Basque Center for Applied Mathematics, Bilbao, Spain.
- June - Aug 2021: Theory@EMBL Programme Fellow, European Molecular Biology Lab, Rome, Italy.
- Nov - Dec 2020; Feb-April 2021: Visiting Professor, Institute de Matemática Multidisciplinar, Valencia, Spain.
- 2019 - present: Associate Professor, Mathematics and Statistics, University of South Florida St. Petersburg (USFSP).
- 2014 - 2019: Assistant Professor, Mathematics and Statistics, USFSP.
- Summer/Fall 2016: Invited Researcher, Institute for Crop Science and Conservation, University of Bonn; Usadel Lab Group, RWTH Aachen University & Jülich Research Center, Germany.
- Fall 2013: Early Career Visitor, Mathematical Biosciences Institute.
- 2011 - 2014: Assistant Professor, Department of Mathematics and Statistics, University of Toledo.
- 2008 - 2011: Visiting Assistant Professor, Department of Mathematics, The University of Oklahoma.
- 2005 - 2008: Research Assistant Professor, Department of Mathematics, Purdue University.

~ Additional previous experience as **Head of Chemical & Physical Testing Labs & Quality Compliance Manager, Portugal,** and **College/*High/Middle School Teacher*** *with the Portugal School System~*

LEADERSHIP & BOARD MEMBERSHIP

- 2021-2022, 2020-21, 2019-20, 2018-19: **Co-Chair of the Competitively Selected International Workshop** on *Data Engineering Meets Intelligent Food and COoking Recipes-DÉCOR* co-located with the top ranked *38th* - 34th IEEE International Conference on Data Engineering (top 3 in the field).
- 2021 - Present. **Invited Member of the Spanish Research Agency** (Agencia Estatal de Investigación, AEI) reviewers board.
- 2020: **Member of the Review Panel CE45** – Mathématiques et scences du numérique pour biologie et la santé, French National Research Agengy.
- 2018-2019: **Guest Associate Editor**. The special issue for NOLTA2017 conference of the journal "Nonlinear Theory and Its Applications (NOLTA), Institute of Electronics, Information and Communication Engineers.
- 2017-18, 2016-17: **Scientific Committee Member**. CIMPA-AMS Research Schools in Senegal (2018) and Benin (2017), Africa.
- 2017: **NOLTA2017 Publication Co-Chair**. The 2017 International Symposium on Nonlinear Theory and its Applications, Mexico.
- 2016: **Program Committee member**. The 8th International Conference on Management of Digital EcoSystems, France.

- 2014 – 2016 (Fall/Spring terms): **Interim Mathematics & Statistics Coordinator**, University of South Florida St. Petersburg (USFSP).
- Spring 2015: **Acting Mathematics & Statistics Upper Division Coordinator**, USFSP.
- 2012-2014, **Lake Erie Center Board Member**, Ohio.
- 1994 - 1997: **Head of Labs & Quality Compliance Manager**, ADITEC, Portugal.

Professional Memberships. Society for Mathematical Biology (2008 to Present); American Mathematical Society (2005 to Present); Society for Industrial and Applied Mathematics (2002 to Present); Association for Women in Mathematics (2005 – 2016); Institute of Electrical and Electronics Engineers (2015-2018); Full Membership of the Graduate Faculty, University of Toledo (2012-2014).

PUBLICATIONS

* Citation in the top 10% most cited publications worldwide (SciVal, 2014-2021)
# Publications in the top 10% journals by CiteScore (SciVal, 2014-2021)
(+), (++), (+++) Undergraduate, Master, and Ph.D. student, respectively.

1. Y. Wang, Leite, **M.C.A. Leite**, and Ben-Tal, A. From Boolean Networks to Linear Dynamical Systems: A Simplified Route. **Submitted.**
2. N. Hritonenko, **M.C.A. Leite**, Y. Yatsenko, Age- and size-structured models of population dynamics: construction and analysis. **Book Chapter** in *Trends in Mathematics.* **To appear**.
3. **M.C.A. Leite**, B. Chen-Charpentier, F. B. Agusto, O. G. Gaoue, and N. Hritonenko. **2022.** Viability of Pentadesma in reduced habitat ecosystems within two climatic regions with fruit harvesting. Journal of Biological Dynamics 16(1): 207-235. Doi:10.1080/17513758.2022.2071489.
4. **M.C.A. Leite**, R. Sauchuk(+), F. B. Agusto, O. G. Gaoue, and B. Chen-Charpentier. **2021**. Modeling the persistence of plant populations in fragmented ecosystems. Ecological Modelling 457. Doi:10.1016/j.ecolmodel.2021.109681.
5. M. Van Erp, C. Reynolds, D. Maynard, A. Starke, R. Ibañez-Martín, F. Andres, **M.CA. Leite**, D. A. de Toledo, X. S. Rivera, C. Trattner, S. Brewer, C. A. Martins, A. Kluczkovski, A. Frankowski, S. Bridle, R. B. Levy, F. Rauber, J. T. da Silva, U. Bosma. **2021**. Using Natural Language Processing and Artificial Intelligence to explore the nutrition and sustainability of recipes and food. Frontiers in Artificial Intelligence. Doi:10.3389/frai.2020.621577.
3. B. Chen-Charpentier, **M.C.A. Leite**, O. Gaoue, and F.B. Agusto. **2020**. Mathematical Modeling for Studying the Sustainability of Plants Subject to the Stress of Two Distinct Herbivores. *AAM 15 (1):* 598-635.
4. D. A. de Toledo(++), L. d'Orazio, F. Andres, and **M.C.A. Leite. 2020**. Cooking related Carbon Footprint Evaluation and Optimisation. In the Workshop DOING: Intelligent Data – From Data to Knowledge Workshop, Lyon, France, Volume 1260.
5. F. Andres, G. Ghinea, W. Grosky, and **M.C.A. Leite. 2020**. Overview of the 3rd DECOR Workshop. In 2020 IEEE 36th International Conference on Data Engineering Workshops (ICDEW), 20-24 April 2020, Dallas, USA. Doi:10.1109/ICDEW49219.2020.9123828.
6. # A. Ben-Tal, Y. Wang, and **M.C.A. Leite**. **2019**. The logic behind neural control of breathing pattern. Scientific Reports 9(1). Doi:10.1038/s41598-019-45011-7.
7. F. Agusto and **M.C.A. Leite**. **2019**. Optimal control and cost-effective analysis of the 2017 meningitis outbreak in Nigeria, Infectious Disease Modelling, 4:161-187; Doi:10.1016/j.idm.2019.05.003
8. **M.C.A. Leite**, B. Chen-Charpentier, and F. Agusto. **2018**. Maximizing tree harvesting benefit from forests under insect infestation disturbances, PLoS ONE 13(8); Doi:10.1371/journal.pone.0200575.
9. A. Fritzen(++), F. Andres, and **M.C.A. Leite**. **2018**. Introducing Flavorlens: A Social Media Platform for Sharing Dish Observations. *In 3rd International Workshop on Multisensory Approaches to Human-Food Interaction (MHFI'18),* October 16, 2018, Boulder, CO, USA. ACM, New York, NY, USA, Article 4, 7 pages. Doi:10.1145/3279954.3279961.
10. Y. Wang, K. Chilakamarri, D. Kazakos, and **M.C.A. Leite**. 2017. Communication on Dynamics: network systems

and their subnetworks, Proceeding of Nonlinear Theory and its Applications Society.

11. **M.C.A. Leite**, B. Chen-Charpentier, and F. Agusto. 2017. A Mathematical model of tree harvesting in age-structured forest subject to beetle infestations, Comp. Appl. Math.; Doi:10.1007/s40314-017-0516-z.
12. Y. Wang, K. Chilakamarri, D. Kazakos, and **M.C.A. Leite.** 2017. Relations between the dynamics of network systems and of their subnetworks, *AIMS Mathematics*, 2(3): 437-450; Doi:10.3934/Math.2017.2.437.
13. B. Chen-Charpentier and **M.C. A. Leite.** 2014. A model for coupling fire and insect outbreaks in forests, *Ecological Modelling*, 286(24):26-36.
14. * # Y.P. Wang, B. Chen-Charpentier, W.R. Wieder, Y.Q. Luo**, M.C.A. Leite,** B.E. Medlyn, M. Rasmussen, M.J. Smith, F.B. Agusto, and F. Hoffman. 2014. Oscillatory behavior of two nonlinear microbial models of soil carbon decomposition, *Biogeosciences*, 11:1817-1831, Doi:10.5194/bg-11-1817-2014.
15. **M.C.A. Leite**, N. Petrov, and E. Weng$^{(+++)}$. 2012. Stationary distributions of semistochastic processes with disturbances at random times and random severity, *Nonlinear Analysis: Real World Applications*, 13:497-512.
16. Z. Feng, J. Velasco-Hernandez, B. Tapia-Santos$^{(+++)}$, and **M. Leite.** 2012. A model for coupling within-host and between-host dynamics in an infectious disease, *Nonlinear Dyn*, Doi:10.1007/s11071-011-0291-0.
17. J. Velasco-Hernandez and **M. Leite.** 2011. A model for SEIR diseases with social isolation, *Salud Publica de Mexico*, 53(1):40-47.
18. **M. Leite** and Y. Wang.2010. Multistability, oscillations, and bifurcations in feedback loops, *Math. Biosci. Eng.*, 7(1) (2010):83-97.
19. M.A.D. Aguiar, A.P.S. Dias, M. Golubistky, and **M. Leite.** 2009. Bifurcations from regular quotient networks: a first insight, *Physica D*, 238:137-155.
20. M.A.D. Aguiar, A.P.S. Dias, M. Golubistky, and **M. Leite.** 2007. Homogeneous coupled cell networks with S3-symmetric quotient, *Discrete and Continuous Dynamical Systems, Supp.*:1-9.
21. **M. Leite** and M. Golubitsky. 2006. Homogeneous three-cell networks, *Nonlinearity*, 19:2313-2363.

Papers Presented at Conferences

22. N. Hritonenko and **M.C.A. Leite**. Paper on "Age- and size-structured models of population dynamics: optimal control and sustainability" @ 12th ISAAC Congress, July 29-Aug. 2, **2019**, Aveiro, Portugal. Session: Applications of Dynamical Systems Theory in Biology.

GRANTS & AWARDS

Awarded selected grants. *The amounted on all grants (included those not listed). 2012-present: ~ $300,000*

*2019-2022: **PI***. University of South Florida Nexus Initiative Award.

Sept 2021- April 2022: **Single PI**. Basque Center for Applied Mathematics Visitor Fellowship. Bilbao. Spain (Accommodation expenses).

June-Aug 2021: **Single PI**. Theory@EMBL Sabbatical Programme Fellowship (Travel & 3 months accommodation expenses). Rome. Italy

2020 -2024: **Co-PI**. **American Institute of Mathematics SQuaREs (Structured Quartet Research Ensembles) Grant** (4 meetings with travel & 1 week accommodation for 5 USA researchers).

2019-2020: **Single PI**. on a University of South Florida St Petersburg Internal Research Grant.

2019, 2018, 2015. PI. Collaborative National Institute for Mathematical and Biological Synthesis (NIMBioS) Research Short Visit Grant. Theme: "Mathematical modeling of ecological stresses."

2018: **Co-PI. London Mathematical Society (LMS) and the African Mathematics Millennium Science Initiative (AMMSI)**. Student travel support to attend Research School in Senegal.

2017, 2015, 2012, 2009, 2005: **Single PI**. Association for Women in Mathematics-NSF Travel Grants.

2017, 2016: **Co-PI. Centre International de Mathématiques Pures et Appliquées (CIMPA) and African Mathematical Schools (AMS) Grant.** Research School in Senegal. Themes: "Mathematical modeling in problems arising in conservation, ecology, and epidemiology."

Summer/Fall 2016: **Single PI. University of Bonn and PROGReSs Consortium Felowship. Germany**. Project: "Prediction and Modeling of Hybrid Performance and Yield Gain in Oilseed Rape by Systems Biology."

2015: **Co-PI. Institute for Mathematics and its Aplications (IMA) Workshop grant.** Workshop theme: "Topics in Applied Dynamical Systems: Equivariance and Beyond;"

Jul - Dec 2013: **Single PI. Mathematical Bioscience Institute Early Career Award**. Theme: "Fall 2013: Ecosystem Dynamics and Management."

Mar 2013-Feb 2014: **Co-PI. NIMBioS Working Group Grant**. Theme: non-autonomous systems and terrestrial C-cycle.
Feb 13-15, 2012: **Co-PI. National Institute for Mathematical and Biological Synthesis** (**NIMBioS) Investigative Workshop Grant**. Theme: "Disturbance Regimes and Climate-Carbon Feedback."

Sample of Unfunded Submitted Grants

2022: **Associate Investigator. Marsden Fund Preliminary Research Proposal**. A novel Boolean framework to study control of breathing. Ben-Tal (PI, School of Natural and Computational Sciences, Massey University, NZ), Y. Wang (AI, Department of Mathematics, Texas Southern University, USA).
2021: **Co-PI, Human Frontier Science Program grant** (https://www.hfsp.org/funding/hfsp-funding/research-grants). The neuronal circuits underlying binocular fusion. S. Rompani (PI, The European Molecular Biology Laboratory-EMBL, Rome).
2017: **Preproposal, Competitively Selected. Co-PI**, Jan 2017. **NSF17-512: DEB – Biodiversity: Disc. & Analysis:** "Collaborative Research: Nested Multi-Host Single-Pathogen Coevolutionary System," F. Agusto (PI, Dept. of Ecology and Evolutionary Biology, Univ. of Kansas), M. Orive (Co-PI, Dept. Ecology and Evolutionary Biol., Univ. of Kansas).
2014. Single PI. **Simons Foundation.** Mathematical and Physical Sciences – Collaboration Grants for Mathematicians, "Topics on Coupled Cell Networks & Dynamics of Complex Natural Systems."
2013. **PI. NSF-DMS PD 12-7334. Mathematical Biology**, "Collaborative Research: Applications of Non-autonomous Dynamical Systems Theory to Land Carbon Cycle Models," B. Chen-Charpentier (Co-PI, Mathematics, University of Texas at Arlington), Y. Luo (Co-PI, Botany and Microbiology, University of Oklahoma).

SHORT-TERM INVITED RESEARCH VISITS

Dec 14-20, 2019. University of Massey, School of Natural and Computational Sciences, New Zealand.
July 2 - Aug. 3, 2019, **and** March 30-31, 2017. Institute of Photonics and Electronics, The Czech Academy of Sciences, Czech Republic. Cifra's Lab.
March 11-17, 2018. Texas Southern University, Department of Mathematics, Texas.
Jan 11-13, 2018. San Diego State University, Department of Mathematics and Statistics, California.
May 11-20, 2016. National Institute of Informatics (NII), Tokyo, Japan. Andres' Lab.
Oct. 25 - 28, 2012. Mathematical Biosciences Institute (MBI), Ohio.
July 8-12, 2012. University of Texas at Arlington, Department of Mathematics, Texas.
June 10-24, 2010. Mathematical Biosciences Institute (MBI), Ohio.
Aug. 5-11, 2009. Utah State University, Department of Mathematics, Utah.
June 1-8, 2008. Instituto Nacional de Matematica Pura e Aplicada (IMPA), Brazil.

ORGANIZATION OF RESEARCH EVENTS

1. 2022. **Leading Co-organizer. Symposium** on "Deterministic and Stochastic Models in epidemiology and ecology." 2022 SIAM Conference on Life Sciences. Hybrid Conference. PA. USA.
2. 2021. **Co-organizer. Symposium** on "Deterministic and random dynamic nonlinear biological models." 2nd Nonlinear Dynamics and Complexity. Online Conference.
3. 2021. **Leading Co-organizer. Mini symposium** on "Recent advances in random and deterministic modeling in biology/health sciences." Society for Mathematical Biology Annual Meeting. Virtual Event.
4. 2021. **Leading Co-organizer. Mini symposium** on "Theory and Applications of Boolean Networks." SIAM Conference on Applications of Dynamical Systems. Virtual Event.
5. 2021-22, 2020-21, 2019-20, 2018-19, 2017-18. **Proposal co-Pi & Organizer Committee Member**. Competitively Selected International Workshop on "*Data Engineering, Intelligent Food and Cooking Recipes-DECOR" held in conjunction with IEEE International Conference on Data Engineering (ICDE) series.*
6. 2016-17, 2017-18. **Co-organizer**. CIMPA (Centre International De Mathématiques Pures et Appliquées)-Senegal

Research School, Benin (2017) *Senegal (*2018), Africa.

7. 2016. **Leading Co-Organizer. Modeling Workshop** on "Prediction and Modeling of Hybrid Performance and Yield Gain in Oilseed Rape by Systems Biology", Germany.
8. 2016. **Co-Organizer. Mini symposium** on "Contemporary approaches in epidemiological modeling of infectious diseases," The joint meeting of the European Society for Mathematical and Theoretical Biology and the annual meeting of the Society for Mathematical Biology, United Kingdom.
9. 2016. **Leading Co-Organizer. Mini symposium** on "Population Viability of Endangered Plant Species Subject to Multiple Stressors", 2016 SIAM Conferences on the Life Sciences, Boston, MA, USA.
10. 2015. **Leading Co-Organizer. Mini symposium** on "Contemporary approaches in mathematical epidemiology and ecology of forest/plant diseases," 2015 Society for Mathematical Biology Annual Meeting, Atlanta, GE, USA.
11. 2015. **Co-Organizer. Workshop** on "Topics in applied dynamical systems: equivariance and beyond," Ohio State University, Columbus, OH, USA.
12. 2013 - 2014. **Co-Organizer. Working Group** on "*Non-autonomous systems and terrestrial C-cycle*," National Institute for Mathematical and Biological Synthesis (NIMBioS), Knoxville, TN, USA.
13. 2012. **Co-Organizer. Workshop on** "*Disturbance Regimes and Climate-Carbon Feedback*," NIMBioS, Knoxville, TN, USA.
14. 2010. **Co-Organizer. Mini symposium on** "Structure and Dynamics of Biochemical Reaction Networks":
    - The 8th AIMS Conference on Dynamical. Systs., Differential Eqs. and Appls, Germany.
    - Joint SIAM / RSME-SCM-SEMA Meeting Emerging Topics in Dynamical Systems and Partial Differential Equations DSPDEs10, Spain.
15. 2009. **Co-Organizer. Mini symposium** on "Bridging Theory of Coupled Cell Systems and Biological Modeling", SIAM Conference on Applications of Dynamical Systems, Salt Lake, UT, USA.
16. 2008. **Co-Organizer. Mini symposium** on "Networks Structure and Dynamics", SIAM Conference on The Life Sciences, Canada.

PRESENTATIONS OF RESEARCH OUTCOMES

2004-present: Actively participating in more than 100 conferences/workshops including organizing sessions and give invited talks, contributed talks and poster's presentations.

2012-present: Selected invited research talks

2022: *Special Session*: Neuroscience. 13th Conference on Dynamical Systems Applied to Biology and Natural Sciences Virtual DSABNS, Bilbao, **Spain**.
2021: *Special Session:* Deterministic and random dynamic nonlinear biological models." 2nd Nonlinear Dynamics and Complexity. Online Conference. **Portugal**.
2019: *Special Session: Mathematical Modeling of Infectious Diseases under a variety conditions. International Congress on Industrial and Applied Mathematics*, **Spain**.
2018: *Special Session: Mathematical Modeling of Natural Resources.* Join Mathematics Meetings, CA, **USA**.
2017: *Special Session: Dynamical Networks and Structure.* The 2017 International Symposium on Nonlinear Theory and Its Applications, **Mexico**.
2016: Jülich Research Center Seminar, Institute of Bio- and Geosciences Plant Sciences (IBG-2), Mathematical tools to study complex systems, **Germany**.
2016: National Institute of Informatics Seminar, Maximizing tree harvesting benefit from forests under insect infestation stressor, **Japan**.
2014: *Symposium: New Perspectives on Regulation, Interaction, and Noise Found in Physiological Systems.* Experimental Biology 2014 Annual Meeting, CA, **USA**.
2014: Oakland University, Math & Stat Department Colloquium, A Model for Coupling Fire and Insect Outbreaks in Forests, MI, **USA**.
2013: *Special Session: Mathematical Issues in Ecological and Epidemiological Modeling*. SE Section of the AMS meeting, KY, **USA**.
2012: *Special Session: Understanding dynamics of real networks using mathematics*, XXXII Dynamics Days Europe, **Sweden**.

2012: International Conference on Mathematical Methods and Models in Biosciences, *Climate-driven dynamics of seasonal influenza in sub-tropical regions*, Bulgarian Academy of Sciences, **Bulgaria**.
2012: Utah State University, Department of Mathematics and Statistics Colloquium, Mathematical modeling of ecosystems undergoing disturbances, UT, **USA**.
2012 Joint Mathematics Meetings, *Special Session: Recent Advances in Mathematical Biology, Ecology, and Epidemiology*; **and** *Special Session: Optimal Control in Applied Mathematical Modeling*, MA, **USA**.

OTHER SYNERGY ACTIVITIES

Mentorship: Total of 16 students. 1 Ph. D student (Current, Co-mentor, Affiliation: Basque Center for Applied Mathematics); 1 high school student (Affiliation: Seven Lakes High School, Katy, TX); 2 Master's student (co-supervisor, Affiliation: National Institute of Informatics, Japan), 9 graduate research projects (4 Ph.D.'s math students, 2 Master's math students, 3 Master's chemical engineering students); 3 undergraduate 1 semester long projects (2 math students, 1 Biology student).

Examination Committee at Ph.D. level:
Oral Examination Committee member for 1 PhD math student. University of Toledo, 2011.
External Reviewer for 2 Doctoral dissertation. Universitat Politècnica de València and Institute de Matemática Multidisciplinar, Spain, 2020-2022.

Curriculum development:
Fall 2017, Fall 2018 - Fall 2019. Collaboratively design the BSc. in Computational and Applied Mathematics included in the proposal for a new Degree Program. Lead the development of the content for courses in this new program, University of South Florida St. Petersburg.
May 2017 - May 2018. Collaboratively create curriculum and prepare lecture notes for the 2018 CIMPA - Senegal Research School on "Insight from mathematical modeling into problems in conservation, ecology, and epidemiology."
Aug 2011 - Aug 2013**.** Lead the design and implementation of a graduate/undergraduate course in mathematical biology/ecology offered jointly by the Departments of Mathematics and Environmental Sciences. University of Toledo.

TEACHING EXPERIENCE

20 years of teaching mathematics at undergraduate college level (US and Portugal system) and graduate college level in the mathematics (US system). 2 years of teaching experience at Portuguese middle and high school.

Graduate courses (# of Sections/ # students per each section)

1. Spring 2015. Statistical Methods I, *University of South Florida St. Petersburg* (1/ 8)**.**

University of Toledo

2. Spring 2013. Reading course on Bifurcation Theory and Applications, (1 math master student).
3. Fall 2012. Mathematical Modeling in Environmental and Biological Sciences, MATH5980 (1/ 8).
4. Fall 2012. Reading course on Bifurcation Theory (3 PhD students).
5. Spring 2012. Seminar in Mathematical and Environmental Sciences, MATH5/7980 (1/12).
6. Spring 2011. Seminar in Mathematical and Environmental Sciences, MATH5/7980 (1/12).
7. Fall 2011. Ordinary Differential Equations, MATH6/8500 (1/ 8).

Purdue University

8. Summer 2008. Advance Mathematics for Engineers and Physicists I, MA527(1/15).
9. Spring 2008. Advance Mathematics for Engrs. and Physicists II, MA528 (2 /30).

Undergraduate course (# of Sections/ # students per each section)

University of South Florida St. Petersburg

10. Fall 2022. Calculus II. MAC2312 (1/30) and Differential Equations. MAP2302 (1/30).
11. Spring 2020. Calculus I, MAC2311 (1/ 30) and Calculus II. MAC2312 (1/16).
12. Fall 2019. Calculus I, MAC2311 (2/ 30).
13. Spring 2019. Calculus I, MAC2311 (1/ 30) and Calculus II. MAC2312 (1/10).
14. Fall 2018. Calculus I, MAC2311 (2/30)
15. Spring 2018. Calculus I, MAC2311 (1/ 30) and Calculus II. MAC2312 (1/10).
16. Fall 2017. Calculus I, MAC2311 (1/30).
17. Spring 2016. Business Calculus, MAC2233 (1/ 27) and Calculus II. MAC2312 (1/10).
18. Fall 2015. Calculus I, MAC2311 (1/28) and Calculus II. MAC2312 (1/12).
19. Spring 2015. Calculus I, MAC2311 (1/ 28).
20. Fall 2014. Calculus II, MAC 2312 (1/19) and Business Calculus, MAC2233 (1/17).

University of Toledo

21. Spring 2014. Elementary Multivariable Calculus, MATH2850 (1/ 35).
22. Spring 2014. Elementary Differential Equations, MATH2860 (1/30).
23. Spring 2013. Elementary Differential Equations, MATH3860 (1/30).
24. Spring 2013. Calculus II, MATH1860 (1/ 90).
25. Fall 2012. Mathematical Modeling in Environmental and Biological Sciences, MATH4900 (1/ 3).
26. Fall 2012. Calculus I, MATH1850 (1/90).
27. Fall 2011. Elementary Differential Equations, MATH3860 (1/ 30).

University of Oklahoma

28. Fall 2010. Applied Statistics, MATH4753 (2/70).
29. Fall 2009. Spring 2009, Spring 2010, Spring 2011**.** Physical Mathematics I, MATH3413 (2 sections / 1 section / 1 section/ 1 section).

Purdue University

30. Spring 2007 and Fall 2007. Linear Algebra and Differential Equations, MA262 (2 sections per semester).
31. Fall 2006. Differential Equations and Partial Differential Equations for Engineering and the Sciences, MA303 (2 sections).
32. Fall 2005 and Spring 2006. Linear Algebra, MA265 (2 sections each semester)

University of Houston (Teaching Assistant)

33. Fall 2003 and Fall 2004. Linear Algebra, MATH2431 (Recitation and Computer Labs).
34. Spring 2003. *Honours Calculus II, MATH1432H* (Recitation).

35. Fall 2002. Honours Calculus I, MATH1431H (Recitation).
36. Spring 2002. Differential Equations with MATLAB, MATH3331 (Recitation and Computer Labs).

Portuguese University System

37. Jan 1999 to Dec 2001. Calculus III, *Escola Tecnologica de Vale de Cambra* (2 sections each semester).
38. Jan 1998 to Feb 2001. Calculus I, II, and III, *Instituto Superior de Engenharia do Porto*, (3 sections each semester).

Middle and High School, Portugal School System

1. Oct 1991 to Dec 1992. Chemistry and Mathematics.
2. Oct 1990 to Jun 1991. Mathematics

PROFESSIONAL DEVELOPMENT

- September 2021 – April 2022. Research Visit at Basque Center for Applied Mathematics, Modelling and Simulation in Life and Materials Sciences group to acquire expertise in the field modelling molecular dynamics.
- June 2016- March 2017. Training on Machine Learning, Data Sciences, Programming in R. online courses/tutorials and reading textbooks, including online course offered by DATACAMP; online tutorial designed by T. Hastie and R. Tibshirani, "An introduction to Statistical Learning with Applications in R"; and online courses by COURSEERA.

VOLUNTEER / COMMUNITY INVOLVEMENT

- July – presente. Volunteer with Warehouse Art District Association. St Petersburg, Florida.
- Sept– Dec 2021. Volunteer with disable people with AIDS. Bilbao. Spain.
- June-Aug 2021. Practice English Conversation. Rome. Italy.
- 2014-2016. Community city horto. Growing food in cities. St. Petersburg, Florida.
- 2011. City Parks conservation. Toledo, Ohio.
- 2009. Funds raising. Norman Fair Trade Group, Norman, Oklahoma.
- 2004/2005. Baby Holder, Newborn Unity at Texas Children Hospital, Houston, Texas