Sebastián Pardo Guerra

Curriculum Vitae

Department of Mathematics,
University of California San Diego,
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EDUCATION

PhD.   Mathematics, National Autonomous Mexican University (UNAM),
2019.   Thesis: The big lattice of lattice preradicals.

M. S.   Mathematics, National Autonomous Mexican University (UNAM),
2014.   Thesis: About Abelian groups that are not the additive group of a ring.

B. S.   Mathematics, National Autonomous Mexican University (UNAM),
2010.   Thesis: Some aspects of Galois Theory.

EMPLOYMENT

2023-2025   Lecturer, University of California, San Diego. Department of
Mathematics.

2021-2023   Postdoctoral researcher at University of California San Diego
(UCSD), Center for Engineered Natural Intelligence (CENI).

2019-2021   Postdoctoral researcher at University of California San Diego
(UCSD), Department of Bioengineering.

2012-2018   Lecturer, National Autonomous Mexican University (UNAM).

FELLOWSHIPS AND AWARDS

2014–2018   CONACYT Fellowship PhD. program.

2012-2014   CONACYT Fellowship M.S. program.

PUBLICATIONS

2024   Pardo-Guerra S., Vivek G., Silva G., "On The Graph Isomorphism Completeness of Directed and Multi-directed Graphs", to be submitted at   *SIAM J. Comput.*

2024   González-Bayona F., Pardo-Guerra S., Rincón-Mejía H., Zorrilla-Noriega M., "On semi-projective lattices", to be submitted at *Communications in Algebra.*

2024   Pardo-Guerra S., Vivek G, Roldan J., Morar V., Silva G., "Extending undirected graph techniques for directed graphs via Category Theory", *Mathematics **2024**, 12, 1357. https://doi.org/10.3390/math12091357.*

2024   Pardo-Guerra S., Silva G., "On preradicals, entropy, and persistence", *International Journal of General Systems, 1–25. https://doi.org/10.1080/03081079.2024.2348665*.

2023   Jingze Li J., Pardo-Guerra S., Basu K., Silva G., "*A Categorical Framework for Quantifying Emergent Effects in Network Topology*". Under review at "*Neural Computation*".

2023   González-Bayona F., Pardo-Guerra S., Rincón-Mejía H., Zorrilla-Noriega M., "On torsion theories and open classes of linear modular lattices"; *Communications in Algebra, **0** (0) , 1-21.*

2023   Pardo-Guerra S., Rincón-Mejía H., Zorrilla-Noriega M., González-Bayona F., "On the lattice of conatural classes of linear modular lattices", *Algebra Universalis,* **84**, 29, https://doi.org/10.1007/s00012-023-00828-2

2021   Pardo-Guerra S., Silva G., "Information entropy re-defined in a category theory context using preradicals", *arXiv* 2112.06034.

2021   Pardo-Guerra S., Rincón-Mejía H., Zorrilla-Noriega M., "Big lattices of hereditary and natural classes of linear modular lattices", *Algebra Universalis*, 82(4), 1-15.

2020   Pardo-Guerra S., Silva G., "A category theory approach using preradicals to model information flows in networks". arXiv 2012.02886.

2018   Pardo-Guerra S., Rincón-Mejía H., Zorrilla-Noriega M., "Some isomorphic big lattices and some properties of lattice preradicals" *Journal of Algebra and its Applications*, 19(07), 2050140.

2016   Jaramillo N., Pardo-Guerra S., Ramirez-Galarza A., "Manual of strategies to solve Analytic Geometry exercises", Publications of Faculty of Pure Science, National Autonomous Mexican University (UNAM).

CONFERENCE PARTICIPATION

May 2024   "Extending undirected graphs techniques to directed graphs via Category Theory", UCSD Mathematics Seminars and Colloquia.

May 2024   "Hereditary and Natural classes of lattices", 36th Ohio State-Denison Math Conference, Ohio, USA.

Nov 2023   "On the lattice of lattice preradicals and some isomorphic structures", UCSD Mathematics Seminars and Colloquia.

Feb 2022   "Hereditary and natural classes of complete linear modular lattices". Workshop on Afternoons of coffee and Algebra, Metropolitan Autonomous University (UAM), Mexico.

Oct 2018   "The big lattice of lattice preradicals". Mexican National Congress of Mathematics, Tabasco, Mexico.

May 2018   "The big lattice of lattice preradicals", 34th Ohio State-Denison Math Conference, Ohio, USA.

TEACHING

At UNAM:

Undergrad:
Basic Algebra I, (2017).

Basic Algebra II, (2017, 2016, 2014, 2013, 2012).

Linear Algebra I (2018, 2014).

Linear Algebra II (2018, 2015, 2014).

Abstract Algebra I (2016, 2015).

At UCSD:

Math 18 - Linear Algebra (2023)

Math 109 - Mathematical Reasoning (2023,2024)

Math 3C – Precalculus (2024)

Math 10C – Vector Calculus (2024)

PROFESSIONAL AND UNIVERSITY SERVICE

Reviewer for *Mathematical Reviews*.