Giovanni Ferrer

6th *year math PhD candidate at the Ohio State University 2020-(2026)*

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Advisor: Dr. David Penneys

▬ Education

2023	**The Ohio State University**, *M.S. in Theoretical Mathematics.*
2020	**University of Puerto Rico, Mayagüez Campus**, *B.S. in Pure Mathematics, minor in computational linguistics*, GPA: 3.85, *Magna Cum Laude.*

▬ Experience

2025	**JSPS**, *summer program with mentor Yasuyuki Kawahigashi, University of Tokyo.*
2024-2025	**OSU Cycle**, *undergraduate student mentor.*
2023	**ROMUS**, *undergraduate student mentor (with Anup Poudel and David Penneys).*
2023	**HDC**, *Higher Dagger Categories online workshop*, speaker.
2023	**GPOTS**, *Great Plains Operator Theory Symposium*, speaker.
2022	**OSU REU**, *mentored undergraduate student*, animated video on The Synoptic Chart of Tensor Categories.
2022	**CRM**, *Centre de Recherches Mathématiques*, concentration month, Quantum symmetries: Tensor categories, Topological quantum field theories, Vertex algebras.
2020	**GOALS**, *Groundwork for Operator Algebras Lecture Series*, student participant.
2019	**SROP**, *Summer Research Oportunities Program*, at the Ohio State University, working on *Classifying Bi-Invertible Connections arising from the Small-Index Subfactor Classification Program.*
2019	**The Ohio State University**, *SAMMS Program*, topology course TA and mentor.
2018	**The Ohio State University**, *summer research*, working on *Classifying Module Categories for Generalized Temperley-Lieb-Jones ∗-2-Categories.*

▬ Awards

2025-2026	**Patrick S. Osmer Fellowship**, *at the Ohio State University.*
2025	**Special Graduate Assignment**, *at the Ohio State University.*
2020-2023	**Distinguished University Fellowship**, *at the Ohio State University.*
2020	**Karl Friedrich Gauss Award**, *at the University of Puerto Rico - Mayagüez.*
2019	**PR-LSAMP research scholarship**, *Puerto Rico Louis Stokes Alliance for Minority Participation*, undergraduate research scholarship for students in STEM.

▬ Peer reviewed journal articles

2019	Classifying Module Categories for Generalized Temperley-Lieb-Jones ∗-2-Categories (with Roberto Hernandez-Palomares), *Internat. J. Math.* **31** (2020), no. 04, 2050027, MR4098904, arXiv:1905.00471
2019	Harmonic Gradients on Higher Dimensional Sierpinski Gaskets (with Luke Brown, Gamal Mograby, Luke G. Rogers, and Karuna Sangam), *Fractals* **28** (2020), no. 06, 2050108, arXiv:1908.10539
2022	Gray-categories model algebraic tricategories, *Theor. Appl. Categ.* **38** (2022), no. 29, pp 1136-1155, arXiv:2203.03748
2023	3D Koch-Type Crystals (with Alejandro Vélez-Santiago), *J. Fractal Geometry* **10** (2023), no. 1/2, pp. 109–149, arXiv:2302.10628

▬ Preprints

2024	Dagger *n*-categories (with Brett Hungar, Theo Johnson-Freyd, Cameron Krulewski, Lukas Müller, Nivedita, David Penneys, David Reutter, Claudia Scheimbauer, Luuk Stehouwer, Chetan Vuppulury), arXiv:2403.01651
2024	Foundations for operator algebraic tricategories, arXiv:2404.05193
2024	Manifestly unitary higher Hilbert spaces (with Quan Chen, Brett Hungar, David Penneys, Sean Sanford), arXiv:2410.05120