

Sebastian N. Griego

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Research Interests

LLM-assisted theorem proving in Lean 4, Auto(in)formalization, Mathematical modeling of biological systems, numerical analysis for differential equations, ML for theorem proving, LLM reasoning evaluation.

Education

San Diego State University <i>M.S. in Applied Mathematics — HSF Scholar</i>	Expected May 2026 <i>San Diego, CA</i>
Pepperdine University <i>B.S. in Mathematics; Minors: Data Science & Classics — Regent's Scholar</i>	May 2024 <i>Malibu, CA</i>

Research Experience

Disease Modeling Lab, San Diego State University <i>Research Assistant</i>	Aug 2024 – Present <i>San Diego, CA</i>
• Built physics-informed neural networks (PINNs) for HIV viral dynamics; implemented coupled ODE solvers and ablation studies with biologically constrained training.	

Applied / Industry

Handshake MOVE Fellowship <i>Data Labeling — Mathematical Expert</i>	May 2025 – Present <i>Remote</i>
• Designed and evaluated domain-specific prompts spanning research-level math and olympiad problems (IMO, Putnam, HMMT)	
Scale AI <i>Data Labeling — Mathematica</i>	Mar 2024 – Present <i>Remote</i>
• Performed data labeling for graduate-level math	

Teaching

San Diego State University <i>Teaching Assistant</i>	Aug 2024 – Present <i>San Diego, CA</i>
• Calculus I–III	
Euler Circle <i>Teaching Assistant (Online)</i>	Jan 2025 – Present <i>Mountain View, CA</i>
• Abstract Algebra, Real Analysis, and Mathematical Thinking	
Stanford University Mathematics Camp (SUMaC) <i>Resident Counselor / Co-instructor</i>	Summers 2024, 2025 <i>Stanford, CA</i>
• Abstract Algebra and Number Theory	
Pepperdine University <i>Teaching Assistant & Grader</i>	Aug 2021 – Apr 2024 <i>Malibu, CA</i>
• Linear Algebra and Probability	

Presentations

- **Griego, S.N.** & Vaidya, N.K. *Math model-informed neural networks for patient-specific HIV latent reservoir dynamics under ART*. Contributed Talk, *Joint Mathematics Meetings (JMM) 2026*, AMS Contributed Paper Session on Mathematical Biology, Washington, D.C., Jan 4, 2026.
- **Griego, S.N.** *Mathematical modeling and machine learning to predict the dynamics of HIV latently infected cells under antiretroviral therapy*. Poster, *14th Annual Southern California Systems Biology Symposium (SoCal SysBio 2025)*, University of California, Riverside, Riverside, CA, May 10, 2025. Event page

Open-Source Software

- **BetterFFTW** — High-performance wrapper around pyFFTW; drop-in NumPy/SciPy FFT replacement. GitHub
- **PyContinuum** — Numerical homotopy continuation for polynomial systems. GitHub
- **Mazewright** — Maze generation/manipulation toolkit. GitHub

Honors & Awards

HSF Scholar	2024–2026
Regent's Scholar (Pepperdine)	2020–2024

Professional Memberships

Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS), Member
Society of Hispanic Professional Engineers (SHPE), Member
Hispanic Scholarship Fund, Scholar

Workshops

- **Practicum for Undergraduate Mathematicians in Combinatorics**, IPAM (UCLA) Apr 13–14, 2024
Two-day intensive on combinatorics (tutorials and problem-solving). Event page
- **PUNDiT: Practicum for Undergraduates in Number Theory**, IPAM (UCLA) Oct 21–22, 2023
Two-day introductory program with tutorials and guided problem sessions in number theory. Event page

Technical Skills

Programming: Python, SQL, R, Lean 4 (including metaprogramming)

ML: PINNs, Neural Networks, Deep Learning, RLHF, Evaluation

Tools: Git, L^AT_EX

Languages

English: Native/Fluent

Spanish: Intermediate

Mandarin Chinese: Beginner (Learning)