

# CURRICULUM VITAE

KONSTANTINOS VARVAREZOS

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## Address

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## Employment

2025 – present      **University of Georgia** Postdoctoral Research & Teaching Associate  
2022 – 2025        **University of California, Los Angeles** Assistant Adjunct Professor

## Education

2022                **Princeton University** Ph.D. in Mathematics  
                          adviser: Zoltán Szabó  
2018                **Princeton University** M.A. in Mathematics  
2017                **Rice University** B.S. in Mathematics, *summa cum laude*

## Research Interests

My research interests are in low-dimensional topology and knot theory. Recent work has focused on applying invariants such as Heegaard Floer homology to questions about Dehn surgeries and contact structures.

## Honors and Awards

2024                Liggett Instructors Award, Department of Mathematics, UCLA  
2017                Phi Beta Kappa Membership  
2016                Hubert E. Bray Prize in Mathematics, Department of Mathematics, Rice University  
2013–17            Trustee Scholar, Rice University  
2013–15            Century Scholar, Rice University

## Visits

2026

Institute of Advanced Studies Summer Collaborators Program

## Publications and Preprints

10. H. Min and K. Varvarezos “Bordered contact invariants and half Giroux torsion”. 2025. preprint. <https://arxiv.org/abs/2506.14050>
9. H. Min and K. Varvarezos “On contact invariants in bordered Floer homology”. 2024. preprint. <https://arxiv.org/abs/2410.05511>
8. K. Varvarezos. “Certain connect sums of torus knots with infinitely many non-characterizing slopes”. *Michigan Mathematical Journal*, to appear. <https://doi.org/10.1307/mmj/20236403>
7. K. Varvarezos. “Heegaard Floer homology and chirally cosmetic surgeries”. *Communications in Analysis and Geometry*. **32**.10 (2024) <https://dx.doi.org/10.4310/CAG.241231025032>
6. K. Varvarezos. “Knot Floer homology of some even 3-stranded pretzel knots”. 2021. preprint. <https://arxiv.org/abs/2103.04171>
5. K. Varvarezos. “3-braid knots do not admit purely cosmetic surgeries”. *Acta Mathematica Hungarica*. **164**, p. 451–457 (2021). <https://doi.org/10.1007/s10474-020-01129-z>
4. K. Varvarezos. “Alternating odd pretzel knots and chirally cosmetic surgeries”. *Journal of Knot Theory and its Ramifications*. **31**.6, p.2250045 (2022). <https://doi.org/10.1142/S0218216522500456>.
3. K. Varvarezos. “Representations of the  $(-2,3,7)$ -Pretzel Knot and Orderability of Dehn Surgeries”. *Topology and its Applications*. **294**, p. 107654 (2021). <https://doi.org/10.1016/j.topol.2021.107654>
2. K. Varvarezos. “A Note on the Orderability of Dehn Fillings of the Manifold  $v2503$ ”. *Journal of Knot Theory and its Ramifications*. **29**.11, p. 2071002 (2020). <https://dx.doi.org/10.1142/S0218216520710029>
1. C. Harshaw, V. Prieto, K. Varvarezos. “On the Number of Equivalence Classes of  $p$ -Colorings of Symmetric Unions”. 2016. preprint. <https://people.vcu.edu/~moorea14/docs/Rice-HPV.pdf>

## Teaching Experience

2026 (spring)

Instructor MATH 2260 Calculus II, UGA

2025 (fall)

Instructor MATH 3100 Analysis, UGA

2025 (spring)	<b>Instructor</b> MATH 131A Analysis, UCLA
2025 (spring)	<b>Instructor</b> MATH 32B Calculus of Several Variables, UCLA
2025 (winter)	<b>Instructor</b> MATH 131B Analysis II, UCLA
2024 (fall)	<b>Instructor</b> MATH 131A Analysis, UCLA
2024 (fall)	<b>Instructor</b> MATH 120A Differential Geometry, UCLA
2024 (spring)	<b>Instructor</b> MATH 120A Differential Geometry, UCLA
2024 (spring)	<b>Instructor</b> MATH 131B Analysis II, UCLA
2024 (winter)	<b>Instructor</b> MATH 120A Differential Geometry, UCLA
2024 (winter)	<b>Instructor</b> MATH 131B Analysis II, UCLA
2023 (fall)	<b>Instructor</b> MATH 31A Differential and Integral Calculus, UCLA
2023 (fall)	<b>Instructor</b> MATH 131B Analysis II, UCLA
2023 (spring)	<b>Instructor</b> MATH 131B Analysis II, UCLA
2023 (winter)	<b>Instructor</b> MATH 32B Calculus of Several Variables, UCLA
2022 (fall)	<b>Instructor</b> MATH 131A Analysis, UCLA
2022 (fall)	<b>Instructor</b> MATH 120A Differential Geometry, UCLA
2022 (spring)	<b>Teaching Assistant</b> MAT 560 Algebraic Topology, Princeton University
2020 (spring)	<b>Instructor</b> MATH 015 Basic College Mathematics, Prison Teaching Initiative
2021 (fall)	<b>Preceptor</b> MAT 203 Advanced Vector Calculus, Princeton University
2021 (fall)	<b>Instructor</b> (lead) MATH 020 Elementary Algebra, Prison Teaching Initiative
2021 (spring)	<b>Instructor</b> MAT 104 Calculus II, Princeton University
2021 (spring)	<b>Grader</b> MASB-000 Math Skills Booster, Prison Teaching Initiative
2020 (fall)	<b>Teaching Assistant</b> MAT365 Topology, Princeton University
2020 (spring)	<b>Instructor</b> MATH 015 Basic College Mathematics, Prison Teaching Initiative
2020 (spring)	<b>Teaching Assistant</b> MAT 104 Calculus II, Princeton University
2019 (fall)	<b>Instructor</b> MAT 104 Calculus II, Princeton University
2019 (fall)	<b>Tutor</b> Mathematics, Prison Teaching Initiative
2019 (spring)	<b>Instructor</b> MATH 113 Precalculus II, Prison Teaching Initiative
2019 (spring)	<b>Grader</b> MAT 104 Calculus II, Princeton University
2018 (fall)	<b>Grader</b> MAT 104 Calculus II, Princeton University
2017 (spring)	<b>Grader</b> MATH 443 General Topology, Rice University
2016 (fall)	<b>Grader</b> MATH 331 Honors Analysis, Rice University
2016 (spring)	<b>Grader</b> MATH 443 General Topology, Rice University
2015 (fall)	<b>Grader</b> MATH 331 Honors Analysis, Rice University

## Invited Talks

November 2025	“Bordered contact invariants and half Giroux torsion” <i>Geometry &amp; Topology Seminar</i> , Georgia Institute of Technology
September 2025	“Bordered contact invariants and half Giroux torsion II” <i>Topology Seminar</i> , University of Georgia

- March 2025 “On contact invariants in bordered Floer homology”  
*Geometry & Topology Seminar*, Massachusetts Institute of Technology
- December 2024 “On contact invariants in bordered Floer homology”  
*Tech Topology Conference*, Georgia Institute of Technology
- October 2024 “On contact invariants in bordered Floer homology”  
*Special Session on Geometry and Topology of Contact and Symplectic Manifolds*, AMS Fall Western Sectional Meeting
- July 2024 “Contact Invariants in Bordered Floer Homology”  
*New structures in low-dimensional topology*, Rényi Institute
- October 2023 “Cosmetic Surgeries on Knots and Heegaard Floer Homology”  
*Topology Seminar*, Claremont Colleges Consortium
- September 2023 “Cosmetic Surgeries on Knots and Heegaard Floer Homology”  
*Topology Seminar*, University of Iowa
- May 2023 “Heegaard Floer homology and chirally cosmetic surgeries”  
*Geometry & Topology Seminar*, UC Riverside
- November 2022 “Heegaard Floer homology, immersed curves, and chirally cosmetic surgeries”  
*Joint Los Angeles Topology Seminar*, UCLA
- October 2022 “Heegaard Floer homology and chirally cosmetic surgeries”  
*Special Session on Heegaard Floer Homology in Topology, Algebra, and Physics*, AMS Fall Western Sectional Meeting
- April 2022 “Heegaard Floer homology, immersed curves, and chirally cosmetic surgeries”  
*Topology Seminar*, Rice University
- April 2022 “Heegaard Floer homology, immersed curves, and chirally cosmetic surgeries”  
*Geometry Seminar*, Virginia Commonwealth University
- March 2022 “Heegaard Floer homology and chirally cosmetic surgeries”  
*Special Session on Gauge Theory, Geometric Analysis, and Low-Dimensional Topology*, AMS Spring Eastern Virtual Sectional Meeting
- October 2021 “Heegaard Floer homology, immersed curves, and chirally cosmetic surgeries”  
*Topology Seminar*, Princeton University
- November 2019 “Left-Orderable Groups and Dehn Surgery”  
*Graduate Student Seminar*, Princeton University
- November 2016 “What I did last summer”  
*Undergraduate Mathematics Colloquium*, Rice University

## Other Academic Activities/ Service

- May 2025      **Professor Talk** Gave talk titled “Knots and Surfaces” aimed at undergraduate math students, organized by the Undergraduate Mathematics Students Association at UCLA
- 2024 (fall)      **UCLA MATH 197** Oversaw directed reading of undergraduate student in Algebraic Topology
- 2024 (spring)      **UCLA MATH 195** Oversaw directed reading of undergraduate student in Topological Data Analysis
- 2023 (summer)      **UCLA Topology REU** Supervised an undergraduate research project in Knot Theory
- 2022–24      **Course design** Developed course materials (including problem sets, worksheets, exams, and solutions) for various math courses, including Analysis I & II, Calculus, and Differential Geometry at UCLA
- 2019–22      **Prison Teaching Initiative** Volunteer teaching and tutoring throughout prisons in New Jersey
- 2019 (summer)      **Undergraduate Reading Supervisor** Oversaw a summer reading project by two undergraduates in Symplectic Topology at Princeton University
- 2018–19      **Mentoring Möbius** Met monthly with Princeton undergraduates to discuss mathematics
- 2018 (summer)      **Teaching Assistant** Princeton Summer School in Topology and Geometry