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education

2019—2024	**Bachelors in Mathematics**	Pontificia Universidad Católica de Chile

experience

undergraduate dissertation

2023 · **On module class groups,** supervised by Ricardo Menares at Pontificia Universidad Católica de Chile
We went over most of J. P. Serre's *Cours d'arithmétique* and D. A. Marcus' *Number Fields,* focusing on the proof of finitude of the class number of a number ring via Minkowski Theory.

undergraduate research

I had the opportunity to do research through the university-funded *Investigación de Pregrado* (IPRE) contest at PUC. This initiative connects students with faculty mentors, offering a chance to engage with a research project during winter or summer breaks. I have been granted the following IPRE projects:

2022 · **Benjamini–Schramm convergence of random graphs,** supervised by Raimundo Briceño
We studied dynamics in spaces of random rooted graphs, motivated by its potential to model transition phenomena of crystal lattices at low temperatures. The main result reviewed was that the Benjamini–Schramm space is Polish.

2022 · **Moduli space of complex tori,** supervised by Jan Kiwi
We studied the foundations of complex geometry, reviewing the classification of compact Riemann surfaces by their genera. The main focus of the work was describing the parameter space of tori modulo homothety.

2021 · **Graphs of Julia sets,** supervised by Jan Kiwi
We studied the basics of complex dynamics in one variable following Milnor's book. The focus was on coding a Python script to graph quadratic Julia sets in high resolution.

as teaching assistant

2024	Precalculus (MAT1000)
	Mathematics Workshop for Statistics (MAT0007)
2023	Linear Algebra (MAT1203)
2022	Calculus II (MAT1620)
	Introduction to Analysis (MAT2507)
	Mathematics Workshop for Statistics (MAT0007)
2021	Algebra and Numerical Systems II (MAT2925)
	Mathematics Workshop (MAT0006)

as grading assistant

2024	Foundations of Mathematics (MAT2405)
	History of Mathematics (MAT2006)
2021	Introduction to Algebra (MAT1206)

as tutor

2024	Linear Algebra (MAT1203)
	Calculus II (MAT1220)
	Introduction to Algebra and Geometry (MAT1207)
2021	Precalculus (MAT1000)

organized seminars at PUC

| 2024 | **Student Seminar on Algebraic Geometry** |
| 2020—2023 | **Mathematics Student Seminar** |

talks on arithmetic or geometry at PUC

24/10/2024	**Elliptic surface of a conic pencil** Student Seminar on Algebraic Geometry	12/05/2023	**Rational elliptic surfaces** Number Theory Seminar
14/08/2024	**Conics and intersections in the projective plane** Student Seminar on Algebraic Geometry	05/04/2023	**Introduction to sheafs** Student Seminar on Schemes
28/03/2024	**Ramifications** Seminar on Explicit Class Field Theory	04/11/2022	**Integral points in orbits of rational functions** Number Theory Seminar
26/10/2023	**Fermat's Christmas Theorem** Mathematics Student Seminar	27/05/2022	**Introduction to p-adic numbers** Number Theory Seminar

scholarships

2018 · **Beca Universidad de Chile (BUCH)**
100% tuition and fees covered at Universidad de Chile. Granted to student with outstanding grades and application scores. Declined.