

Ignacio Tejada

Curriculum Vitae

Personal information

Nationality: Chile
Address: 3927 Adams Ln NE, #D506, Seattle WA, 98105.
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Skills

Programming languages: Java, Python, Lean (for mathematics formalization)

Education

PhD in Mathematics, University of Washington, currently undergoing.
M.S. in Mathematics, Pontificia Universidad Católica de Chile - 2019.
B.S. in Mathematics, Pontificia Universidad Católica de Chile - 2017.

Academics

- Publications:
- I. Tejada, *On the geometry of measures with density bounds in a Hölder anisotropic setting*, 2025, preprint arxiv.org/abs/2509.02954
 - E. Cárdenas, G. Raikov, I. Tejada, *Spectral properties of Landau Hamiltonians with non-local potentials*, Asymptotic Analysis, 2019, **120**(3-4), 337-371.
 - I. Tejada, *Sobre cómo definimos las funciones trigonométricas*, Revista del Profesor de Matemáticas, 2016, **2**. See https://revistadelprofesor.files.wordpress.com/2016/01/ano9nro2_art_tejeda.pdf (written in spanish).
 - I. Tejada, *Can we admit the way in which $\sin(x)$ is typically defined?*, 2015, preprint (in Spanish) arxiv.org/abs/1509.02488.
- Master's thesis:
- I. Tejada, *Spectral asymptotics for compactly supported electric perturbations of the Landau Hamiltonian*, Facultad de Matemáticas, Pontificia Universidad Católica de Chile, 2019. Advisor: Georgi Raikov. Available at <https://www.scribd.com/document/437262135/Master-s-Thesis-Ignacio-Tejada>.
- Undergraduate research:
- I. Tejada, *Sobre curvas en $\widehat{\mathbb{R}^d}$ con igual Schwarziana de Ahlfors*, 2017. Advisor: Martin Chuaqui. Manuscript available at <https://www.scribd.com/document/366953307/Monografia> (written in Spanish).
- Awards/fellowships:
- *McFarlan Fellowship* - University of Washington, 2020-2023.
 - *Beca de Arancel* - Pontificia Universidad Católica de Chile, received for the duration of my M.S. in Mathematics, 2018-2019.
 - *Beca al Mérito Académico* - Pontificia Universidad Católica de Chile, received while in my B.S. in Mathematics, 2014-2017. This scholarship is given annually to a few of the undergraduate students with best grades in the Department of Mathematics at PUC.
- Teaching assistantships:
- Introduction to Calculus (MAT1600); Calculus 1 (MAT1610); Calculus 2 (MAT1620); Calculus 3 (MAT1630); Real Analysis (MAT2515); Integration Theory (MAT2535); Analysis II (MPG3101) at Pontificia Universidad Católica de Chile, 2015-2019.
 - Calculus with Analytic Geometry I (Math124); Calculus with Analytic Geometry II (Math125); Fundamental Concepts of Analysis (MATH424); Fundamental Concepts of Analysis (MATH425) at University of Washington, 2020-2025.

Relevant courses:

- *Special Topics in Mathematics: Geometric Measure Theory - Math581* (Evans, Gariepy, *Measure Theory and Fine Properties of Functions*; Maggi, *Sets of Finite Perimeter and Geometric Variational Problems*) at UW.
- *Topology and Geometry of Manifolds - MATH544, 545, 546* (Lee, *Introduction to Smooth Manifolds*) at UW.
- *Functional Analysis II - MPG3111* (Taylor, *Partial Differential Equations I*; Birman, Solomjak, *Spectral Theory of Self-adjoint Operators on Hilbert Space*) at PUC.
- *Introduction to Artificial Intelligence - CSE415* at UW.
- *Design and Analysis of Algorithms - CSE521* (Motwani, Raghavan, *Randomized Algorithms*) at UW.

Talks and posters

- AMS Fall Eastern Virtual Sectional Meeting, *On the geometry of measures with density bounds in a Hölder anisotropic setting*, October 26, 2025.
- 12th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, *Posters session*, June 12, 2025.
- Analysis and PDE in MT, *Lightning talks*, May 14, 2025.
- Graduate Student Analysis Seminar, *Geometry of measures with Hölder density bounds in a Riemannian setting*, February 6, 2025.
- Graduate Student Analysis Seminar, *Lightning Talks*, October 10, 2024.
- Geometry of Measures and Free Boundaries: A Conference in Honor of Tatiana Toro, *Lightning talks*, July 22, 2024.
- Graduate Student Analysis Seminar, *Lightning Talks*, March 7, 2025
- Graduate Student Analysis Seminar, *Lightning Talks in Analysis*, January 18, 2024.
- Graduate Student Analysis Seminar, *Unique Continuation at the Boundary*, May 18, 2023
- Graduate Student Analysis Seminar, *Lightning Talks in Analysis*, March 30, 2023.
- Graduate Student Analysis Seminar, *An Introduction to Rectifiability, Part II: projections*, October 27, 2022

Mentorship

- Mentor, *Math AI Lab project: Formalizing Geometric Measure Theory*, University of Washington, October 2025-present.

Non-academics

Cello performance:

- Cellist, *Syconia piano trio*, 2024-present.
- Cellist, *Rubatrio*, 2023-2024.
- Cellist, *University of Washington Symphony Orchestra*, 2021-present.
- Principal cellist, *Orquesta Interfacultades UC*, 2017-2019.
- Principal cellist, *Camerata Interfacultades UC*, 2017-2019.
- Cellist, *Orquesta Sinfónica Estudiantil Metropolitana (OSEM)* and *Orquesta Sinfónica Nacional Juvenil (OSNJ)*, 2012.
- Cellist, *Orquesta Sinfónica Juvenil de Paine*, 2009-2013.

Initiatives:

- Co-founder of symphony orchestra project *Orquesta Interfacultades UC*, winner of the 1st place of *Artifica la UC* annual competition - Pontificia Universidad Católica de Chile, 2017.
- Instructor at a nonprofit teaching program aimed at high school students coming from vulnerable socioeconomic backgrounds - Santiago, Chile, 2015.