

José Ignacio Yáñez

Curriculum Vitae

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CONTACT INFORMATION

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Departamento de Matemática Santiago, Chile

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EMPLOYMENT

Instructor Professor, Universidad Técnica Federico Santa María

December 2025 - present

Hedrick Assistant Adjunct Professor, UCLA

July 2023 – December 2025

EDUCATION

Ph.D. in Mathematics, University of Utah

August 2017 – May 2023

Advisor: Christopher Hacon

Thesis title: *Application of Coxeter groups to the Kawamata – Morrison conjecture*

M.S in Mathematics, Pontificia Universidad Católica de Chile

March 2015 – June 2017

Advisor: Giancarlo Urzúa

Thesis title: *Characterization of Kollár surfaces*

B.S in Mathematics, Pontificia Universidad Católica de Chile

March 2010 – December 2014

RESEARCH INTERESTS

Algebraic geometry, Birational geometry

PUBLICATIONS AND PREPRINTS

9. **Bott–Chern complexity of Kähler pairs**

joint with Christopher Hacon and Joaquín Moraga.

arXiv:2505.04303

8. **Complexity one varieties are cluster type**
joint with Joshua Enwright and Jennifer Li.
arXiv:2504.17369
7. **Calabi–Yau pairs of complexity two**
joint with Joaquín Moraga.
arXiv:2412.18830
6. **Polarized endomorphisms of log Calabi–Yau pairs**
joint with Joaquín Moraga and Wern Yeong.
arXiv:2406.18092
5. **Polarized endomorphisms of Fano varieties with complements**
joint with Joaquín Moraga and Wern Yeong.
International Mathematics Research Notices, Volume 2025, Issue 8, April 2025, rnaf093.
4. **MMP for generalized pairs on Kähler 3-folds**
joint with Omprokash Das and Christopher Hacon.
arXiv:2305.00524
3. **Movable cones of complete intersections of multidegree one on products of projective spaces**
joint with M. Hoff and I. Stenger.
Selecta Mathematica, New Series 31, 10 (2025).
2. **Birational automorphism groups and the movable cone theorem for Calabi–Yau complete intersections of products of projective spaces**
Journal of Pure and Applied Algebra 226, no. 10 (2022): 107093
1. **Characterization of Kollár surfaces**
joint with G. Urzúa.
Algebra & Number Theory Vol. 12 (2018), No. 5, 1073 - 1105.

RESEARCH TALKS

Calabi-Yau pairs of low complexity

China-Latin America Conference in Mathematics and Applications, SIMIS Shanghai (August 2025)

Calabi-Yau pairs of low complexity

University of Utah, Algebraic Geometry Seminar (August 2025)

Calabi-Yau pairs of low complexity

Mathematical Congress of the Americas 2025 Chile (July 2025)

Polarized endomorphisms of log Calabi-Yau pairs

Caltech/USC, Algebra & Geometry Seminar (May 2025)

Polarized endomorphisms of log Calabi-Yau pairs

Tsinghua University, Algebraic Geometry Seminar (Online) (April 2025)

Polarized endomorphisms of log Calabi-Yau pairs

University of Washington, Algebra and Algebraic Geometry Seminar (April 2025)

Polarized endomorphisms of log Calabi-Yau pairs

UC San Diego, Algebraic Geometry Seminar (February 2025)

Polarized endomorphisms of log Calabi-Yau pairs (Poster)

University of Utah, Moduli of Varieties conference (November 2024)

Polarized endomorphisms of log Calabi-Yau pairs

University of Utah, Algebraic Geometry Seminar (August 2024)

Polarized endomorphisms of Fano varieties with complements

XXIV Coloquio Latinoamericano de Álgebra, Santiago, Chile (July 2024)

Polarized endomorphisms of Fano varieties with complements (Poster)

UC Davis, Western Algebraic Geometry Symposium (April 2024)

Polarized endomorphisms of Fano varieties with complements

Birational Geometry Seminar, Online (March 2024)

MMP for 3-dimensional Kähler generalized pairs

Caltech/USC, Algebra & Geometry Seminar (November 2023)

MMP for 3-dimensional Kähler generalized pairs

UCLA, Algebra Seminar (October 2023)

MMP for 3-dimensional Kähler generalized pairs

Birational Geometry Seminar, Online (September 2023)

Application of Coxeter groups to the Kawamata - Morrison conjecture (Poster)

UC Riverside, Western Algebraic Geometry Symposium (November 2022)

Application of Coxeter groups to the Kawamata - Morrison conjecture

Penn State University, Algebra and Number Theory Seminar (October 2022)

Birational automorphisms and movable cone of Calabi-Yau complete intersections

American Graduate Student Algebraic Geometry Seminar (December 2020)

Numerical dimension of divisors

PUC Chile, Algebraic Geometry Seminar (May 2020)

Counterexamples to Fujita's conjecture on surfaces in positive characteristic

Algebraic Geometry Preprint Seminar (February 2020)

Notions of numerical Iitaka dimension do not coincide
Algebraic Geometry Preprint Seminar (October 2019)

Characterization of Kollár surfaces
University of Utah, Algebraic Geometry Student Seminar (September 2017)

Accumulation points of K^2 for stable surfaces
PUC Chile, Algebraic Geometry Seminar (April 2017)

Characterization of Kollár surfaces
XXX Jornada de Matemática de la Zona Sur (April 2017)

INTRODUCTORY TALKS

The volume function
University of Utah, Algebraic Geometry Student Seminar (October 2021)

The Kawamata-Morrison conjecture
University of Utah, Algebraic Geometry Student Seminar (September 2020)

Introduction to numerical dimension of divisors
University of Utah, Algebraic Geometry Student Seminar (January 2020)

Introduction to Multiplier ideals
PUC Chile, Algebraic Geometry Seminar (June 2019)

Multiplier Ideals and where to find them
University of Utah, Algebraic Geometry Student Seminar (March 2019)

Kawamata-Viehweg vanishing theorem
University of Utah, Algebraic Geometry Student Seminar (November 2018)

Log Canonical pairs and the Cone Theorem
PUC Chile, Algebraic Geometry Seminar (April 2017)

Introduction to the Minimal Model Program
PUC Chile, Algebraic Geometry Seminar (March 2017)

OUTREACH TALKS

How hard is it to divide integers?
University of Utah, Graduate Colloquium (September 2022)

To the Pythagorean theorem and beyond
University of Utah, Undergraduate Colloquium (February 2022)

Negative Continued Fractions
University of Utah, Graduate Colloquium (November 2021)

Knowing the infinities
East High School, Modern Math class (May 2021)

Can we color any map?

University of Utah, Graduate Colloquium (March 2021)

Down-to-earth topology

University of Utah, Graduate Colloquium (November 2019)

Do we know all the numbers?

University of Utah, Graduate Colloquium (October 2018)

TEACHING

UCLA, Instructor of record

Math 115A, Linear Algebra (Fall 2025)

Math 32A, Calculus of Several Variables (Fall 2025)

Math 131A, Analysis (Spring 2025)

Math 131A, Analysis (Spring 2025)

Math 32A, Calculus of Several Variables (Winter 2024)

Math 32A, Calculus of Several Variables (Fall 2024)

Math 131A, Analysis (Spring 2024)

Math 110B, Algebra (Spring 2024)

Math 131A, Analysis (Winter 2024)

Math 32A, Calculus of Several Variables (Fall 2023)

UNIVERSITY OF UTAH, Instructor of record

Math 1100, Business Calculus (Spring 2023)

Math 2200, Discrete Mathematics (Spring 2022)

Math 1100, Business Calculus (Fall 2020)

Math 1310, Engineering Calculus I (Fall 2019)

Math 1060, Trigonometry (Fall 2018)

UNIVERSITY OF UTAH, Teaching assistant

Math 2250, Differential Equations and Linear Algebra (Spring 2018)

Math 2250, Differential Equations and Linear Algebra (Fall 2017)

PUC CHILE, Teaching assistant

Mat 2205, Abstract Algebra I, (Fall 2017)

Mat 2335, Introduction to Algebraic Geometry (Fall 2016)

Mat 2205, Abstract Algebra I (Spring 2015)

Mat 110E, Business Algebra (Fall 2015)

Mat 1216, Introduction to Linear Algebra (Spring 2014)

Mat 1203, Linear Algebra (Fall 2014)

Mat 1620, Calculus II (Summer 2014)

Mat 1012, Algebra (Summer 2013)

Mat 1012, Algebra (Fall 2012)

Mat 1012, Algebra (Fall 2011)

SERVICE AND ADVISING

Mentor for the Directed Reading Program, University of Utah

Group theory, following "Abstract Algebra" by Dummit & Foote (Spring 2021)

Algebraic topology, following "Topology of finite graphs" by J. Stallings, and "Algebraic topology" by A. Hatcher (Spring 2020)

Teaching assistant, Moduli of curves problem sessions (Minicourse by Angela Gibney)

BRIDGES conference, University of Utah (Summer 2022)

Algebra qualifying exam review sessions

University of Utah (Summer 2020)

Organizer of the Algebraic geometry student seminar

University of Utah (Fall 2019 – Spring 2022)

Organizer of the Graduate colloquium

University of Utah (Fall 2019 – Spring 2021)

LANGUAGES

Spanish (native), English (fluent)