

Miguel González

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Education

PhD Student in Mathematics Research <i>Universidad Complutense de Madrid (UCM) - Instituto de Ciencias Matemáticas (ICMAT)</i> <i>Advisers: Oscar García-Prada and Tamás Hausel</i>	2023-
Masters Degree in Mathematics <i>Universidad Autónoma de Madrid (UAM)</i> <i>Dissertation: Cyclic Higgs bundles and Vinberg theory</i>	2022 – 2023 Average grade: 9.94 / 10 5 courses with honours
Double Degree in Mathematics and Computer Science <i>Universidad Autónoma de Madrid (UAM)</i>	2017 – 2022 Average grade: 9.82 / 10 44 courses with honours

Experience

PhD Research - <i>la Caixa</i> foundation InPhINIT Retaining Fellowship <i>Instituto de Ciencias Matemáticas (ICMAT)</i> <i>Advisers: Oscar García-Prada and Tamás Hausel</i>	2023- <i>Project: Higgs bundles, Hausel algebras and involutions</i> <i>Grant LCF/BQ/DR23/12000030</i>
Research Grant <i>Instituto de Ciencias Matemáticas (ICMAT)</i> <i>Supervised by Oscar García-Prada</i>	Sept. 2022 - Jun. 2023 <i>Project: Cyclic Higgs bundles and Vinberg theory</i> <i>Grant JAEICU-21-ICMAT-01, Top 1 application score</i>
Research Intern <i>Hausel Group (Geometry and its Interfaces), Institute Of Science And Technology Austria (ISTA)</i> <i>Supervised by Tamás Hausel</i>	Jul. 2022 - Aug. 2022 <i>Project: Very stable $U(p, q)$-Higgs bundles</i>
Collaboration grant <i>Department of Mathematics, Universidad Autónoma de Madrid</i> <i>Supervised by Ernesto Gironde Sirvent</i>	Nov. 2021 - Jul. 2022 <i>Project: Theoretical and computational research about properties of fundamental domains of Fuchsian groups</i>
Introduction to Mathematical Research Grant Severo Ochoa <i>Instituto de Ciencias Matemáticas (ICMAT)</i> <i>Supervised by Oscar García-Prada</i>	Summer 2021 <i>Project: Introduction to Moduli Spaces and Higgs Bundles</i>

Research interests

Differential and algebraic geometry, moduli spaces of geometric structures on Riemann surfaces, Higgs bundles, Mirror Symmetry, Langlands Duality.

Preprints / Publications

Cyclic Higgs bundles and the Toledo invariant <i>With Oscar García-Prada</i>	<i>In preparation</i>
Hitchin map on even very stable upward flows <i>With Tamás Hausel</i>	March 2022 <i>arXiv:2303.01404</i> <i>Accepted for publication - International Journal of Mathematics</i>

Attended conferences

Arbeitsgemeinschaft: Geometry and Representation Theory around the P=W Conjecture <i>Matematisches Forschungsinstitut Oberwolfach (MFO)</i>	(Upcoming) April 2024
The Hitchin system, Langlands duality and mirror symmetry <i>Instituto de Ciencias Matemáticas (ICMAT)</i>	24-28 April 2023
Moduli spaces and geometric structures <i>Conference in honour of Oscar García-Prada on the occasion of his 60th birthday</i> <i>Instituto de Ciencias Matemáticas (ICMAT)</i>	12-16 September 2022
ICMAT - JAE School of Mathematics <i>Instituto de Ciencias Matemáticas (ICMAT)</i>	July 2021

Talks

Mixed Hodge theory <i>Arbeitsgemeinschaft: Geometry and Representation Theory around the P=W Conjecture</i> <i>Matematisches Forschungsinstitut Oberwolfach (MFO)</i>	(Upcoming) April 2024
The Hitchin Fibration and Spectral Curves <i>Hitchin-Ngô Lab Working Group</i> <i>Instituto de Ciencias Matemáticas (ICMAT)</i>	February 2023

Research visits

Institute of Science and Technology Austria (ISTA) <i>Hausel Group (Geometry and its Interfaces)</i>	19-28 January 2023
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Awards and prizes

UAM Young Talent Award <i>Awarded by Universidad Autónoma de Madrid (UAM)</i>	2022
Best undergraduate academic record <i>Awarded by Universidad Autónoma de Madrid (UAM)</i>	2022
Excellence Grant <i>Awarded by the Comunidad de Madrid</i>	2018, 2019, 2020, 2021
Best academic record of first year undergraduate students <i>Awarded by Universidad Autónoma de Madrid (UAM)</i>	2018
<i>Concurso de Primavera de Matemáticas (Mathematics contest)</i> <i>Winner (Top 20)</i>	2017
Extraordinary Prize of Bachillerato <i>Awarded by the Comunidad de Madrid to Top <1% high secondary school students</i>	2017
Extraordinary Prize of Secondary Education <i>Awarded by the Comunidad de Madrid to Top <1% basic secondary school students</i>	2015

Skills

Spanish: Native level
English: Fluent level
French: Intermediate level
Japanese: Intermediate level (comprehension), basic level (production)
TeX knowledge
Computer skills: Python, C, Java, GitHub, Databases (SQL), Machine Learning and AI (Master rank in kaggle.com), among others.

Declined grants (incompatibilities)

PhD studies grant 2023
FPU Grant - Spanish Ministry of Universities
Funding for a 4 year PhD research and teaching contract

PhD studies grant 2023
ICMAT Severo Ochoa FPI Grant - Spanish Ministry of Science and Innovation
Funding for a 4 year PhD research contract

Masters studies grant 2022-2023
Department of Mathematics, Universidad Autónoma de Madrid (UAM) *Top 1 application score*
10000€ for masters studies and research

Miscellaneous publications

Undergraduate course notes
LaTeX notes for every course I took during my undergraduate mathematics studies.
Available at miguelgg.com