

# Alejandro Ovalle

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<b>Education</b>	<p><b>10.2023 - Today</b> <i>M.Sc., Mathematics: Algebra and Geometry, University of Bonn.</i> Thesis: "Enumerative geometry of K3 surfaces: BPS and stable pair invariants". Supervised by Prof. Richard Thomas and Prof. Daniel Huybrechts</p> <p><b>10.2020 - 09.2023</b> <i>B.Sc., Mathematics, University of Bonn.</i> Thesis: "Formulae for smooth cubic surfaces: quadruples of points and twisted cubics". Supervised by Prof. Daniel Huybrechts and Dr. Gebhard Martin</p> <p><b>02.2014 - 12.2019</b> <i>B.Sc., Physics, Universidad Nacional de Colombia.</i> Thesis: "Gravity as a Chern-Simons theory in (2+1)-dimensions". Supervised by Prof. Eduardo Rodriguez</p>
<b>Research interests</b>	Enumerative algebraic geometry, moduli problems, derived categories.
<b>Teaching and Research</b>	<p><b>11.2025 - 02.2026</b> Research Internship: Interactions between enumerative and tropical geometry, Max Planck Institute - MiS.</p> <p><b>04.2025 - 09.2025</b> Teaching Assistant: Algebraic geometry II, University of Bonn. Lecturer: Prof. Daniel Huybrechts.</p> <p><b>10.2024 - 03.2025</b> Teaching Assistant: Algebraic geometry I, University of Bonn. Lecturer: Prof. Daniel Huybrechts.</p> <p><b>04.2024 - 09.2024</b> Teaching Assistant: Commutative algebra, University of Bonn. Lecturer: Prof. Daniel Huybrechts.</p> <p><b>04.2022 - 09.2022</b> Teaching Assistant: Linear Algebra I, University of Bonn. Lecturer: Dr. Thoralf Räsch.</p> <p><b>10.2021 - 03.2022</b> Teaching Assistant: Analysis I, University of Bonn. Lecturer: Prof. Karl-Theodor Sturm.</p>
<b>Selected seminar talks</b>	<p>Graduate Seminar of Master's thesis, University of Bonn Talk: "BPS and stable pair invariants on K3 surfaces"</p> <p>Graduate Seminar of Master's thesis, University of Bonn Talk: "Rational curves on K3 surfaces: Yau-Zaslow formula"</p> <p>Graduate Seminar on Moduli spaces of K3 surfaces, University of Bonn Talk: "Deformations of K3 surfaces and local Torelli Theorem"</p> <p>Graduate Seminar on Perverse sheaves, University of Bonn Talk: "Constructible sheaves"</p> <p>Graduate Seminar on 4-Manifolds, University of Bonn Talk: "Enriques-Kodaira classification of smooth complex surfaces"</p>
<b>Further academic activities</b>	<p><b>06.10.2025 - 10.10.2025</b> ReMoLD School on Representations, motives and Langlands duality, University Duisburg-Essen</p> <p><b>10.06.2025 - 12.06.2025</b> Workshop: Curves on K3s and hyperkählers, University of Bonn</p> <p><b>02.2025 - 07.2025</b> Organisation of reading seminar on Derived equivalences, Derived Torelli and Moduli, University of Bonn (More information on my website)</p> <p><b>08.2024 - 01.2025</b> Organisation of reading seminar on Moduli spaces of stable sheaves, University of Bonn (More information on my website)</p>

**02.09.2024 - 06.09.2024** Trieste Algebraic Geometry Summer School - Tropical geometry and moduli spaces of curves, ICTP

**Honors**

**10.2023 - Today** Full scholarship for Master's program from the Friedrich-Ebert-Stiftung.

More information: <https://www.fes.de/studienfoerderung>

**12.2021 - 09.2023** Full scholarship for Bachelor's program from the Friedrich-Ebert-Stiftung.

More information: <https://www.fes.de/studienfoerderung>

**12.2021 - Today** Honors Program, University of Bonn.

More information: [www.uni-bonn.de/de/studium/studienangebot/mehr/honors-program](http://www.uni-bonn.de/de/studium/studienangebot/mehr/honors-program)

**Voluntary work**

**05.2022 - 05.2023** Voluntary work at the Friedrich-Ebert-Stiftung, Germany. Representative of the fund of education equity at FES.

**02.2016 - 03.2021** Voluntary work at Fundación Aspirantes.org, Colombia. Tutor of mathematics and physics for economically disadvantaged teenagers.

**Further  
qualifications**

**Languages:** Spanish (Native), English (C1), German (C1)