Alejandro Ovalle

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Education

10.2023 - Today. M.Sc., Mathematics: Algebra and Geometry, University of Bonn. Thesis: "Enumerative geometry and Moduli spaces of sheaves on K3 surfaces". Supervised by Prof. Richard Thomas and Prof. Daniel Huybrechts

10.2020 - 09.2023. B.Sc., Mathematics, University of Bonn.

Thesis: "Formulae for smooth cubic surfaces: quadruples of points and twisted cubics".

Supervised by Prof. Daniel Huybrechts and Dr. Gebhard Martin

02.2014 - 12.2019. B.Sc., Physics, Universidad Nacional de Colombia.

Thesis: "Gravity as a Chern-Simons theory in (2+1)-dimensions".

Supervised by Prof. Eduardo Rodriguez

Research interests Enumerative algebraic geometry and Moduli problems.

Teaching

10.2024 - 03.2025. Teaching Assistant: Algebraic geometry I, University of Bonn. Lecturer: Prof. Daniel Huybrechts.

04.2024 - 09.2024. Teaching Assistant: Commutative algebra, University of Bonn.

Lecturer: Prof. Daniel Huybrechts.

04.2022 - 09.2022. Teaching Assistant: Linear Algebra I, University of Bonn.

Lecturer: Dr. Thoralf Räsch.

10.2021 - 03.2022. Teaching Assistant: Analysis I, University of Bonn.

Lecturer: Prof. Karl-Theodor Sturm.

Seminar talks

Reading Seminar on Moduli spaces of stable sheaves, University of Bonn Talk: "Birational equivalence of moduli spaces and Hilbert schemes of points"

Graduate Seminar of Master thesis, University of Bonn Talk: "Beauville-Mukai systems as Lagrangian fibrations"

Reading Seminar on Moduli spaces of stable sheaves, University of Bonn Talk: "Smoothness and irreducibility of the Moduli spaces of stable sheaves"

Graduate Seminar on Moduli spaces of K3 surfaces, University of Bonn

Talk: "Deformations of K3 surfaces and local Torelli Theorem"

Graduate Seminar on Perverse sheaves, University of Bonn

Talk: "Constructible Sheaves"

Graduate Seminar on 4-Manifolds, University of Bonn

Talk: "Enriques-Kodaira classification of smooth complex surfaces"

activities

Further academic 10.2024 - 03.2025. Organisation of reading seminar on moduli spaces of stable sheaves, University of Bonn (More information on my website)

> 09.2024 - 09.2024. Trieste Algebraic Geometry Summer School - Tropical geometry and moduli spaces of curves

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.

 $More\ information:\ www.uni-bonn.de/de/studium/studienangebot/mehr/honors-program$

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)