

JOAQUIM BRUGUÉS MORA

PhD Mathematics student

<https://web.mat.upc.edu/joaquim.brugues>



I was born in Barcelona in 1994. I started my PhD under the supervision of Eva Miranda (UPC, Barcelona) and Sonja Hohloch (UA, Antwerp) in April 2019, under the provisional title *Floer theory on b-symplectic manifolds* and with the support of the FI grant from the Generalitat de Catalunya. My academic interests are centered in differential geometry and topology, specially in their applications to the study of dynamical systems.

Education

- **2012: Secondary studies** at the Col·legi Claret in Barcelona.
- **2016: Bachelor's Degree in Mathematics** at the Universitat Politècnica de Catalunya.
- **2019: Master in Advanced Mathematics and Mathematical Engineering** at the Universitat Politècnica de Catalunya.

Laboral experience

- **2015 - 2016:** Scholarship assistant at the FME, in the subjects of Linear Algebra and Differential Calculus.
- **2016 - 2019:** Software developer at Maths For More S.L. (<http://www.wiris.com/en>)
- **2019 - (2022) :** PhD student at the Universitat Politècnica de Catalunya and the University of Antwerp (joint PhD), under the supervision of Eva Miranda and Sonja Hohloch.

Teaching experience

- **Spring 2020:** *Differential Geometry* at the Master in Advanced Mathematics and Mathematical Engineering at the Universitat Politècnica de Catalunya (problem sessions support).
- **Autumn 2020:** *Fonaments Matemàtics* at the Degree in Technical Architecture and Building Construction (first year) at the Universitat Politècnica de Catalunya.
- **Spring 2021:** *Multivariate Calculus* at the Degree in Mathematics (first year) at the University of Antwerp (problem sessions).

Courses attended

- **June 2016:** *Introduction to Geometric Analysis: The Atiyah-Singer index theorem*, organized by the Basque Center of Applied Mathematics and the Basque Country University.
- **October 2019:** *Deformations and Rigidity in Algebra, Geometry and Analysis*, organized by the University of Würzburg.

Courses given

- **September 2021:** *Geometry and Dynamics of Singular Symplectic manifolds* at Hénan University (problems session).

Talks

- **25/6/2019:** At the *Analysis and Geometry Seminar* at the University of Antwerp. Talk title: *An introduction to b-symplectic geometry*.
- **9/7/2019:** At the *13th International ICMAT Summer School on Geometry, Mechanics and Control* at ICMAT in Madrid. Talk title: *The construction of Floer Homology*.
- **29/1/2020:** At the *Seminari Informal de Matemàtiques de Barcelona* at the University of Barcelona. Talk title: *Morse theory: from dynamics to topology and back*.
- **12/2/2020:** At the *Seminari Informal de Matemàtiques de Barcelona* at the University of Barcelona. Talk title: *An introduction to Floer theory*.
- **17/03/2021:** At the *Analysis and Geometry Seminar* at the University of Antwerp. Talk title: *Singular Floer theory and singular Hamiltonian/Reeb Dynamics: First steps*.

Organization of courses and seminars

- **2021-2022:** *b-Lab Informal Seminar* (<https://geodys.upc.edu/en/seminar>).

Conferences

- **GEOMVAP meeting** in Cardona, on the 23-24th of January of 2019.
- **Floer Lectures 2019** at Ruhr University at Bochum, on the 27-28th of June of 2019.
- **Semitoric Systems and Beyond**, a workshop at the University of Antwerp, on the 9-12th of September of 2019.
- **Women in Geometry and Topology** at the CRM in Barcelona, on the 25-27th of September of 2019.
- **GESTA School** at the ICMAT, at the Universitat Autònoma de Madrid, on the 10-13th of December of 2019.
- **Workshop on Geometric methods in Symplectic Topology** at the ICMAT in the Universidad Autónoma de Madrid, on the 16-20th of December of 2019.
- **CAST2020**, at the University of Antwerp, on the 6-8th of February of 2020.

Languages

- **Catalan:** C1 level (native).
- **Spanish:** C1 level (native).
- **English:** B2 level.
- **Russian:** A2 level.

- **Dutch:** A2 level.

Computer skills

Due to my experience as a web developer and on my degree, I am competent in the use of the following tools:

- **Skilled:** LaTeX, Bash, Git.
- **Experienced:** C++, Java, JavaScript, PHP, HaXe, Octave, Matlab and R.
- **Operating Systems:** Linux, Windows and MacOS.