

# Jean Douçot

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## Contact information

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## Employment

2025- **Postdoc**, "*Simion Stoilow*" Institute of mathematics of the Romanian Academy, Bucharest  
2022-2025 **FCT Researcher**, Group of mathematical physics, Universidade de Lisboa  
2021-2022 **Postdoc**, Section de mathématiques, Université de Genève  
2018-2021 **Phd student**, Laboratoire de mathématiques d'Orsay, Université Paris-Saclay

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## Education

2018-2021 **Phd in mathematics**, Université Paris-Saclay, "Towards the classification of wild character varieties"  
Advisor: Philip Boalch  
2017-2018 **Master 2 in fundamental mathematics**, Université Pierre et Marie Curie (now Sorbonne Université), Paris, with highest honors  
Advisor: Philip Boalch. Thesis: Classification des connexions méromorphes  
2016-2017 **Master 2 in theoretical physics**, École Normale Supérieure, Paris, with highest honors  
Advisor: Marios Petropoulos. Thesis: The black hole information paradox, a critical review  
February-July 2016 **Master 1 research internship**, University of Guelph, Ontario, Canada  
Advisor: Éric Poisson  
2015-2016 **Master 1 in Physics**, École Normale Supérieure, Paris  
2014-2015 **Double bachelor in mathematics and physics**, École Normale Supérieure, Paris  
2012-2014 **Classe préparatoire (curriculum to prepare admission exams for French elite higher education schools) in science**, Lycée Henri IV, Paris  
2012 **Baccalauréat (French national end of highschool diploma), scientific section**, with highest honors

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## Articles

### Accepted/published

- 2022 **Twisted local wild mapping class groups: configuration spaces, fission trees and complex braids**, with *P. Boalch* and *G. Rembado*, to appear in PRIMS
- 2022 **Topology of irregular isomonodromy times on a fixed pointed curve**, with *G. Rembado*, Transformation groups, 2023
- 2022 **Local wild mapping class groups and cabled braids**, with *G. Rembado* and *M. Tamiozzo*, To appear in Annales de l'Institut Fourier
- 2017 **Gravitomagnetic tidal currents in rotating neutron stars**, with *Éric Poisson*, Phys. Rev. D 95, 044023 (2017)

### Preprints

- 2025 **Simplification of exponential factors of irregular connections on  $\mathbb{P}^1$** , preprint
- 2024 **Basic representations of genus zero nonabelian Hodge spaces**, arxiv preprint
- 2024 **Moduli spaces of untwisted wild Riemann surfaces**, with *G. Rembado* and *M. Tamiozzo*, arxiv preprint
- 2024 **A topological algorithm for the Fourier transform of Stokes data at infinity**, with *A. Hohl*, arxiv preprint, submitted
- 2021 **Diagrams and irregular connections on the Riemann sphere**, arxiv preprint, submitted

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## Talks

- February 2025 **Young researchers seminar**, *Instituto Superior Técnico, Lisbon*
- November 2024 **Seminar "Groups, representations and geometry"**, *Université Paris-Cité*
- October 2024 **Meeting of the French thematical network on Representations and Topology**, *Institut de mathématiques de Toulouse*
- September 2024 **Conference "An ODE to geometry"**, *Instituto Superior Técnico, Lisbon*
- May 2024 **Web-seminar on Painlevé equations and related topics**
- March 2024 **Conference "Gauge field in condensed matter physics"**, in celebration of *B. Douçot's 60th birthday*, *Sorbonne Université, Paris*
- February 2024 **Luso-Brazilian meeting in theoretical and mathematical physics**, *Federal University of Pernambuco, Recife*
- April 2023 **Seminar "Geometry and mathematical physics"**, *University of Lisbon*
- April 2022 **Web-seminar on Painlevé equations and related topics**
- February 2022 **Conference "Vertex algebras and Poisson geometry" (short talk)**, *Les Diablerets*
- November 2021 **Séminaire géométrie et espaces de modules**, *Université de Genève*
- March 2021 **Séminaire géométrie et espaces de modules**, *Université de Genève*
- January 2021 **Geometric Structures Lab seminar**, *University of Toronto*
- September 2020 **Séminaire arithmétique et géométrie algébrique**, *Graduate students' day*, LMO, *Université Paris-Saclay*
- May 2019 **Graduate student seminar**, LMO, *Université Paris-Saclay*

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## Conferences attended

- October 2024 **Meeting of the thematical network RTop**, *Toulouse*
- September 2024 **An ODE to geometry**, *Lisbon*
- September 2024 **Ramification in geometric Langlands and nonabelian Hodge theory**, *Heidelberg*
- July 2024 **Integrability and moduli, a conference in honor of L. Takhtajan**, *Lisbon*
- July 2024 **Summer school: Contemporary trends in integrable systems**, *Lisbon*
- March 2024 **Gauge field in condensed matter physics, in celebration of B. Douçot's 60th birthday**, *Paris*
- February 2024 **Luso-Brazilian meeting in theoretical and mathematical physics**, *Recife*
- January 2024 **Winter school in mathematical physics**, *Les Diablerets*
- September 2023 **Workshop "Quantization of moduli spaces from different perspectives"**, *Les Diablerets*
- September 2023 **Summer school on topological recursion and integrability**, *Trieste*
- January 2023 **Winter school in mathematical physics**, *Les Diablerets*
- June 2022 **Between topology and quantum field theory**, *University of Geneva*
- February 2022 **Vertex algebras and Poisson geometry**, *Les Diablerets*
- January 2022 **Winter school in mathematical physics**, *Les Diablerets*
- November 2021 **Online school "Moduli Spaces, Combinatorics and Integrable Systems"**, *Euler International Mathematical Institute, St. Petersburg*
- July 2021 **Summer school "Enumerative geometry, physics and representation theory"**, *IHES*
- June 2021 **Online conference "BPS states, mirror symmetry and exact WKB"**, *University of Sheffield*
- May 2021 **Junior Global Poisson workshop**
- February 2020 **Quiver varieties, character varieties and DT-invariants**, *Institut Henri Poincaré, Paris*
- November 2019 **Géométrie algébrique et géométrie complexe**, *CIRM, Marseille*
- July 2019 **Irregular singularities and quantum field theory**, *Lisbon University*
- June 2019 **Resurgence in mathematics and physics**, *IHES, Bures-sur-Yvette*
- January 2019 **Between topology and quantum field theory**, *University of Texas at Austin*

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## Teaching

- 2021-2022 **Teaching assistant**, *Université de Genève*, Exercise sessions for several first year
- 2018-2021 **Teaching assistant**, *Université Paris-Saclay*, Exercise sessions for several first and second year courses
- 2016-2017 **Oral interrogations in mathematics ("colles")**, *Lycée Henri IV, Paris*
- 2016-2017 **Training for the concours général (a national highschool competition) in mathematics**, *Lycée Henri IV, Paris*

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## Organisation

2019-2020 **Co-organizer of the graduate student seminar**, Orsay  
**Reviewer**, for *Nonlinearity*, *Inventiones Mathematicae*

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## Other

2013 **International physics olympiad**, *Copenhagen, Denmark*, silver medal

2012 **International physics olympiad**, *Estonia*, silver medal

2012 **Concours général (French national highschool competition)**, second prize  
in physics, seventh prize in mathematics

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## Languages

French Mother tongue

English Fluent

German Good

Portuguese Intermediate

Italian Intermediate