

# Pietro Mesquita Piccione

## Résumé

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### Education

- 2022 – 2025 **PhD in Mathematics**, *Institut des mathématiques de Jussieu*, Sorbonne Université, Paris, France  
Advisors: Sébastien Boucksom and Tat Dat Tô
- 2021 – 2022 **Master's Degree in Mathematics**, *Institut des mathématiques de Jussieu*, Sorbonne Université, Paris, France
- 2017 – 2021 **Bachelor's degree in Mathematics**, *Universidade de São Paulo*, USP, São Paulo, Brazil  
Prize for outstanding performance.

### Research projects and grants

- 2022 – 2025 **MathInParis2020**, *Scholarship for a PhD in Paris*, Cofunded by Marie Skłodowska-Curie Actions, FSMP
- 2021 – 2022 **PGSM Scholarship**, *Scholarship for a Master's degree in Paris*, Fondation Sciences mathématiques de Paris
- 2020 – 2021 **Morse Theory**, *Undergraduate Research Project*, FAPESP  
Grant FAPESP 2020/04871-0

### Articles

- 2024 **A non-Archimedean theory of complex spaces and the csc-K problem**, *preprint*, arXiv:2409.06221

### Talks

#### The non-Archimedean approach of the Yau–Tian–Donaldson conjecture

- 2024 **KASS Seminar**, Chalmers University, Gothenburg, Sweden
- 2024 **Algebraic Geometry Seminar**, University of Glasgow, Scotland
- 2024 **Any Complex Geometry Seminar**, University of California Berkeley, US
- 2024 **Graduate Student Seminar Series**, SLMATH, Berkeley, US
- 2024 **Séminaire des Thésards**, IMJ-PRG, Université Paris Cité, France
- 2024 **Demi-Journée des doctorant.e.s de l'équipe TGA 2024**, IMJ-PRG, Sorbonne Université, France

#### A counterexample for the periodic orbit conjecture

- 2022 **Groupe de Travail : Dynamiques Sauvages**, IMJ-PRG, Sorbonne Université, France
- 2022 **A5 seminar**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil

#### To the general public

- 2021 **A Tale of Geometry**, *S4*, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil
- 2020 **Morse Theory in 15 Minutes**, *Senior Thesis Presentation*, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil
- 2020 **Is the Earth flat? A talk about curvature**, *S4*, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil
- 2020 **How to solve any equation, with some conditions**, *S4*, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil

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## Professional

### Visits

- 2024 **Special Geometric Structures and Analysis**, *SLMath*, Berkeley  
Two months visit to the program.

### Events attended

- 2024 **Summer school on Complex Geometry and canonical metrics**, *CRM*, Montréal, Canada  
2023 **Global invariants of arithmetic varieties**, *CIRM*, Luminy, France  
2023 **Summer School and Workshop "Advances in special Kähler metrics"**, Le Croisic, France  
2023 **Complex analysis and geometry: celebrating the 70+1th birthday of László Lempert**, *Rényi Institute*, Budapest, Hungary  
2022 **Géométrie : échanges et perspectives**, *Insitut Henri Poincaré*, Paris, France  
2021 **Géométrie : échanges et perspectives**, *Insitut Henri Poincaré*, Paris, France  
2019 **32nd Brazilian Mathematics Colloquium**, *IMPA*, Rio de Janeiro, Brazil  
2018 **ICM 2018**, *International Congress of Mathematicians*, Rio de Janeiro, Brazil

### Events Organized

- 2022 **MaThematical Days : Paul Erdős**, *Universidade de São Paulo*, São Paulo, Brazil  
2021 **MaThematical Days : Emmy Noether**, *Universidade de São Paulo*, São Paulo, Brazil  
2021 **MaThematical Days : Élie Cartan**, *Universidade de São Paulo*, São Paulo, Brazil

### Teaching Assistantships

- 2025/1 **Introduction to Riemann Surfaces**, Campus Pierre et Marie Curie, Sorbonne Université, France  
2024/2 **Topology and Differentiable Calculus I**, Campus Pierre et Marie Curie, Sorbonne Université, France  
2024/1 **Functional Analysis**, Campus Pierre et Marie Curie, Sorbonne Université, France  
2023/2 **Topology and Differentiable Calculus I**, Campus Pierre et Marie Curie, Sorbonne Université, France  
2020/2 **Introduction to Algebraic Topology**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil  
2019/2 **Introduction to Analysis**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil  
2019/1 **Differentiable functions and series**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil  
2018/2 **Calculus II**, *Escola Politecnica*, Universidade de São Paulo, Brazil

### Academic Services

- 2021 **Organizer of the A5 Group**, *A student runned academic group*, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil  
Over 25 weekly seminars organized  
2019 **Deputy Student Representative in the Mathematics Department Council**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil  
2018 **Deputy Student Representative in the Mathematics Department Council**, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil

### Other Writings

- 2022  **$L^2$  techniques in Complex Geometry**, *Master Thesis*, Sorbonne Université  
2021 **Morse Theory**, *Undergraduate Thesis*, Universidade de São Paulo

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## Other Info

### Related Activities

- 2021 – 2022 **Reading Seminar on Wild Dynamics**, *Groupe De Travail Dynamiques Sauvages*, IMJ-PRG, Sorbonne Université  
2021 **Summer IMPA**, *Differential topology graduate course*, IMPA, Rio de Janeiro, Brazil  
Online

2020 **Summer IMPA**, *Functional Analysis graduate course*, IMPA, Rio de Janeiro, Brazil  
with financial support

2018 **Summer IMPA**, *Real Analysis*, IMPA, Rio de Janeiro, Brazil  
with financial support

### Languages

Portuguese Native Speaker

Italian Native Speaker

English Fluent

Spanish Fluent

French Fluent

Catalan Intermediate

### Links

Lattes <http://lattes.cnpq.br/7822745238118143>

Orcid <https://orcid.org/0000-0002-1626-0726>

### References

Reference I Sébastien Boucksom

Reference II Tat Dat Tô

Reference III Tamás Darvas

Reference IV Ruadhaí Dervan