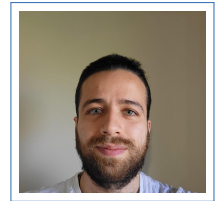


# Nicola Paddeu

*PhD student in Mathematics*

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## Education

- September 2020 **Scuola Normale Superiore**, II level University Master's degree  
July 2023 100/100 cum laude
- September 2020 **Università di Pisa**, Laurea Magistrale in Matematica (Master's degree)  
February 2022 110/110 cum laude
- September 2021 **Swiss European Mobility Program**  
February 2022 University of Fribourg
- September 2017 **Università di Pisa**, Laurea Triennale in Matematica (Bachelor's degree)  
July 2020 110/110 cum laude
- September 2017 **Scholarship granted by Istituto Nazionale di Alta Matematica**  
July 2020
- September 2012 **Liceo scientifico E. Fermi**, Diploma di maturità  
July 2017 100/100 cum laude

## Career

- April 2022 **PhD Student**, Université de Fribourg  
Today Under the supervision of **Enrico Le Donne**
- December 2022 **IT Technician**, Université de Fribourg  
Today
- April 2022 **Diploma assistant**, Université de Fribourg  
July 2022

## Publications

- 2024 **Escape from compact sets of normal curves in Carnot groups**, with Enrico Le Donne, to appear in ESAIM: Control, Optimisation and Calculus of Variations
- 2024 **Symplectic reduction of the sub-Riemannian geodesic flow for metabelian nilpotent groups**, with Alejandro Bravo-Doddoli and Enrico Le Donne, Geometric Mechanics

### Preprints

- 2024 **Metabelian distributions and sub-Riemannian geodesics**, with Enrico Le Donne and Alessandro Socionovo, Preprint: <https://arxiv.org/abs/2405.14997>

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## Scientific talks

- July 2024 **Seminari di Equazioni Differenziali e Applicazioni**, *Università di Padova*  
Metabelian distributions and sub-Riemannian geodesics
- June 2024 **13th School on Analysis and Geometry in Metric Spaces**, *Università di Trento*  
Metabelian distributions and sub-Riemannian geodesics
- May 2024 **SMS Doctoral Day**, *University of Basel*  
Periodic geodesics in self-similar spaces
- February 2024 **EUSCOTHA 2024**, *Università di Trento*  
Periodic locally optimal trajectories for non-holonomic systems
- November 2023 **Maspin day**, *Université Franche-Compté*  
SubRiemannian geodesics and magnetic fields
- November 2023 **Cuso Graduate Colloquium**, *Université de Fribourg*  
Normal geodesics in nilpotent metabelian groups
- March 2023 **AGMS Fribourg seminar**, *Université de Fribourg*  
Escape from compact sets of normal extremals in Carnot groups
- February 2023 **Graduate Colloquium**, *University of California, Santa Cruz*  
Almost length-minimizing property of projections of geodesics in Carnot groups
- November 2022 **Graduate student Seminar**, *Université de Fribourg*  
Open mapping theorems for Lipschitz maps

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## Teaching experience

### Exercise classes

- 2024 **Introduction à l'analyse numérique II**, *Université de Fribourg*
- 2023 **Analyse III**, *Université de Fribourg*
- 2023 **Analyse IV**, *Université de Fribourg*
- 2022 **Analyse III**, *Université de Fribourg*
- 2022 **Thematical seminar**, *Université de Fribourg*

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## Visiting periods

- July 2024 **University of Padova**  
Collaboration with Roberto Monti and Alessandro Siconovo
- February 2022 **University of California, Santa Cruz**  
Collaboration with Alejandro Bravo-Doddoli and Richard Montgomery

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## Other Activities

- 2024 **Outreach events**  
TecDay (Payerne), Science for Youth (Fribourg).
- 2024 **Member of advisory committee**, *for the hiring of a Professor in Mathematics*,  
*Université de Fribourg*

2023 **Outreach events**

Science for Youth (Fribourg), Future en tous genres (Fribourg), Explora (Fribourg), Info days (Fribourg).

2022 **Outreach events**

Mathweek (Fribourg), Future en tous genres (Fribourg), TecDay (Mendrisio).

2021 **Outreach events**

Explora (Fribourg).

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## Languages

<b>Italian</b>	Native speaker
<b>English</b>	Advanced
<b>French</b>	Advanced
<b>German</b>	Beginner
<b>Spanish</b>	Beginner