

## Mathematics

---

### Degree conferred

Scientiarum doctor in mathematica / Doctor of Philosophy in Mathematics (PhD)

### Commencement of studies

An application for admission may be submitted at any time.

### Regulation

<http://studies.unifr.ch/go/Pm-6g> (French and German only)

### Application procedure

#### Candidates with Swiss qualifications

<https://studies.unifr.ch/go/Ui3b4>

#### Candidates with foreign qualifications

<https://studies.unifr.ch/go/2KPbe>

---

## Fribourg profile

The Department of Mathematics offers a PhD programme in Mathematics. This programme comprises a personal research project leading to a doctoral thesis to be completed over 3-4 years. PhD candidates participate in the scientific life at the Department through seminars, advanced courses, workshops or other activities at the Department or in the framework of the *Swiss Doctoral Program in Mathematics*.

The following is a list of professors supervising doctoral theses and of their areas of specialisation.

- **Prof. Enrico Le Donne**

– Metric and differential geometry, geometric measure theory, geometric analysis; in particular: Lipschitz analysis on metric spaces, sub-Riemannian geometry, group actions, rectifiability on Carnot groups, geometric group theory, asymptotic geometry, embedding problems

- **Prof. Anand Dessai**

– Algebraic and differential topology, Riemannian geometry; group actions, positive curvature and symmetry, equivariant index theory

- **Prof. Ruth Kellerhals**

– Hyperbolic geometry; geometry of discrete groups, geometric group theory, discrete and convex geometry, volumes and polylogarithms

- **Prof. Ioan Manolescu**

– Probability; problems inspired by statistical mechanics, lattice models such as percolation, random-cluster and Potts models, self-

avoiding walk

- **Prof. Christian Mazza**

– Applied probability; stochastic models in ecology and systems biology, biological networks, complex ecosystems, mathematical models of plant growth

- **Prof. Stefan Wenger**

– Geometric measure theory, metric geometry; currents in metric spaces, Lipschitz analysis, isoperimetric inequalities, minimal surfaces, asymptotic geometry

## Studies organisation

### Structure of studies

No ECTS credits can be earned.

### Doctoral school

<https://math.cuso.ch>

### Admission

In order to be admitted to a doctorate the candidate must have been awarded an academic **bachelor's and master's degree** or an equivalent qualification from a university recognised by the University of Fribourg.

Before applying for a doctorate the candidate must contact a **professor** who would be willing to supervise the thesis work.

There is **no general right** to be admitted to a doctorate.

*The respective conditions of admission for each doctoral study programme are reserved.*

## Contact

Faculty of Science and Medicine

Department of Mathematics

Chemin du Musée 9

1700 Fribourg

Switzerland

Dr Patrick Ghanaat, study advisor

[patrick.ghanaat@unifr.ch](mailto:patrick.ghanaat@unifr.ch)

<http://studies.unifr.ch/go/mathematicsresearch>

## Doc- Postdoc-portal

<http://www.unifr.ch/phd>