**M2 Mathematics – Research and Innovation**
**2025–2026**

**Name and first name:**
**Email address:**
**Citizenship:**
**Previous University:**
**Current:** ☐ UPS - ☐ INSA - ☐ ISAE
☐ MINT

**Project after completion of M2RI:**

**Track:**
☐ Probability and Statistics
☐ P.D.E, Numerical Analysis, Control theory
☐ Algebra, Dynamics, Geometry, Topology

## BASIC COURSES (choose 4, at least 3 among A1-A9)

| | | |
|---|---|---|
| | A1: | Algebraic Topology |
| | A2: | An introduction to hyperbolic and translation surfaces |
| | A3: | Introduction to Complex Analytic Geometry |
| | A4: | Introduction to Optimal Mass Transport |
| | A5: | Elliptic PDEs and Evolution Problems |
| | A6: | An introduction to the theoretical and numerical analysis of nonlinear conservation laws |
| | A7: | Convergence of Probability Measures and Optimal Transport |
| | A8: | Stochastic calculus |
| | A9: | Asymptotic Statistics |
| | A10: | Approximation of PDEs |
| | A11: | Advanced statistical methods |
| | A12: | The Dynamical System of Billards |
| | A13: | On controlled dynamical systems: structured modelling and numerical methods |
| | A14: | On biological science and climate modeling |

## READING SEMINAR (choose 1)

| | | |
|---|---|---|
| | C1: | The spectrum of the Laplacian on hyperbolic surfaces |
| | C2: | Scaling limits in statistical mechanics - Unique continuation for elliptic partial differential |
| | C3: | Entropy and Large Deviations |

## ADVANCED COURSES (choose 2)

| | | |
|---|---|---|
| | B1: | Affine Surfaces, Homogeneous Vector Fields and Germs Tangent to the Identity |
| | B2: | Introduction to Homotopy Theory |
| | B3: | Regularity Theory for Minimizing Harmonic Maps |
| | B4: | Regularization of Ill-posed Inverse Problems and Applications |
| | B5: | Branching Brownian motion and variants |
| | B6: | Robust Optimization and Statistical Learning |