2023-2024

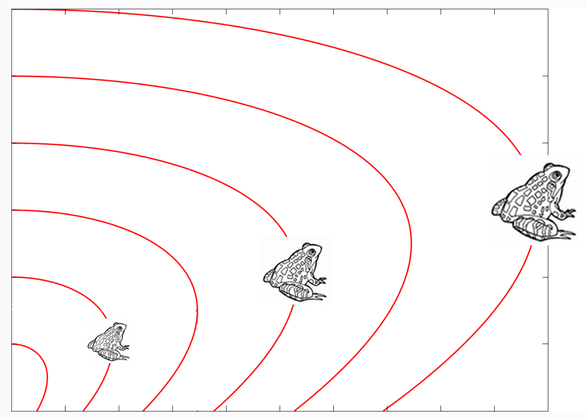
Research Master 2 MATH
Applied and Theoretical Mathematics

Paris Sciences et Lettres (PSL) Research University

https://www.ceremade.dauphine.fr/~M2MATH/

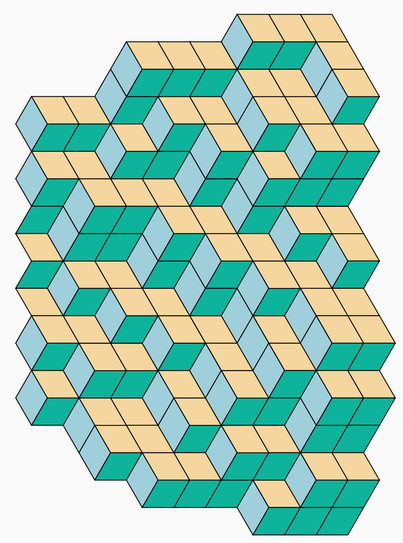
Analysis

Continuous optimisation	A. Chambolle
Entropy methods, functional inequalities and applications	E. Bouin & J. Dolbeault & A. Frouvelle
Introduction to control theory	D. Bresch-Pietri & P. Lissy
Introduction to evolution PDEs	S. Mischler
Introduction to elliptic non-linear PDEs	É. Séré
Mean field game theory	P. Cardaliaguet
Non-convex inverse problems	I. Waldspurger
Numerical methods for deterministic and stochastic problems	G. Legendre & Gabriel Turinici
On transport equations	P.-L. Lions
Spectral theory and variational methods	M. Lewin
Variational and geodesic methods for image analysis	L. Cohen
Variational problems and optimal transport in economy	G. Carlier



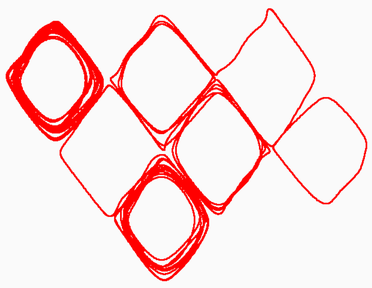
Probability

Integrable probability and the KPZ universality class	G. Barraquand
Introduction to statistical mechanics	B. de Tilière & C. Toninelli
Jump processes	J. Poisat
Harmonic functions and random walks	A. Erschler
Limit Theorems and Large deviations	S. Olla & F. Simenhaus
Mixing times of Markov chains	J. Salez
Monte Carlo and finite differences methods with applications in finance	J. Claisse
Pathwise techniques in stochastic analysis: rough paths & Co	M. Gubinelli
Random geometric models	B. Blaszczyszyn
Random operators	L. Dumaz
Stochastic calculus	J. Salez
Stochastic control	P. Cardaliaguet



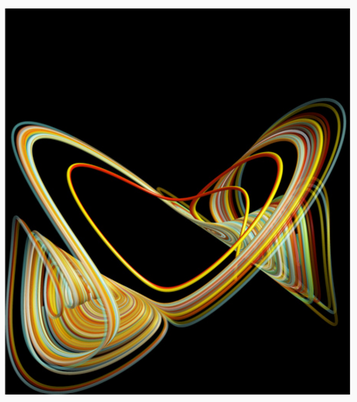
Dynamical Systems and Geometry

Classical gravitation and celestial mechanics	G. Boué
Differentiable dynamical systems in mechanics and physics	J. Fejoz
Dynamics of gravitational systems with a large number of particles	J.-P. Marco
Geometry of partial differential relations	E. Giroux



Mathematical Modelling and Macroscopic Physics

Advanced fluid dynamics	C. Gissinger
Instabilities and nonlinear phenomena	S. Fauve & L. Tuckerman
Nonlinear solid mechanics	B. Roman & M. Cicotti
Numerical methods for fluid dynamics	E. Dormy
Systems out of equilibrium and non-linear dynamics	K. Mallick & F. Petrelis
Turbulence	A. Alexakis & B. Dubrulle



Scholarship programs

- PSL PhD Track for a combined scholarship M2–PhD
- PSL M2 scholarships
- FSMP/PGSM M2 scholarships

Check deadlines on the web!

Scientific Coordinators

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