Lina DESCHAMPS

Research Interests: Dynamical systems. Differential Geometry, Symplectic and Contact Geometry. Also curious about Mathematical Physics, Data science and Numerical assisting in Mathematics.

Appointments

PHD STUDENT, TEAM GEOMETRY AND DYNAMICS | OCT 2023 - ... | HEIDELBERG UNIVERSITÄT, HEIDELBERG (GERMANY)

- Under Prof. Dr. Peter Albers. Funded by the DFG – Project ID 281071066 – TRR 191. Project A8: Symplectic geometry of representation and quiver varieties.
- Symplectic geometry, Hyperkähler geometry. **On a hyperkähler view of the magnetic geodesic flow on CP^n.** Starting from the view given in Albers-Geiges-Zehmisch (arXiv:1705.08126), i.e. a contact-geometric interpretation in terms of quaternionic symmetries of the lift of the magnetic geodesic flow from S^2 (=CP^1) to S^3 (=S*CP^1). As nice as it would be to generalize to higher projective spaces, the previous proof cannot be copy-pasted as it is (since the unitary tangent bundle S*CP^n is simply connected for n>1). The idea is to use the hyperkähler structure on the cotangent bundle of CP^n to get a similar result.
- Fellow associate of the RTG2229 "Asymptotic Invariants and Limits of Groups and Spaces", research training group joint with the Karlsruhe Institute of Technology. **PhD speaker and representative** in 2024-2025.
- Fellow member of the Heidelberg Graduate School of Mathematical and Computational Methods for the Sciences (HGS MathComp).

Education

MASTER 2 RESEARCH IN MATHEMATICS, SPECIALTY ALGEBRA AND GEOMETRY | 2023 | UFR SCIENCES, NANTES (FRANCE)

- Talks in Student seminar: "Introduction to Morse theory" and "Stationary phase method".
- Research project on Surfaces of section on closed surfaces. Prof. Advisor: Vincent COLIN.

MASTER 2 PREPARATION TO "AGREGATION" IN MATHEMATICS | 2022 | UFR SCIENCES, NANTES

MASTER 1 FUNDAMENTAL AND APPLIED MATHEMATICS | 2021 | UFR SCIENCES, ANGERS

- With honors. Internship (research project) on Real Algebra, Prof. Advisor: Jean-Philippe MONNIER.

LICENCE (BACHELOR) FUNDAMENTAL MATHEMATICS | 2020 | UFR SCIENCES, ANGERS

- With honors. Internship (research project) on Complex projective plane cubic curves, Prof. Advisor: Daniel NAIE.

Research talks

JAN 2025 UNIVERSITÉ D'ANGERS Doctorate students Seminar. Title: Magnetic geodesics decribed by Quaternions on the 2-sphere (and CP^n?).

DEC 2024 NANTES UNIVERSITÉ Doctorate students Seminar. Title: Magnetic geodesics decribed by Quaternions on the 2-sphere (and CP^n?).

DEC 2024 UNIVERSITE DE RENNES Doctorate students Seminar. Title: Magnetic geodesics decribed by Quaternions on the 2-sphere (and CP^n?).

DEC 2024 UNIVERSITÄT HEIDELBERG HGS Membership Colloqium. Title: On a hyperkähler view of the magnetic geodesic flow on CP^n.

MAY 2024 UNIVERSITÄT HEIDELBERG. Weekly Symplectic Seminar. Title: On a hyperkähler view of the magnetic geodesic flow on CP^n.

FEB 2024 MPI LEIPZIG. Workshop "Symplectic geometry of representation and quiver varieties". Title: How quaternions describe the magnetic geodesic flow on the 2-sphere.

DEC 2023 NANTES UNIVERSITÉ. Doctorate students Seminar. Title: Periodic Trajectories in a Billiard Table.

MAY 2023 UNIVERSITÄT HEIDELBERG. Weekly Symplectic Seminar. Title: On the existence of Birkhoff sections for geodesic flows on closed orientable Riemannian surfaces.

Service activities

DEC 2024 UNIVERSITE D'ANGERS Speaker at a career advising event

DEC 2023 UNIVERSITE D'ANGERS Speaker at a career advising event