

Dr. Gabriele Benedetti

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Date of birth: 06/16/1987
Nationality: Italian
Gender: Male

Field of research

I study those dynamical features of a Hamiltonian system that are related with the symplectic topology and geometry of the underlying phase space, using tools from the calculus of variation. As a concrete example, I am interested in the motion of a charged particle in a magnetic field.

Post-doctoral appointments

- 2018 – 2024 **Universität Heidelberg – Junior Professor**
Part of the Symplectic Geometry group.
- 2016 – 2018 **Universität Leipzig – Academic Assistant**
Part of the Differential Geometry group led by prof. Hans-Bert Rademacher.
- 2014 – 2016 **WWU Münster – Postdoctoral fellowship**
Part of the Symplectic Geometry group led by prof. Peter Albers and prof. Kai Zehmisch.
Supported by the grant “SFB 878: Groups, Geometry & Actions”.

Education

- 2011 – 2014 **University of Cambridge – PhD in Pure Mathematics.**
- *Title of the thesis:* The contact property for magnetic flows on surfaces.
- *Advisor:* prof. Gabriel P. Paternain.
- 2006 – 2011 **Scuola Normale Superiore di Pisa – Diploma di Licenza.**
- *Title of the final dissertation:* Exact magnetic flows on closed orientable surfaces.
- 2009 – 2011 **University of Pisa – M.Sc. Mathematics.**
- *Title of the thesis:* An approach to the Weinstein conjecture via J-holomorphic curves.
- *Advisor:* prof. Alberto Abbondandolo.
- 2006 – 2009 **University of Pisa – B.Sc. Mathematics.**
- *Title of the thesis:* The Peter-Weyl Theorem for compact groups and their homogeneous spaces (in Italian).
- *Advisor:* prof. Fulvio Ricci.

Awards and Scholarships

- 2017 Best presentation at the conference on Hamiltonian Systems in memory of J. Mather.
 2011 – 2014 External Research Scholarship at Trinity College (Cambridge).
 2006 – 2011 5 years full support studentship at Scuola Normale Superiore di Pisa.

Invited Talks

- 2017 *Systolic inequalities in contact and symplectic geometry*
 Conference on Hamiltonian Systems (in memory of J. Mather), Monte Verità, Ascona
 GIF Workshop - Floer homology and contact topology, University of Haifa
 Workshop on Conservative Dynamics and Symplectic Geometry, IMPA, Rio de Janeiro
 Hamiltonian and Reeb Dynamics: New Methods and Applications, Lorentz Center, Leiden
- 2016 *The Bangert's Waist Theorem for magnetic flows*
 Bochum-Dortmund joint Differential Geometry Seminar
- 2015 *The Lusternik-Fet Theorem for magnetic flows*
 Non-linear Analysis Seminar, Gdańsk University of Technology
- 2014 *Contact property and Symplectic Cohomology of non-exact magnetic flows on the two-sphere*
 Symplectic Geometry Seminar, WWU Münster
 Differential Geometry Seminar, University of Cambridge
 Seminario di Analisi e Sistemi Dinamici, Università degli studi Roma 3
- 2013 *Contact property of symplectic magnetic flows on the two-sphere.*
 Algebraic and Symplectic Geometry Seminar, University of Oxford
 Séminaire de géométrie et dynamique, ENS Lyon
Periodic motions of dynamical systems preserving a volume form
 Junior Geometry Seminar, Imperial College, London
A mathematical introduction to Catastrophe Theory
 Joint mathematics-chemistry seminar on *Catastrophe Theory*, University of Cambridge

Organization of events

- 2014 – 2015 Co-organizer of the *Symplectic Geometry Seminar* at WWU-Münster.
 2012 – 2013 Co-organizer of the meeting *Research groups in Cambridge* for the differential geometry and topology group, where PhD students presented their research to master students.

Production of reports

- Referee for Bulletin of the LMS, Ergodic Theory and Dynamical Systems, Journal of Modern Dynamics, Proceedings of the AMS, Transactions of the AMS
 Reviewer for MathSciNet Mathematical Reviews (7 items).

Languages

Italian (Native), **English** (Proficient), **German** (Proficient).