

Curriculum Vitae

Stefan Friedl

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Citizenship: German
Date of Birth: March 23rd 1973
Research Interest: Knot theory, low-dimensional manifolds and related algebra

Academic Position (from November 2006)

Postdoctoral Fellow
Département de Mathématiques.
Université du Québec à Montréal, Montréal, Canada.

Previous Positions

- G. C. Evans Instructor (July 2004 – June 2006)
Department of Mathematics
Rice University, Houston, USA
- Postdoc (October 2003 – March 2004)
Department of Mathematics
Ludwig-Maximilian University, Munich, Germany

Education

- Ph.D., Mathematics, Brandeis University, May 2003.
Thesis Advisor: Jerry Levine.
Thesis Title : *Eta-invariants as obstructions to a knot being slice and their relation to Casson-Gordon invariants.*
- M.A., Mathematics, Brandeis University, May 2000.
- B.S., Regensburg University, Germany, December 1998.

Publications and Preprints

1. *Eta invariants as sliceness obstructions and their relation to Casson-Gordon invariants*, Algebraic and Geometric Topology, Vol. 4: 893-934 (2004).
2. *New topologically slice knots* (joint with Peter Teichner), Geometry and Topology, Volume 9, Paper no. 48: 2129–2158 (2005)
3. *Full signature invariants for $L_0(F(t))$* , Proc. Amer. Math. Soc. 133: 647-653 (2005).
4. *L^2 -eta-invariants and their approximation by unitary eta-invariants*, Mathematical Proceedings of the Cambridge Philosophical Society, Vol. 138: 327-338 (2005).
5. *Link concordance, boundary link concordance and eta invariants*, Mathematical Proceedings of the Cambridge Philosophical Society, Vol. 138: 437-460 (2005).
6. *Algorithm for finding boundary link Seifert matrices*, 11 pages, Journal of Knot Theory and Its Ramifications, Vol. 15, No. 5, 601–612
7. *Reidemeister torsion, the Thurston norm and Harvey's invariants*, 24 pages, to be published by the Pacific Journal of Mathematics, available from arXiv:math. GT/0505594.
8. *Thurston norm, fibered manifolds and twisted Alexander polynomials* (joint with Taehee Kim), 28 pages, to be published by Topology, available from arXiv:math. GT/0505594.
9. *Twisted Alexander norms give lower bounds on the Thurston norm* (joint with Taehee Kim), 25 pages, to be published by the Trans. Amer. Math. Soc. available from arXiv:math. GT/0505682.s
10. *The parity of the Cochran-Harvey invariants of 3-manifolds* (joint with Taehee Kim), 15 pages, to be published by the Trans. Amer. Math. Soc. available from arXiv:math. GT/0510475
11. *Twisted Alexander polynomials and symplectic structures* (joint with Stefano Vidussi), 29 pages, submitted available from arXiv:math. GT/0604398
12. *Nontrivial Alexander polynomials of knots and links* (joint with Stefano Vidussi), 9 pages, submitted available from arXiv:math. GT/0606575

13. *Non-commutative multivariable Reidemeister torsion and the Thurston norm* (joint with Shelly Harvey), 19 pages, submitted.
available from arXiv:math. GT/0608409
14. *Symplectic $\mathbf{S}^1 \times \mathbf{N}^3$, surface subgroup separability, and totally degenerate Thurston norm* (joint with Stefano Vidussi), 16 pages, submitted.
15. *Symplectic $\mathbf{S}^1 \times \mathbf{N}^3$ and subgroup separability* (joint with Stefano Vidussi), 3 pages, to be published in the Oberwolfach reports.
16. *More examples of topologically slice knots and links* (joint with Tim Cochran and Peter Teichner), in preparation.
17. *A non-smoothable four-manifold* (joint with Ian Hambleton, Paul Melvin and Peter Teichner), in preparation.

Teaching Experience

- Rice University
 - Linear Algebra, Fall 2004 and Fall 2005.
 - Multivariable Calculus, Spring 2005 and Spring 2006.
 - Geometry, Spring 2005.
 - Algebraic Topology, Spring 2006.
- Brandeis University
 - Differential calculus, Fall 1999.
 - Integral Calculus, Spring 2000 – Spring 2002.

Awards and Honors

Brandeis University Outstanding Teaching Fellow Prize in 2001.

Departmental Services

Organizer of Current Mathematics Seminar, Fall 2004 - Spring 2005.
Co-organizer of Mathematics Colloquium, Fall 2005 - Spring 2006.

Language Skills

Fluent in German and English.
Good knowledge of French, Italian and Spanish.
Basic knowledge of Czech and Hebrew.

Referee for the following journals

Algebraic and geometric Topology
Geometry and Topology
Duke Mathematical Journal

References

- Danny Ruberman (ruberman@brandeis.edu)
Department of Mathematics, Brandeis University, Waltham, MA 02454,
USA
- Andrew Ranicki (a.ranicki@ed.ac.uk)
Department of Mathematics, University of Edinburgh, Edinburgh EH9
3JZ, UK
- Peter Teichner (teichner@math.berkeley.edu)
Department of Mathematics, University of California, Berkeley, CA 94720,
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