

Andrew Stacey – Curriculum Vitæ

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Education and Employment:

Aug '07 - present: *Førsteamanuensis i matematikk* at NTNU, Trondheim.
This is a permanent position, equivalent to Lecturer or Senior Lecturer in the UK.

Mar '05 - Aug '07: Research Associate in Algebraic Topology at Sheffield University.
Funded as part of ESPRC grant no.: GR/S76823/01,
“Stable and Unstable Operations in Higher K-Theory”.
Principal Investigator: Sarah Whitehouse.

Aug '04 - Feb '05: Post-Doctoral Researcher at NTNU, Trondheim

Sept '01 - July '04: Szegö Assistant Professor at Stanford University

Sept '98 - July '01: Ph.D. in Differential Geometry at the University of Warwick.
Ph.D. Supervisor: Professor J. D. S. Jones.
Thesis title:
“A Construction of Semi-Infinite de Rham Cohomology.”

Sept '94 - June '98: M.Math at New College, Oxford University.
Awarded Gibbs prize.

Qualifications and Awards:

PhD: Warwick University, conferred 11th Jan 2002.

Degree: Master of Mathematics, honours 1st class, Oxford University 1998
Courses taken in final years include topics from: Geometry, Topology, Algebra, Functional Analysis, Statistics, Quantum Theory, Non-linear Dynamics and Chaos Theory.
Collegiate scholarship for a first in Moderations, 1995.
Gibbs Prize for highest place in Final Honours Schools, 1998.
Institute of Mathematics and its Applications Award for Outstanding Performance in the Final Year, 1998.

Publications:

Published:

The hunting of the Hopf ring. With Sarah Whitehouse. *Homology, Homotopy and Applications*, 11(2):75-132, 2009.

Constructing smooth manifolds of loop spaces. *Proc. London Math. Soc.*, 99(1) pp195-216, 2009. (DOI: 10.1112/plms/pdn058).

Stable and unstable operations in mod p cohomology theories. With Sarah Whitehouse. *Algebraic & Geometric Topology*, 8:1059-1091, 2008. (DOI: 10.2140/agt.2008.8.1059).

Finite dimensional subbundles of loop bundles. *Pacific J. Math.*, 219(1):187–199, 2005.

The truncated Witten genus. *Math. Z.*, 249(3):581–595, 2005.

Fourier decompositions of loop bundles. With Ralph Cohen. In *Homotopy theory: relations with algebraic geometry, group cohomology, and algebraic K-theory*, volume 346 of *Contemp. Math.*, pages 85–95. Amer. Math. Soc., Providence, RI, 2004.

A Construction of Semi-Infinite de Rham Cohomology. PhD thesis, Warwick University, UK, 2001.

Preprints:

Fetching Tall–Wraith Monoids. With Sarah Whitehouse. 32 pages. *In preparation*.

How to construct a Dirac operator in infinite dimensions. 10 pages.

Submitted to Duke Math. Journal. Available from the arXiv as arXiv:0809.3104.

The co-Riemannian structure of smooth loop spaces. 30 pages.

Submitted to Journal of Diff. Geometry. Available from the arXiv as arXiv:0809.3108.

The smooth structure of the space of piecewise-smooth loops. 37 pages. Submitted to Compositio Mathematica. Available from the arXiv as arXiv:0803.0611.

Comparative smoothology. 49 pages. Available from the arXiv as arXiv:0802.2225.

The differential topology of loop spaces. Seminar notes, Oct 2005. 55 pages.

Available from the arXiv as math.DG/0510097.

Operations in the first Morava K -theory. With Sarah Whitehouse. 45 pages.

Preliminary version available from: <http://www.math.ntnu.no/~stacey>

Invertible matrices from Pascal's triangle. 6 pages.

Preliminary version available from: <http://www.math.ntnu.no/~stacey>

Conference Talks:

- August 2003: *Differential topology of loop spaces* at the conference on the Algebraic Topology of String Theory and Moduli Space of Riemann Surfaces at SUNY-Stony Brook.
- September 2004: *A construction of the Dirac operator on loop spaces* at the 19th British Topology Meeting in Glasgow.
- September 2004: *A construction of the Dirac operator on loop spaces* at the Workshop on Forms of Homotopy Theory: Elliptic Cohomology and Loop Spaces held at the Fields Institute, Toronto.
- November 2004: *A construction of the Dirac operator on loop spaces* at the Topology Symposium in Trondheim.
- September 2006: *Delooping Moravian Maps* at the 21st British Topology Meeting at Gregynog Hall.
- November 2006: *Algebra objects in algebraic topology* at the 58th meeting of the Transpennine Topology Triangle.
- April 2007: *Variations on a theme: Riemannian geometry in infinite dimensions* at the BMC 2007 in the algebraic topology special session.
- June 2008: *A construction of a Dirac operator on loop spaces* at the conference on Analysis and Topology in Interaction in Cortona.
- November 2008: *Comparative smoothology* at the Nordic Topology Meeting.
- May 2009: *Comparative smoothology*, invited talk at the Workshop on Smooth Structures in Logic, Category Theory, and Physics at the University of Ottawa (sponsored by the Fields Institute).
- August 2009: *Comparative smoothology* at the Workshop on Loops, Strings and Moduli Spaces held at the Chern Institute, Tianjing.
- November 2009: *(d Science)/(d Mathematics) = Calculus*, invited talk at the conference for Norwegian mathematics students (*Komin*).
- February 2010: *Category theory: making mathematical pearls since the 1940s*, colloquium talk at NTNU.

In addition, I have given numerous seminars on my work at universities across the USA and Europe.

Teaching Experience:

NTNU

Førsteamanuensis, August 2007 - present. Full responsibility for classes, including selection and preparation of course material, setting examinations, and management of course assistants. Classes taught include: analysis on manifolds, functional analysis, linear methods, fourier analysis theory, manifolds, 1st year linear algebra and ODE theory. Teaching load: 2.5 semesters per year.

Stanford University

Szegö Assistant Professor, Sept 2001 - July 2004. Full responsibility for classes, including selection and preparation of course material, setting examinations, and management of course assistants. Classes taught were at both undergraduate and graduate level and include: multivariable calculus, linear algebra, real analysis, and differential geometry. Teaching load: 4 quarters per year.

Warwick University

Classroom Instructor, Sept 1999 - Dec 2000 (2 quarters), Analysis I. The Analysis I course at Warwick is classroom based with students working through booklets assisted by an instructor and course assistants. Responsibilities included: preparing classes, management of course assistants, typesetting and editing booklets.

Teaching Assistant, Jan 2000 - Mar 2001 (2 quarters), Analysis II. Duties involved running problem sessions.

Undergraduate Supervisor, Sept 1998 - June 1999, for two groups of four first year students. Duties involved grading the students' homework for all their mathematics classes and meeting with the students weekly to review homework problems and class material.

Other Teaching Experience

Volunteer with the Bayshore Christian Mission, Oct 2002 - Dec 2003. BCM is a charity involved in tutoring disadvantaged school children from East Palo Alto.

Teaching English as a foreign language in Pakistan, March 1994 - July 1994.

Other Service and Activities:

NTNU

Pedagogical training.

On the organising committee for the 2010 Nordic Topology Seminar at Copenhagen.

Administrator for the collaborative *nLab* project.

Norwegian as a Foreign Language.

On the Panel of Experts at the Science Fair for the Birralee International School, Trondheim.

Sheffield University

Academic year 2006-2007: Organiser of the Sheffield Topology Seminar.

On the organising committee of the 22nd British Topology Meeting.

Stanford University

October 2003: Served on the Stanford Rhodes–Marshall panel.

Warwick University

October 1999 - June 2000: Joint organiser of the Junior Geometry Seminar, a seminar consisting of talks by graduates for graduates with interest in geometry.