# *Andrew Stacey*
# *Curriculum Vitæ*


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| Address: | Department of Pure Mathematics<br>University of Sheffield<br>Hicks Building<br>Hounsfield Road<br>Sheffield<br>S3 7RH |
| Tel: | +44 114 222 3724 |
| Fax: | +44 114 222 3769 |
| Email: | `a.e.stacey@sheffield.ac.uk` |
| Webpage: | `http://www.astacey.staff.shef.ac.uk` |


## *Education and Employment:*

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| Mar '05 - present: | Resarch Associate in Algebraic Topology at Sheffield University.<br>Funded as part of ESPRC grant no.: GR/S76823/01, "Stable and Unstable Operations in Higher K–Theory".<br>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.<br>Ph.D. Supervisor: Professor J. D. S. Jones.<br>Thesis title: "A Construction of Semi-Infinite de Rham Cohomology." |
| Sept '94 - June '98: | M.Math at New College, Oxford University. |

## *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, Nonlinear 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:*

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:*

*The geometry of the loop space and a construction of a Dirac operator.* 51 pages.
Available from the arXiv as math.DG/0505077.

*The differential topology of loop spaces.* Seminar notes, Oct 2005. 55 pages.
Available from the arXiv as math.DG/0510097.

*Stable and Unstable Operations in mod p Cohomology Theories.* With Sarah Whitehouse.
Submitted to Algebraic and Geometric Topology. 26 pages.
Available from the arXiv as math.AT/0605471.

*Operations in the first Morava K–theory.* With Sarah Whitehouse. 45 pages.
Preliminary version available from: `http://www.astacey.staff.shef.ac.uk`

*Invertible matrices from Pascal's triangle.* 6 pages.
Preliminary version available from: `http://www.astacey.staff.shef.ac.uk`

## *Teaching Experience:*

***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.

## *Conference Talks:*

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| 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. |

## *Seminars:*

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| January 1999 - June 2001 | Warwick Graduate Geometry Seminar:<br>*Elliptic Cohomology for Beginners*,<br>*Mechanics to Manifolds* (mini series of 3 talks),<br>*The Harmonic Oscillator*,<br>*Semi-Infinite de Rham Cohomology.* |
| October 2001: | Stanford Topology Seminar,<br>*A Construction of Semi-Infinite de Rham Cohomology.* |
| September 2002: | UIUC Topology Seminar,<br>*A Construction of Semi-Infinite de Rham Cohomology.* |
| October 2003: | Stanford Topology Seminar,<br>*A Construction of the Dirac Operator on the Loop Space.* |
| Autumn 2004: | NTNU Topology Seminars, series entitled:<br>*The differential topology of loop spaces.* |
| Spring 2004: | Sheffield Topology Seminars, series entitled:<br>*The differential topology of loop spaces.* |
| November 2005: | NTNU Topology Seminar<br>*Topological two-vector bundles.* |
| November 2005: | Oxford Topology Seminar<br>*Differential Operators on Loop Spaces.* |
| November 2005: | Sheffield Topology Seminar<br>*Delooping Moravian maps.* |
| March 2006: | Aberdeen Topology Seminar<br>*Index Theory and Loop Spaces.* |
| October 2006: | Sheffield Topology Seminar<br>*Describing Unstable Operations.* |

I have also been invited to speak at the Glasgow and Manchester Topology seminars.

## *Computing Experience:*

1999 - 2001: Part of the computer support team for the mathematics department at Warwick University. Particular responsibility for installing and maintaining computers running Linux.

## *Other Service:*

***Sheffield University***
Academic year 2006-2007: Joint organiser of the Sheffield Topology Seminar
On the organising committee of the 22nd British Topology Meeting (to be held at Sheffield University).

***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.

## *Professional Organisations:*

American Mathematical Society