
JELENA GRBIĆ
SCHOOL OF MATHEMATICS
UNIVERSITY OF MANCHESTER
MANCHESTER M13 9PL, UK
TEL: +44(0)161 27 55849
E-MAIL : *jelena.grbic@manchester.ac.uk*

CURRICULUM VITAE

PERSONAL INFORMATION

Date of birth: 1st November 1974

Languages spoken: Serbian, English, Russian

Education:

2001–2004 University of Aberdeen: PhD

1997–2000 University of Belgrade/ State University of Moscow: MSc

1993–1997 University of Belgrade: BSc

Working experience:

August 2009 – present: **Senior Lecturer, University of Manchester**

January 2007 – July 2009: **Lecturer, University of Manchester** (permanent position)

with maternity leave from 22nd May until 29th November 2008

December 2004 – December 2006: **Lecturer, University of Aberdeen** (permanent position)

March – December 2004: **Postdoctoral research position, University of Aberdeen**

October 1997 – February 2001: **Teaching assistant, Belgrade University**

Membership of professional organisations:

London Mathematical Society

Mathematical Society of Serbia

RESEARCH AND ACADEMIC/PROFESSIONAL STANDING

Area of Research:

Algebraic Topology: unstable homotopy theory, homotopy exponents, (finite) H-spaces, homotopy decompositions, combinatorial groups; toric topology, arrangements; cobordism theory; Hopf algebras.

Publication. Refereed Academic Journal Papers:

[1] with Stephen Theriault, *The homotopy type of the complement of the codimension-two coordinate subspace arrangement*, (Russian) Uspekhi Mat. Nauk 59 (2004), 203-204;

[2] *Universal homotopy associative, homotopy commutative H-spaces and the EHP spectral sequences*, Proc. Camb. Phil. Soc. 140 (2006), no.3, 377-400;

[3] *Universal spaces of two-cell complexes and their homotopy exponents*, Q. J. Math. 57 (2006), 355-366;

- [4] *The cohomology of exotic 2-local finite groups*, Manuscripta Math. 120 (2006), 307-318;
- [5] with Stephen Theriault, *The homotopy type of the complement of coordinate subspace arrangements*, Topology 46 (2007), 357-396 ;
- [6] with Jie Wu, *Natural transformations of tensor algebras and representations of combinatorial groups*, Algebr. Geom. Topol. 6 (2006), 2189-2228;
- [7] with Jie Wu, *Applications of combinatorial groups to the Hopf invariants and the exponent problem*, Algebr. Geom. Topol. 6 (2006), 2229-2255;
- [8] with Paul Selick and Jie Wu, *The decomposition of the loop space of the mod 2 Moore space*, Algebr. Geom. Topol. 8 (2008), 945-951;
- [9] *Homotopy theory and the complement of a coordinate subspace arrangement*, Contemp. Math. 460 (2008), 111-130;
- [10] with Stephen Theriault, *A universal property for $\mathrm{Sp}(2)$ at the prime 3*, Homology, Homotopy Appl. 11 (2009), 1-15;
- [11] with Svjetlana Terzić, *The integral Pontryagin homology of the based loop space on a flag manifold*, Osaka J. Math. 47 (2010), 1-22;
- [12] with Stephen Theriault, *Self-maps of low rank Lie groups at odd primes*, Canad. J. Math. 62 (2010), 284-304;
- [13] with Hao Zhao, *Homotopy exponents of some homogeneous spaces*, Q.J. Math. 62(4) (2010), 923-951, doi: 10.1093/qmath/haq001;
- [14] with Stephen Theriault and Jie Wu, *Decompositions of looped co- H -spaces*, to appear in PAMS;
- [15] with John Harper, Mamoru Mimura, Stephen Theriault and Jie Wu, *Rank $p-1$ mod- p H -spaces*, to appear in Israel J. of Math;
- [16] with Svjetlana Terzić, *The integral homology ring of the based loop space on some generalised symmetric spaces*, to appear in Mosc. Math. J.

Submitted Papers:

- [1] with Stephen Theriault, *Higher Whitehead products in toric topology*;
- [2] with Stephen Theriault and Jie Wu, *Suspension splittings and James-Hopf invariants*;
- [3] with Stephen Theriault and Hao Zhao, *A filtration of the double suspension E^2* ;
- [4] with Victor Buchstaber, *Lie-Hopf algebras and loop homology of suspension spaces*;
- [5] with Stephen Theriault, *The homotopy type of the polyhedral product for shifted complexes*
- [6] with Jie Wu, *Homotopy Rigidity of $\Omega\Sigma$ functor*

Papers in preparation:

- [1] with Victor Buchstaber, *Geometric bordism theory of manifolds with $\langle m \rangle$ -structures*;
- [2] with Svjetlana Terzić, *The integral Pontryagin homology of the based loop space on a Grassmann manifold*;
- [3] with Nigel Ray, *Mod- p decompositions of toric objects*;
- [4] with Stephen Theriault, *Connected sums as polyhedral products*;
- [5] with Aleksandar Vučić, *The degree of maps between manifolds*

Other research achievements:

- PhD thesis: Universal homotopy associative, homotopy commutative H -spaces, University of Aberdeen, March 2004.

Supervision of post-doctoral researchers:

Hao Zhao, for 2 years, July 2008-June 2010.

Supervision of research students:

Stephen Miller, jointly supervised PhD student, started in October 2007, submitted the thesis;

Beverley O'Neill, jointly supervised PhD student, started in October 2008;

Daniel Robinson, started in October 2008;

Alexander Longdon, started in October 2010.

Organisation and promotion of research:

Major research grants:

- **EPSRC First Grant 2007, £250 000:** proposal submitted solely under my name, a postdoc appointed for 2 years;
- **EPSRC 2008, £17 506:** to support the international workshop Toric Topology, Manchester, July 2008, proposal submitted in collaboration with Nigel Ray;
- **The Nuffield Foundation Award for Newly Appointed Lecturers 2005, £5000:** proposal submitted solely under my name;
- **EPSRC Overseas travel grant 2005, max of £10000:** to support a research visit to the National University of Singapore, proposal submitted solely under my name.

Other research grants and awards received:

- **WUS Austria Brain Grain Program 2009, £1500 and 2010, £1500:** to support a teaching and research visit to Belgrade;
- **Chinese Academy of Science 2008:** to support the international conference on Homotopy Theory and its Applications in Beijing 2009; proposal submitted in collaboration with Jie Wu.
- **RS 2007, £12000:** to support Manchester-Moscow collaboration on the project Toric Topology and Its Applications, proposal submitted in collaboration with Victor Buchstaber, Taras Panov, and Nigel Ray;
- **LMS 2007, £5500:** to support the conference New Horizons in Toric Topology, Manchester, July 2008, proposal submitted in collaboration with Nigel Ray;
- **MIMS 2007, £1500:** to support the workshop Toric Topology, Manchester, July 2008, proposal submitted in collaboration with Nigel Ray;
- **WUS Austria Brain Grain Program 2007, £1800:** to support a teaching and research visit to Podgorica;
- Grant from the **Visiting Scholars Programme, University of Aberdeen 2006 (£900)** to support a research visit of Professor Terzić;
- Grant from the **Institute Mittag-Leffler 2006 (£450)** to support a research visit;
- **Santiago University** research visit grant 2005 (**euros 6000**);
- **LMS Scheme 4 Grant 2005 (£500)**;
- **Small Funds Grant**, University of Aberdeen 2004 (**£750**);
- ORS, 2001–2004;
- Milner Scholarship, University of Aberdeen, 2001–2004;
- SANU Visiting Fellowship, Moscow, six months in 1998;
- Norwegian State award;
- MST Scholarship, 1998–2001;
- M. P. Alas Prize (awarded to the best student in the class);
- RFSA Scholarship 1993–1997.

Application submitted:

- **RS International Joint Project, £8 880:** to support Manchester-Podgorica collaboration on the project Homotopy theory of the loop space on a manifold;
- **Leverhulme Trust research grant, £219 633:** proposal submitted solely under my name, to fund an RA position and a PHD student for 3 years.

Application in preparation:

- **EPSRC grant:** proposal for a three year project to be submitted by May 2012

Major research seminars and conferences organised:

- **International Conference** on Homotopy Theory and its Applications, Chern Institute of Mathematics, **Beijing**, 24th-29th May 2009, Organisers: Fred Cohen, myself, and Jie Wu;
- New Horizons in Toric Topology, **Manchester**, 7th-12th July 2008 with the granted statues of **Satellite to the 5th European Congress of Mathematics**. Organised by Nigel Ray and myself;
- Workshop in **Toric Topology, Manchester**, 1st-5th July 2008. Organised by Nigel Ray and myself;
- Topology seminar organiser, Manchester, April 2007-present;
- Topology seminar organiser, Aberdeen, 2004-2006;
- **International Conference** in Algebraic Topology **Isle of Skye**, June 2001 and June 2005; I was one of five organisers.
- International Conference Visual Mathematics, Belgrade, 2000, a minor roll as a co-organiser;
- International Conference Geometric Combinatorics, Kotor, Belgrade, 1998, a minor roll as a co-organiser.

Service as an external examiner or as a referee:

- Referee for leading Academic Journals: Geometry and Topology, Forum Mathematicum, Algebraic and Geometric Topology, Proceedings of the AMS ;
- Reviewer for Mathematical Reviews.

Talks and presentations:

Conference talks:

Listed are conferences at which I was an invited speaker; I have asterisked those where I was a plenary speaker.

- Fourth Sheffield Homotopy Miniconference: “Homotopy and Geometry of Loop Spaces”, Sheffield, January, 2012;
- * International Conference “Toric Topology and Automorphic Functions”, Khabarovsk, September 2011;
- * Colloque du GDR 2875 “Topologie Algebrique et Applications”, Nantes, August 2011;
- British Mathematical Colloquium, April 2011;
- Topological methods in toric geometry, symplectic geometry and combinatorics, BIRS, Banff, November 2010;
- 24th British Topology Meeting, Leicester, September 2009;
- 25th Nordic and 1st British-Nordic congress of Mathematicians, Oslo, June 2009;
- * Algebraic Topology, Braids and Mapping Class Groups, Singapore, Institute for Mathematical Sciences, December 2008;

- * Braids, Singapore, Institute for Mathematical Sciences, May-June 2007: an international program and conference which brought researchers from several mathematical disciplines to address the complex nature of braids and possible applications;
- * Algebraic Topology, Osaka, June 2006;
- Toric Topology, Osaka, May 2006: the first international conference on Toric Topology with an aim to underline the emerging significance of the subject,
- * Annual Conference on Algebraic Topology, Matsumoto, July 2005;
- * International conference: Groups, Homotopy and Configuration Spaces –conference in honor of Fred Cohen, July Tokyo 2005: the most prestigious conference in the field that year;
- 42nd Transpennine Topology Triangle, Leicester, December 2003;
- 18th British Topology Meeting, Manchester, September 2003;
- International conference: Kolmogorov and Contemporary Mathematics, Moscow, June, 2003;
- Conference in Visual Mathematics, Belgrade, April 2000.

Seminar talks:

- Geometry and Topology seminar, University of Warwick, November 2011;
- Arbeitsgemeinschaft: Topological Robotics, Oberwolfach, October 2010;
- Topology Seminar, University of Sheffield, April 2009;
- Mathematical Colloquium, University of Liverpool, May 2008;
- Geometry and Topology Seminar, University of Glasgow, December 2007, November 2010;
- Topology Seminar, University of Durham, November 2007;
- Mathematical Colloquium, University of Montenegro, April 2007;
- Stanford University Topology Seminar, Stanford, February 2007;
- Mathematics Colloquium, Aberdeen, April 2006;
- Mittag-Leffler Institute, Stockholm, March 2006;
- Osaka City University Mathematics Colloquium, December 2005;
- Topology and Geometry seminar, National University of Singapore, September 2005, January 2006;
- Advanced Combinatorics Seminar, Marburg, January 2005;
- The Leicester Pure Mathematics Colloquium, November 2004, February 2011;
- Moscow Topology Seminar, June 2003, April 2005;
- Aberdeen Topology Seminar, May 2002, April 2003, May 2004, March 2008;
- Winter School on Classical Homotopy Theory, Belgrade, January 2003;
- Topology and Geometry, Munich, May 2000;
- Geometry, Topology and Algebra Seminar, Belgrade, on several occasions in 2000, 2001, 2002, 2003, 2004, 2005 and 2006.

Academic invitations for visits and collaborations:

- Belgrade, September 2010; working with Prof Aleksandar Vučić and Prof Rade Živaljević
- Beijing, May 2009;
- Singapore, December 2008;
- Aberdeen, December 2008, September 2007, October-December 2010 working with Dr Stephen Theriault;

- Toronto, July 2007 working with Prof Paul Selick;
- Singapore, May–June 2007 working with Prof Jie Wu;
- Podgorica, April 2007 working with Prof Svjetlana Terzić;
- Stanford, February–March 2007 working with Prof Ralph Cohen;
- Stockholm, March 2006;
- Osaka, December 2005, May–July 2006;
- Singapore, July 2005–February 2006;
- Marburg, January 2005;
- Manchester, September and December 2003;
- Moscow, February–July 1998, June–July 2003, April 2005, and April–May 2010.

Other evidence of academic and professional standing:

- Referee and reviewer in Mathematics/Statistics at Chapman & Hall/CRC for research, undergraduate textbook and popular publications.