

James O'Shea

Zukunftskolleg, Universität Konstanz
School of Mathematical Sciences, University College Dublin

james.oshea@uni-konstanz.de
james.oshea@ucd.ie

Academic Positions and Education

- **IRCSET-Marie Curie Postdoctoral Fellow** Aug. 2009 - Jul. 2012
Universität Konstanz and University College Dublin
Project: *Isotropy of Quadratic Forms and Algebras with Involution*
Mentors: Dr. Karim Becher and Dr. Thomas Unger
- **Lecturer in Mathematics** Sep. 2008 - May 2009
University College Dublin
Courses: Financial Mathematics, Mathematics for Business I and II
- **Ph.D. in Mathematics** Jan. 2004 - Sep. 2007
University College Dublin
Thesis: *Levels and Sublevels of Composition Algebras*
Supervisor: Dr. Thomas Unger
- **M.Sc. in Mathematics** Sep. 2002 - Sep. 2003
University College Dublin
Minor Thesis: *Hermitian Levels of Octonion Algebras*
Supervisor: Dr. Thomas Unger
- **B.Sc. in Mathematics** Sep. 1998 - May 2002
University College Dublin
1st Class Honours

Publications

Publications in peer-reviewed Journals

- *Sums of squares in certain quaternion and octonion algebras*,
C. R. Acad. Sci. Paris, Sér. I, **349**, 239–242 (2011).
- *Bounds on the levels of composition algebras*,
Mathematical Proceedings of the Royal Irish Academy, **110A**, no. 1, 21–30 (2010).
- *Levels and sublevels of composition algebras over p -adic function fields*, with Jan Van Geel,
Archiv der Mathematik **91**, no. 1, 31–43 (2008).
- *Levels and sublevels of composition algebras*, Indagationes Mathematicae **18**, no. 1, 147–159 (2007).

Preprints

- *Isotropy over function fields of Pfister forms*, submitted (2010).

Invited Talks

- Oct. 20, 2008 “Octonion Algebras and Function Fields of Quadratic Forms”,
Real Geometry and Algebra Seminar, Universität Konstanz
- Mar. 2, 2007 “Levels and Sublevels of Composition Algebras”,
Pure Mathematics Colloquium, University of Southampton

Selected Seminar and Conference Talks

- May 2011 “Isotropy over Function Fields of Pfister Forms”,
Ramification in Algebra and Geometry, Emory, USA
- Jun. 23, 2010 “Isotropy over Function Fields of Pfister Forms”,
ALANT, the 9th Colloquiumfest on Algebra and Logic, Poland
- Jan. 29, 2010 “Function Fields of Pfister Forms”,
Real Geometry and Algebra Seminar, Universität Konstanz
- Nov. 3, 2009 “Dimensions of Minimal Forms”,
Quadratic Forms Seminar, Universität Konstanz
- Jan. 25, 2007 “Levels and Sublevels of Composition Algebras”,
Postgraduate Seminar Series, University College Dublin
- May 11, 2006 “New Values for the Level and Sublevel of Composition Algebras”,
Algebra Seminar, Universiteit Gent
- Mar. 13, 2006 “New Values for the Level and Sublevel of Octonion Algebras”,
FNRS Algebra Group Meeting, Université catholique de Louvain
- Oct. 19, 2005 “Levels and Sublevels of Composition Algebras”,
K-Theory/Quadratic Forms Seminar, University College Dublin

Awards

- Aug. 2009 - Jul. 2012 IRCSET-Marie Curie Fellow:
awarded an international mobility fellowship to pursue my research
at the Universität Konstanz and University College Dublin.
- Feb. 2006 - May 2006 Received pre-doctoral funding from the European Union’s
Human Potential Programme to research under the supervision of
Jean-Pierre Tignol at Université catholique de Louvain (Feb. and Mar.)
and Jan Van Geel at the Universiteit Gent (Apr. and May).
- Jan. 2004 - Jun. 2006 Government of Ireland Scholar:
awarded a scholarship by the Irish Research Council for Science,
Engineering and Technology to fund my Ph.D. research.
- Oct. 2002 - Sep. 2003 Government of Ireland Scholar:
awarded a scholarship by the Irish Research Council for Science,
Engineering and Technology to fund my M.Sc. research.
- Dec. 2001 President’s Award in recognition of my examination results.

Teaching

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| Apr. 2010 - Jul. 2010 | Co-organiser of a teaching seminar on Coding Theory for the Department of Mathematics and Statistics at Universität Konstanz. |
| Sep. 2008 - May 2009 | Lecturer for the School of Mathematical Sciences, UCD. I taught three courses: a final-year course in Financial Mathematics, in addition to two first-year Mathematics for Business courses. |
| Jan. 2008 - Jul. 2008 | English Teacher in Budapest. |
| Sep. 2007 - Dec. 2007 | English Teacher in St. Petersburg. |
| Sep. 2006 - May 2007 | Lecturer for the Adult Education Centre, UCD. I taught the Mathematics courses in the “Access to Commerce” programme, which enables mature students to gain entry to third-level education. |
| Jan. 2007 - May 2007 | Occasional Lecturer for the School of Mathematical Sciences, UCD, delivering lectures on a postgraduate-level course in Quadratic Forms, as well as undergraduate-level courses in Linear Algebra and Calculus. |
| Sep. 2002 - May 2007 | Senior Tutor for the School of Mathematical Sciences, UCD, covering a very broad range of undergraduate mathematics courses, encompassing most aspects of Algebra and Analysis, in addition to applications to Commerce and Engineering. |
| Jan. 2004 - May 2007 | Senior Tutor at the Mathematics Support Centre, UCD. |

Memberships and Service

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| Ongoing | Referee for various academic journals. |
| Oct. 2009 - to date | Co-organiser of the Quadratic Forms Seminar at Universität Konstanz. |
| Sep. 2009 - to date | Associate Member of the Zukunftskolleg at Universität Konstanz, a body which promotes interdisciplinary exchange among young researchers. |
| Aug. 2009 - to date | Member of the Marie Curie Fellows Association. |
| May 2004 - May 2009 | Examiner for the School of Mathematical Sciences, UCD, correcting winter and summer examinations for large-intake courses. |
| Sep. 2006 - Sep. 2007 | Postgraduate Representative for the School of Mathematical Sciences, UCD. |

Interests and Activities

- I regularly attend conferences and workshops in my area of research.
- I attend German language courses at Universität Konstanz.
- I am very interested in Russian culture, especially 19th-century Russian literature.
I have attended language courses at St. Petersburg State University and Trinity College Dublin.
- I enjoy running, and ran the 2008 Dublin Marathon in aid of Concern’s Education in Africa programme.