

# Dr Richard Smith

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## EDUCATION

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<b>PhD Mathematics, Christ Church, Oxford</b>	2001 – 2005
Thesis: Trees, Talagrand Operators and Renorming Theory (supervisor: Prof. R. Haydon, Brasenose College, Oxford).	
<b>MMath (First Class honours), Christ Church, Oxford</b>	1995 – 1999
<b>A-Levels (AAAAA), Dr Challoner's Grammar School, UK</b>	1993 – 1995

## ACADEMIC AND LEADERSHIP POSITIONS

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<b>External Examiner for Pure Mathematics, Queens' University Belfast</b>	2024 – present
<b>Head of Mathematics, University College Dublin</b>	2018 – 2021
<b>Lecturer, University College Dublin</b>	2009 – present
<b>Visiting Asst. Professor, Mathematical Institute, AS CR, Prague</b>	2008 – 2009
<b>Fellow and Director of Studies, Queens' College, Cambridge</b>	2005 – 2008
<b>College Lecturer in Mathematics, Christ Church, Oxford</b>	2003 – 2004
<b>Tutor in Mathematics, St John's College, Oxford</b>	2004
<b>Tutor in Mathematics, Oxford Program for Undergraduate Studies</b>	2003
<b>Teaching Assistant, Mathematical Institute, Oxford</b>	2001 – 2002

## PUBLICATIONS

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R. J. Smith, *A Choquet theory of Lipschitz-free spaces*, preprint.

R. J. Aliaga, E. Pernecká and R. J. Smith, *A solution to the extreme point problem and other applications of Choquet theory to Lipschitz-free spaces*, preprint.

L. Ó Náraigh, K. E. Pang and R. J. Smith, *Convergence analysis of the Geometric Thin-Film equation*, preprint.

L. Ó Náraigh, K. E. Pang and R. J. Smith, *A new convergence analysis of the particle method for the Camassa-Holm equation*, preprint.

## PUBLICATIONS CONTINUED

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R. J. Aliaga, E. Pernecká and R. J. Smith, *De Leeuw representations of functions on Lipschitz spaces*, forthcoming in *Nonlinear Anal.*

R. J. Smith, *Gruenhage spaces and their influence on Banach space renorming theory*, forthcoming in *Topology Proc.*

R. J. Smith and F. Talimdjioski, *Lipschitz-free spaces over properly metrisable spaces and approximation properties*, *Proc. Amer. Math. Soc.* **(152)**, 4821–4834, 2024.

R. J. Aliaga, E. Pernecká and R. J. Smith, *Convex integrals of molecules in Lipschitz-free spaces*, *J. Funct. Anal.* **(287)**, 110560, 2024.

R. J. Smith and F. Talimdjioski, *Lipschitz-free spaces over manifolds and the metric approximation property*, *J. Math. Anal. Appl.* **(524)**, 127073, 2023.

R. J. Smith, *A topological characterization of dual strict convexity in Asplund spaces*, *J. Math. Anal. Appl.* **(485)**, 123806, 2020.

R. J. Smith, *Topology, isomorphic smoothness and polyhedrality in Banach spaces*, *Topology Appl.* **(266)**, 106848, 2019.

T. A. Abrahamsen, V. P. Fonf, R. J. Smith and S. Troyanski, *Polyhedrality and decomposition*, *Q. J. Math.* **(70)** 409–427, 2019.

R. J. Smith and S. Troyanski, *Approximation of norms in Banach spaces*, *J. Funct. Anal.* **(276)** 3226–3260, 2019.

P. Bankston, A. McCluskey and R. J. Smith, *Semicontinuity of betweenness functions*, *Topology Appl.* **(246)** 22–47, 2018

V. Bible and R. J. Smith, *Smooth and polyhedral approximation in Banach spaces*, *J. Math. Anal. Appl.* **(435)** 1262–1272, 2016.

T. Kania and R. J. Smith, *Chains of functions in  $C(K)$ -spaces*, *J. Aust. Math. Soc.* **(99)** 350–363, 2015.

V. P. Fonf, R. J. Smith and S. Troyanski, *Boundaries and polyhedral Banach spaces*, *Proc. Amer. Math. Soc.* **(143)** 4845–4849, 2015.

E. Pernecká and R. J. Smith, *The metric approximation property and Lipschitz-free spaces over subsets of  $\mathbb{R}^N$* , *J. Approx. Theory* **(199)** 29–44, 2015

V. P. Fonf, A. J. Pallares, R. J. Smith and S. Troyanski, *Polyhedrality in pieces*, *J. Funct. Anal.* **(266)** 247–264, 2014.

P. Hájek and R. J. Smith, *Some duality relations in the theory of tensor products*, *Expos. Math.* **(30)** 239–249, 2012.

## PUBLICATIONS CONTINUED

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- V. P. Fonf, R. J. Smith and S. Troyanski, *A note on fragmentability and weak- $G_\delta$  sets*, Q. J. Math. **(63)** 375–380, 2012.
- R. J. Smith, *Strictly convex norms,  $G_\delta$ -diagonals and non-Gruenhage spaces*, Proc. Amer. Math. Soc. **(140)** 3117–3125, 2012.
- J. Orihuela, R. J. Smith and S. Troyanski, *Strictly convex norms and topology*, Proc. London Math. Soc. **(104)** 197–222, 2012.
- R. J. Smith and S. Troyanski, *Renormings of  $C(K)$  spaces*, Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. **(104)** 375–412, 2010.
- P. Hájek and R. J. Smith, *Operator machines on directed graphs*, Integral Equations Operator Theory **(67)** 15–31, 2010.
- R. J. Smith and S. Troyanski, *Unconditional bases and strictly convex dual renormings*, Bull. London Math. Soc. **(41)** 831–840, 2009.
- R. J. Smith, *Gruenhage compacta and strictly convex dual norms*, J. Math. Anal. Appl. **(350)** 745–757, 2009.
- V. P. Fonf, A. J. Pallares, R. J. Smith and S. Troyanski, *Polyhedral norms on non-separable Banach spaces*, J. Funct. Anal. **(255)** 449–470, 2008.
- R. J. Smith, *Trees, linear orders and Gâteaux smooth norms*, J. London Math. Soc. **(76)** 633–646, 2007.
- R. J. Smith, *Trees, Gâteaux smooth norms and a problem of Haydon*, Bull. London Math. Soc. **(39)** 112–120, 2007.
- R. J. Smith, *On trees and dual rotund norms*, J. Funct. Anal. **(231)** 177–194, 2006.
- R. J. Smith, *The Tale of a PhD Mathematician*, Mathematics Today **(41)** 76–77, June 2005.
- R. J. Smith, *Bounded linear Talagrand operators on ordinal spaces*, Q. J. Math. **(56)** 383–395, 2005.

## ACADEMIC VISITS AND EXTERNAL COLLABORATIONS

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<b>University of Murcia, Spain</b>	2006 – 2023
<b>Czech Technical University in Prague, Czech Republic</b>	Dec 2017, 2019, Oct 2023
<b>Institute of Mathematics, Polish Academy of Sciences, Warsaw</b>	Feb 2016
<b>Mathematical Institute, Bulgarian Academy of Sciences, Sofia</b>	Jan 2010, Sep 2019
<b>Mathematical Institute, Czech Academy of Sciences, Prague</b>	Sep 2011

## ACADEMIC VISITS AND EXTERNAL COLLABORATIONS CONTINUED

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<b>University of Bordeaux, France</b>	Sep 2007
<b>University of Valencia, Spain</b>	Apr 2006

## CONFERENCES, WORKSHOPS AND SEMINARS

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Gave talks in seminars in Besançon, Birmingham, Bordeaux, Cambridge, CAS and CVUT Prague, DCU, IMPAN Warsaw, Lancaster, Leeds, Maynooth, Murcia, Oxford, Paris, Plovdiv, Sofia, TCD, UCD, UCL and Valencia. Presented at all but five of the following conferences and workshops.

<b>Functional and Metric Analysis and their Interactions, UGR, Spain</b> (invited speaker)	2025
<b>52nd Winter School in Abstract Analysis, Vlachovice, Czech Republic</b>	2025
<b>37th Annual Meeting of the Irish Mathematical Society, Belfast, UK</b>	2024
<b>International Workshop on Operator Theory, Canterbury, UK</b> (invited speaker)	2024
<b>New perspectives in Banach spaces and Banach lattices, Spain</b> (invited speaker)	2024
<b>22nd Galway Topology Colloquium, Ireland</b> (invited speaker)	2024
<b>First conference on Lipschitz free spaces, Besançon, France</b> (invited speaker)	2023
<b>Linear and non-linear analysis in Banach spaces, Santander, Spain</b> (invited speaker)	2023
<b>Functional Analysis in Lille, France</b>	2022
<b>Banach spaces and optimization, Métabief, France</b>	2019
<b>Non Linear Functional Analysis, CIRM, Luminy, France</b> (invited speaker)	2018
<b>Geometric Topology and Geometry of Banach Spaces, Eilat, Israel</b> (invited speaker)	2017
<b>Transfinite methods in Banach spaces, Beđlewo, Poland</b> (invited speaker)	2016
<b>30th Summer Conference on Topology and Applications, Galway</b> (invited speaker)	2015
<b>Spring School, Mathematics and Statistics, Otepää, Estonia</b> (invited speaker)	2015
<b>Infinite Dimensional Function Theory, UCD, Dublin</b> (invited speaker)	2015
<b>First Brazilian Workshop in Geometry of Banach Spaces, Maresias</b> (invited speaker)	2014
<b>Geometry of Banach Spaces, Albacete, Spain</b> (invited speaker)	2014
<b>15th Educational Technology Conference of the ILTA, Dublin</b>	2014
<b>Kangro 100 – Methods of Analysis and Algebra, Tartu, Estonia</b>	2013

## CONFERENCES, WORKSHOPS AND SEMINARS CONTINUED

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<b>QOP Meeting, Lancaster, UK</b> (invited speaker)	2013
<b>Workshop on set theoretic methods, Warsaw</b> (invited speaker)	2013
<b>41st Winter School in Abstract Analysis, Kácov, Czech Republic</b> (invited speaker)	2013
<b>Geometry of Banach Spaces, CIRM, Luminy, France</b> (invited speaker)	2012
<b>Banach Spaces Workshop, Birmingham, UK</b>	2012
<b>General Topology and its Applications, New York</b>	2011
<b>Functional Analysis Meeting, Valencia, Spain</b> (invited speaker)	2010
<b>Function Theory on Infinite Dimensional Spaces XI, Madrid</b>	2009
<b>Modern Functional Analysis, Aranjuez, Spain</b>	2009
<b>CMS Winter Meeting 2008, Ottawa</b> (invited speaker)	2008
<b>Spring Conference on Banach spaces, Paseky, Czech Republic</b>	2008
<b>Workshop in Banach space theory, Murcia, Spain</b> (invited speaker)	2007
<b>Spring Conference on Banach Spaces, Paseky, Czech Republic</b>	2007
<b>Banach space theory: classical topics and new directions, Cáceres, Spain</b>	2006
<b>III Workshop in Functional Analysis, Murcia, Spain</b>	2006
<b>Function Theory on Infinite Dimensional Spaces IX, Madrid</b>	2005
<b>V Conference on Banach Spaces, Cáceres, Spain</b>	2004
<b>Non-Separable Banach Spaces, Paseky, Czech Republic</b>	2004

## AWARDS AND SCHOLARSHIPS

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<b>Research Frontiers Programme, Science Foundation Ireland</b>	2011 – 2015
<b>Doctoral Training Grant, EPSRC, UK</b>	2001 – 2004
<b>Wilson Scholarship, Christ Church, Oxford</b>	1999
<b>Open Scholarship, Christ Church, Oxford</b>	1996 – 1999

## SUPERVISION AND EXAMINATION

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### **PhD, MSc and BSc supervision**

Sole supervisor of 2 PhD students (2011-2015, 2019-2023); 2 MSc students (2017, 2023); 4 final year BSc students (2019, 2023).

### **External and internal thesis examination**

External examiner for 2 PhD theses (Charles University, Prague, 2012 and Lancaster University, UK 2023); internal examiner for 1 PhD thesis (2011) and 1 MSc thesis (2015).

## ACADEMIC SERVICE

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### **Academic Referee**

2005 – present

Refereed manuscripts for the Transactions and Proceedings of the American Mathematical Society (AMS), the Bulletin of the Australian Mathematical Society, Commentationes Mathematicae, the Edinburgh Mathematical Society, the Journal of Functional Analysis, Fundamenta Mathematicae, the International Mathematical Research Notices, the Houston Journal of Mathematics, the Journal of Approximation Theory, the Journal of Geometric Analysis, the Journal of Mathematical Analysis and its Applications, the London Mathematical Society, the Mediterranean Journal of Mathematics, the Quarterly Journal of Mathematics (Oxford), the Spanish Royal Academy of Sciences, Studia Mathematica and Topology and its Applications.

### **Reviewer for AMS Mathematical Reviews**

2009 – present

## NON-ACADEMIC EMPLOYMENT

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### **Webmaster, Prime Marketing Publications Ltd., Chorleywood, UK**

2000 – 2001

Developed a suite of online reports to enhance the company's services to IT consultants and decision makers. Designed, coded and implemented all core elements of the websites, using ASP, SQL Server and HTML. Trained content writers to update and maintain the sites.

### **Intern, NAFSA, Washington DC**

1999

Participated in the design, installation and testing of a sub-network, for use in an in-house training program. Y2K testing.

## PERSONAL DETAILS

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**Date of birth** 24th July 1977.

**Nationality** British.

**Interests** History, art, music and working and travelling abroad.