

# NICHOLAS JACKSON

---

**FULL NAME** Nicholas James Jackson  
**EMAIL** Nicholas.Jackson@warwick.ac.uk

---

## ACADEMIC QUALIFICATIONS

1981–1991 Nottingham High School **General Certificate of Secondary Education**  
Mathematics (A), Physics (A), Chemistry (A), French (A),  
Latin (B), English (B), Music (C), English Literature (C)  
**General Certificate of Education, Advanced Level**  
Mathematics (A), Further Mathematics (A), Physics (B)  
**Sixth Term Examination Papers**  
Further Mathematics A (2), Further Mathematics B (3)

1991–1994 University of York **Bachelor of Arts** in Mathematics  
Class II(2) honours

1996–1997 University of Warwick **Master of Science** in Mathematics  
Dissertation: *Knot Classification and Enumeration*  
Supervisor: Brian Sanderson

1997–2004 University of Warwick **Doctor of Philosophy** in Mathematics  
Dissertation: *Homological Algebra of Racks and Quandles*  
Supervisor: Colin Rourke

2014–2015 University of Warwick **Postgraduate Award** in Technology Enhanced Learning  
Project: *Using GeoGebra in Undergraduate Mathematics Teaching*

---

## EMPLOYMENT HISTORY

Jul 1994 – Dec 1995 Programmer, Department of Mathematics, University of York  
Jan 1996 – Oct 1996 Developer, Infocom UK Ltd  
Oct 1997 – Jul 1999 Developer, Infocom UK Ltd  
Aug 1999 – Nov 2002 Consultant, Parasol Solutions Ltd  
Aug 2003 – Nov 2004 Developer, Eccleston and Hart Ltd, and NS Optimum Ltd  
Nov 2004 – Oct 2014 Production editor, Mathematical Sciences Publishers  
Nov 2004 – Oct 2017 Tutor and part-time teacher, University of Warwick  
Oct 2016 – Teaching Fellow, Department of Mathematics, University of Warwick  
Oct 2017 – Teaching Fellow, Department of Economics, University of Warwick

---

## TEACHING

2006–2011 EC119 Mathematics for Economists  
Topics include: set theory, real analysis, differential equations, linear algebra.

2007– MA397 Consolidation  
For struggling third-year mathematics students, revising core first and second year topics.

2011– EC119 Mathematical Analysis  
Topics include: set theory, real analysis, differential equations.

2011– EC133 Linear Algebra  
Topics include: vectors and matrices, matrix diagonalisation, vector spaces, quadratic forms.

2015– EC961 Introductory Mathematics and Statistics  
For incoming economics MSc students. Topics include: matrix algebra, convexity, statistics.

Jun 2018 Python and R classes  
For MRes and PhD students in Economics.

Feb 2019 Real Analysis classes  
For MSc students in Economics.

2018– Personal Development Module  
Activities for first-year economics students, to promote engagement and employability.

---

## PROFESSIONAL AND ACADEMIC AFFILIATIONS

1999 Member, London Mathematical Society  
2016 Fellow of the Higher Education Academy  
2016 STEM Ambassador

---

## STUDENTS SUPERVISED

Personal tutor to over 100 Mathematics and Economics BSc and MMath students since 2004.

## MMATH PROJECTS

2005–2006 Craig Bowen, *Rack and quandle homology*; John Huddleston, *Khovanov homology*  
2006–2007 Jamie Luo, *Khovanov homology*; Ben de Meza, *Vassiliev invariants*  
2007–2008 Tom Boardman, *Khovanov homology*; Robert McKemey, *Category theory*;  
Matthew Reynolds, *Category theory*  
2009–2010 Robert Goss, *Khovanov homology*  
2012–2013 Stephen Ashton, *Exotic spheres*  
2013–2014 Abigail Linton, *Twisted Alexander polynomials*

## MSc DISSERTATIONS

2018–2019 Xin Jing, Neeraja Nandini Satheesh Babu, Hao Wang

---

## PUBLICATIONS

- 1 NJ Jackson, *Extensions of racks and quandles*, Homology, Homotopy and Applications 7.1 (2005) 151–167, arXiv: math.CT/0408040
  - 2 NJ Jackson, *Rack and quandle homology* (2004), arXiv: math.CT/0411055
  - 3 SK Friedl and NJ Jackson, *Approximations to the volume of hyperbolic knots*, in: *Twisted topological invariants and topology of low-dimensional manifolds*, ed. by T Morifuji, RIMS Kôkyûroku 1747, Kyoto (2011) 35–46, arXiv: 1102.3742
  - 4 NM Dunfield, SK Friedl, and NJ Jackson, *Twisted Alexander polynomials of hyperbolic knots*, Experimental Mathematics 21.4 (2012) 329–352, arXiv: 1108.3045
  - 5 NJ Jackson and CG Johnson, *Evolving unknotting strategies for knots and braids*, in: *Proceedings of the 1st Symposium on Nature Inspired Computing*, Birmingham (2012), arXiv: 1302.0787
  - 6 NJ Jackson, *A Course in Abstract Algebra*, in preparation, to be published by Oxford University Press (expected 2020)
- 

## OUTREACH AND PUBLIC ENGAGEMENT

24 Mar 2008 *The Mathematics of Knots*, talk at Orbital (Eastercon 2008)  
10 Apr 2009 *The Poincaré Conjecture*, talk at LX (Eastercon 2009)  
3 Apr 2010 *The Geometry Of The Place Was All Wrong*, talk at Odyssey (Eastercon 2009)  
30 Jun 2010 *The Geometry Of The Place Was All Wrong*, talk at the Culham Centre for Fusion Energy  
24 Apr 2011 *The Bits Between The Bits*, talk at Illustrious (Eastercon 2011)  
7 Apr 2012 *Unsolvable Problems in Mathematics*, talk at Olympus (Eastercon 2012)  
17 Oct 2012 *Outsider Mathematics*, talk at Coventry Sceptics in the Pub  
Nov 2012 *Poincaré Dodecahedral Space*, talk at MathsJam Gathering 2012  
1 Apr 2013 *Pure and Applied Mathematics*, talk at EightSquaredCon (Eastercon 2013)  
Nov 2013 *Hyperbolic Knots*, talk at MathsJam Gathering 2013  
21 Apr 2014 *Networks and Small Worlds*, talk at Satellite 4 (Eastercon 2014)  
14–18 Aug 2014 Coordinator, academic poster session, Loncon 3 (World SF Convention 2014)  
15 Aug 2014 Interview with Ian Stewart, Loncon 3

15 Aug 2014 *What's New in Mathematics*, panel discussion at Loncon 3  
18 Aug 2014 *Knots in Non-Euclidean Space*, talk at Loncon 3  
Nov 2014 *Sofia Kovalevskaya: Nihilist Girl*, talk at MathsJam Gathering 2014  
Mar 2015 – Member, BrumSciComm science communication group, Birmingham  
5 Apr 2015 *Quintic Equations: Symmetry and Tragedy*, talk at Dysprosium (Eastercon 2015)  
Nov 2015 *Émilie du Châtelet*, talk at MathsJam Gathering 2015  
May 2016 – STEM Ambassador, STEMNet UK  
Sep 2016 – Dec 2017 Volunteer, Code Club, Earlsdon Library, Coventry  
Nov 2016 *Fractran*, talk at MathsJam Gathering 2016  
17 Apr 2017 *Mathematics and Language*, talk at Innominate (Eastercon 2017)  
7 Jun 2017 *Mathematics and Art*, Aspiration Day talk, University of Warwick Arts Centre  
10 Jul 2017 *Error Correcting Codes*, talk at Science and Survival 2017, University of Warwick  
12 Jul 2017 *The Mathematics of Networks*, talk at Experience Warwick 2017, University of Warwick  
Sep 2018 – Volunteer, Coder Dojo, Central Library, Coventry  
2 Apr 2018 *Women of Mathematics*, talk at Follycon (Eastercon 2018)  
14 May 2018 *The Shape of Data*, talk at Pint of Science 2018, Coventry  
24 Sep 2018 Quoted in *New Scientist* and *Popular Science* on the Riemann Hypothesis  
17 Oct 2018 *Émilie du Châtelet*, Ada Lovelace Day talk to the Warwick Mathematics Society  
Feb 2019 – British Science Association Mathematics Section liaison  
7 Mar 2019 *Introduction to Category Theory*, talk to the Warwick Mathematics Society  
21 Apr 2019 *Maths creativity*, children's practical maths workshop, Ytterbium (Eastercon 2019)  
22 Apr 2019 *Untangling DNA*, talk at Ytterbium (Eastercon 2019)  
20 May 2019 *Untangling DNA*, talk at Pint of Science 2019, Coventry  
14 Sep 2019 *Interactive Maths*, activity at University of Warwick Family Day/British Science Festival  
6 Dec 2019 *Émilie du Châtelet*, item on *Wrong But Useful* podcast

---