# Dr. Timothy Logvinenko

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<u>DATE OF BIRTH</u> <u>NATIONALITY</u> :	—	<u>E-MAIL</u> : <u>PHONE</u> :	LogvinenkoT@cardiff.ac.uk +44 7590 910757
ADDRESS:	School of Mathematics, Cardiff University, Senghennydd Road, Cardiff, CF24 4AG, United Kingdom		
<b>EDUCATION</b> :			
1988-1993 1993-1995	Specialised Mathematical Sc Methodist College, Belfast	hool #43, Mos	cow
1996-1999 1999-2000 2000-2004	Mathematical Tripos Part IIB, Trinity College, University of Cambridge Mathematical Tripos Part III, Trinity College, University of Cambridge PhD in Mathematical Sciences (with Dr. Alastair King), University of Bath, UK		
Degrees Held:	BA, MA, MMath in Mathematical Sciences from University of Cambridge PhD in Mathematical Sciences from University of Bath		
<b>EMPLOYMENT</b>	:		
Postdocs:			
2003-2004 2004-2006 2006-2008 2008-2010 2010-2012	JSPS Postdoctoral Fellow (w Postdoctoral Fellow, Institut EPSRC Postdoctoral Fellow	vith Prof. Shige Mittag-Leffler (with Prof. V.	versiteit Utrecht, Netherlands ru Mukai), Kyoto University, Japan / KTH, Sweden Nikulin), University of Liverpool, UK les Reid), University of Warwick, UK
Positions:			
2013-2017 2017-2020	Lecturer in Mathematics, Ca Senior Lecturer in Mathemat	•	
Current position:			
2020-now	Reader in Mathematics, Card	liff University,	UK

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#### **PUBLICATIONS:**

- 1. PhD Thesis, University of Bath (2004)
- 2. "Natural G-Constellation Families", Documenta Math., vol. 13 (2008), pp. 803-823
- 3. "Derived McKay correspondence via pure-sheaf transforms", *Math. Ann.*, vol. **341**, no. 1 (2008), pp. 137–167
- "A derived approach to geometric McKay correspondence in dimension three" (with S. Cautis), J. Reine Angew. Math. 636 (2009), 193–236
- 5. "Reid's recipe and derived categories", J. Algebra 324 (2010), no. 8, 2064–2087
- 6. "On adjunctions for Fourier-Mukai transforms" (with R. Anno), *Adv. in Math.* **231** (2012), no. 3-4, 2069–2115
- "Erratum to 'A derived approach to geometric McKay correspondence in dimension three" (with S. Cautis), *J. Reine Angew. Math.* 689 (2014), 243–244
- "Orthogonally spherical objects and spherical fibrations" (with R. Anno), *Adv. in Math.* 286 (2016), 338–86
- "Derived Reid's recipe for abelian subgroups of SL3" (with A. Craw and S. Cautis), J. Reine Angew. Math. 727 (2017), 1–48
- 10. "Spherical DG-functors" (with R. Anno), J. Eur. Math. Soc. 19 (2017), 2577-2656
- "Bar category of modules and homotopy adjunction for tensor functors" (with R. Anno), Int. Math. Res. Not. 2021 (2021), no. 2, 1353–1462
- 12. "On uniqueness of P-twists" (with R. Anno), Int. Math. Res. Not. 2022 (2022), no. 14, 10533–10554
- 13. "Unbounded twisted complexes" (with R.Anno), J. Algebra 647 (2024), 794-822

### **PRE-PRINTS:**

- 14. "Families of G-constellations over resolutions of quotient singularities", arXiv:math/0305194
- 15. "Pn-functors" (with R. Anno), arXiv:1905.05740 (under review in Moduli)
- 16. "The Heisenberg category of a category" (with A. Gyenge and C. Koppensteiner), arXiv:2105.13334 (second round of minor revisions in *Mem. Am. Math. Soc.*)
- 17. "A∞-structures in monoidal DG categories and strong homotopy unitality" (with R. Anno and S. Arkhipov), <u>arXiv:2303.11826</u> (under review in *J. Eur. Math. Soc.*)

### **MANUSCRIPTS IN PROGRESS:**

- 18. "The Heisenberg algebra of a vector space and Hochschild homology" (with A. Gyenge),
- 19. "From bar to Barr-Beck: monadicity theorem for DG-categories" (with R. Anno and S. Arkhipov),
- 20. "The Hochschild homology of a noncommutative symmetric quotient stack" (with R. Anno and V. Baranovsky),
- 21. "Perverse schobers and the McKay correspondence" (with A. Sarikyan),
- 22. "Skein-triangulated representations of generalised braids" (with R. Anno),

23. "Perverse schobers and orbifolds" (with A. Bondal),

#### **GRANTS AND AWARDS:**

3-year EPSRC research grant of £354,105 in "Orbifolds and Birational Geometry" (EP/ H023267/1) (as co-investigator with Prof. Miles Reid) (Dec 2009)

2-year Royal Society International Joint Project grant for collaboration with Steklov Institute of Russian Academy of Sciences on a research project titled "Varieties, orbifolds and derived categories" (joint with Prof. Miles Reid) (May 2011)

Warwick IAS Vacation School award of £15,000 (Mar 2012) LMS Scheme 1/Celebrating New Appointments grant of £560 (Jul 2013).

2-year EPSRC grant of £172,902 to run Warwick EPSRC Symposium 2014-15 on Derived Categories and Applications (EP/L018314/1) (as co-investigator with Prof. Miles Reid and Prof. Toby Stafford) (Dec 2013)

LMS Scheme 4/Research in Pairs grant of £1090 (May 2014) Cardiff University International Collaboration Seedcorn Fund grant of £5,043 (Jul 2015) LMS Scheme 1/Conferences grant of £2,430 (Sep 2016) Daiwa Foundation award of £7,000 (Nov 2017) LMS Scheme 4/Research in Pairs grant of £1150 (Jan 2018) LMS Scheme 4/Research in Pairs award of £1178 (Sep 2018) LMS Scheme 1/Conferences award of £6000 (Oct 2019) Foundation Compositio award of €4000(Feb 2020) Foundation Compositio award of €6000 (Sep 2022) LMS Scheme 1/Conferences grant of £5000 (Oct 2022) Heilbronn Institute Small Grants Scheme grant of £4,000.00 (Dec 2022) LMS Conferences grant of £17,250 (Feb 2025) Heilbronn Institute Small Grant Call grant of £9,000 (Mar 2025)

#### **RESEARCH STAYS:**

A research visit award to Max-Planck-Institut für Mathematik at Bonn (Feb-Apr 2010) A research visit award to CIRM at Trento (May-Jun 2011) The Roberts' Fund for Researchers award for a research visit to IPMU at Tokyo (Sep 2011) A research visit award to Korean Institute for Advanced Studies at Seoul (Aug-Sep 2012) A research visit award to Max-Planck-Institut für Mathematik at Bonn (Apr-Jun 2018) A research visit award to Max-Planck-Institut für Mathematik at Bonn (Jan-June 2022)

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### **MEMBERSHIP IN PROFESSIONAL BODIES:**

London Mathematical Society (LMS) EPSRC Peer Review College

#### **MEMBERSHIP IN RESEARCH GROUPS, GRANTS, AND PROJECTS:**

2010-now	Organising committee of the COW (Cambridge-Oxford-Warwick) algebraic geometry network,
2010-2012	Co-organiser of the "Orbifolds and Birational Geometry" project funded by the EPSRC standard grant EP/H023267/1, University of Warwick,
2013-now	Member of the GAPT (Geometry, Algebra, Physics, Topology) research group, Cardiff University,
2014-2015	Main organiser of the Warwick EPSRC Symposium on Derived Categories and Applications funded by the EPSRC grant EP/L018314/1,
2016-2021	Steering committee of the 3CinG research group funded by the EPSRC Programme Grant "Classification, Computation, and Construction: New Methods in Geometry", EP/N03189X/1,
2024-now	External collaborator for the DFG funded Collaborative Research Center "Higher Structures, moduli spaces and integrability" at Hamburg University, Germany.

## **TEACHING**:

Undergraduate:

2014 - now	Lecturer for "Geometry", 1st year BSc Mathematics lecture course, Cardiff University, 28 hours
2020 - now	Lecturer for "Algebra III: Fields", 3rd year BSc Mathematics lecture course, Cardiff University, 28 hours
2013-14, 2015-17	Lecturer for "Linear Algebra", 2nd year BSc Mathematics lecture course, Cardiff University, 28 hours
2017-18	Lecturer for "Linear Algebra I", 1st year BSc Mathematics lecture course, Cardiff University, 28 hours
2013-14, 2015-19	Lecturer for "Algebraic Geometry", 4th year MMath lecture course, Cardiff University, 22 hours

2010-2013	Lecturer for "Introduction to Geometry", 1st year BSc Mathematics lecture course, University of Warwick, 28 hours
1999-2000 2000-2004	Supervision of undergraduates at the University of Cambridge Undergraduate problem classes at the University of Bath
<u>Postgraduate:</u>	
2008	Graduate-level lecture courses "Donaldson-Thomas invariants for toric threefolds and "Derived categories for beginners", KTH, Stockholm
2011	Graduate-level lecture course "Introduction to derived categories and their applications in algebraic geometry", University of Warwick
2012	Graduate-level lecture course "Grothendieck-Serre Duality: a modern approach", University of Warwick

### **<u>RESEARCH STUDENTS</u>**:

2015-2019	Lorenzo de Biase
2016-2021	Christopher Seaman
2020-2024	Oscar Finegan

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# **INSTITUTIONAL SERVICE:**

2019 - now	Director of the MSc Mathematics postgraduate degree programme, Cardiff University
2022 - now	Member of two EPSRC Mathematical Sciences grant prioritisation panels
2013 - now	Member of two hiring committees for permanent Lecturer positions, Cardiff University
2013 - now	Examiner for five UK and two European PhD theses.
2020 - now	The organiser of the GiC (Geometry in Cardiff) seminar, Cardiff University
2021-2022	Member of the Cardiff Futures program organised by the Vice-Chancellor, Cardiff University
2013-2019	The organiser of the colloquium of the School of Mathematics, Cardiff University
2019	Member of the Digital Learning Strategy working group, Cardiff University
2019	Chair of the Algebra Courses Review Committee, Cardiff University

#### **<u>REFEREEING</u>**:

I have refereed for: JEMS, Advances in Mathematics, Geometry and Topology, Proceedings of the LMS, Journal of the LMS, Compositio Math, American Journal of Math, Mathematische Annalen, IMRN, Journal of Algebra, Sigma, Quarterly Journal of Mathematics, Journal of Pure and Applied Algebra, Mathematische Nachrichten, Comm in Math Physics, Bulletin de la SMF

#### **CONFERENCES (main organiser):**

"Geometry and Algebra of Orbifolds and the McKay Correspondence", University of Warwick, August 2010

"Russian-British Winter School on the McKay correspondence", University of Warwick, February 2012

Warwick IAS "Summer School on Algebraic Geometry and Theoretical Physics", University of Warwick, July 2012

"Homological Projective Duality and Noncommutative Geometry", University of Warwick, Oct 2012

"COW/Categorically Cardiff: Derived Categories and Algebraic Geometry", University of Cardiff, Oct 2013

Warwick EPSRC Symposium 2014-2015 on Derived Categories and Applications, University of Warwick, Sep 2014 - Aug 2015

"2CinC: COW and Calf in Cardiff", University of Cardiff, Feb 2017

"Perverse schobers and categorical structures in algebraic geometry", University of Cardiff, Mar-Apr 2020

"Quivers, Clusters, Moduli and Stability", University of Oxford, Jan 2023

"76th British Mathematical Colloquium", Cardiff University, Mar-Apr 2026

#### **CONFERENCES (invited speaker):**

"Géométrie Algébrique en Liberté (GAEL XII)", CIRM, Luminy, France, April 2004

"Kinosaki Algebraic Geometry Symposium", Kinosaki, Japan, October 2005

"Symplectic varieties and related topics", Hokkaido University, November 2005

"KIAS School on Derived Categories of Coherent Sheaves", KIAS, Seoul, Korea, April 2006

"Moduli spaces and Hilbert Schemes", Institut Mittag-Leffler, October 2006-May 2007

"COE-COW: International Conference at Algebraic Geometry", University of Tokyo, Japan, December 2008

"i-MATH School on Derived Algebraic Geometry", Universidad de Salamanca, Salamanca, Spain, June 2009

"Workshop on Recent Advances in Mathematics at IPMU", IPMU, University of Tokyo, Japan, November 2009

"Workshop on the McKay Correspondence", University of Nagoya, Japan, March 2010

"Quotient Singularities Workshop", University of Edinburgh, June 2010

"Moduli Spaces", Newton Institute, University of Cambridge, Jan-June 2011

"Computational aspects of birational geometry", NIMS, Daejeon, South Korea, March 2011

"International conference on algebra and geometry", Institute of Mathematics and Mechanics of Russian Academy of Sciences, August 2011

"Derived categories in algebraic geometry", Steklov Mathematical Institute of Russian Academy of Sciences, September 2011

"Conference on resolution of singularities and the McKay correspondence", University of Nagoya, Japan, May 2012

"Workshop on Essential Dimension and Cremona Groups", Chern Institute of Mathematics, China, June 2012

"Looking to the Future: The Next Generation of Mathematicians" panel, Isaac Newton Institute, University of Cambridge, June 2012

"Birational Geometry and Derived Categories", University of Vienna, August 2012

"The Conference on Algebraic Geometry in Honor of Viktor Kulikov's 60th Birthday", Steklov Mathematical Institute, Moscow, December 2012

"Higher Dimensional Algebraic Geometry", University of Tokyo, January 2013

"Triangulations and Mutations", Newcastle University, March 2013

LMS Invited Lectures on "Birational Geometry and Galois Groups", University of Edinburgh, June 2013

"Categorical and Homological Methods in Hopf Algebra", University of Swansea, December 2013

"Triangulated Categories in Algebra, Geometry and Topology", Stefan Banach International Mathematical Center, Warsaw, June 2014

"McKay correspondence, orbifolds, quivers", University of Warwick, September 2014

"EDGE 2015", University of Edinburgh, June 2015

"Categorical and Analytic Invariants in Algebraic Geometry", Steklov Mathematical Institute RAS, September 2015

"Algebraic Geometry in Mexico", CINVESTAV, Mexico, November 2015

"Spherical Functors and Subcategories", University of Cologne, February 2016

"Homological Mirror Geometry", Banff International Research Station, Canada, March 2016

GAeL XXIV (Invited Senior Lecturer), Nesin Mathematics Village, Turkey, June 2016

7th European Congress of Mathematics, Berlin, Germany, Jule 2016

"Categorical and Analytical Invariants in Algebraic Geometry 3", HSE, Moscow, Russia, September 2016

"Algebraic Geometry in Mexico", CINVESTAV, Mexico, November 2016

"Categorical and Analytical Invariants in Algebraic Geometry 4", IPMU, University of Tokyo, Japan, November 2016

"Algebraic Geometry in Mexico", CINVESTAV, Mexico, November 2017

"Landau-Ginzburg models and applications", HSE, Moscow, Russia, December 2017

"Spring School: Enumerative Invariants from Differential Graded Lie Algebras and Categories", Castello Motegufoni, Italy (organise by Johaness Gutenberg University Mainz), March 2018

"Categorical and Analytic Invariants in Algebraic Geometry VI", Hokkaido University, Japan, November 2018

"Nankai Symposium", Chern Institute of Mathematics, Nankai University, China, August 2021

"Derived, Birational, and Categorical Algebraic Geometry", Banff International Research Station, Canada, November 2021

"Higher categorical methods in algebra and geometry", University of Hamburg, Germany, March 2023

"McKay correspondence, Tilting theory and related topics", Kavli IPMU, Tokyo University, Japan, Dec 2023

"British Mathematical Colloquium 2024", University of Manchester, June 2024

"Categorical and analytic invariants in algebraic, symplectic and complex geometry", Kavli IPMU, Tokyo University, Japan, Feb 2025

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"Homotopy, homology, and combinatorics of DG categories", Aarhus University, Denmark, Mar 2025

"Ishii 60", Nagoya University, Japan, April 2025

"Modern topics in Algebraic Geometry", University of Sheffield, 14-15 April 2025

"Structures and Symmetries in Algebraic Geometry", Krakow University, Poland, June 2025

## **LANGUAGES** (other than English):

Russian (Fluent), Japanese(Fluent), French (Reading proficiency), Italian (Reading proficiency)