Professor Eleanor Knox

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RESEARCH AND TEACHING INTERESTS

Areas of Specialisation	Philosophy of Science, Philosophy of Physics.
Areas of Competence	Philosophy of Mathematics, Metaphysics.

EMPLOYMENT

From 2025	Professor of Philosophy, King's College London.
2022-2023	Senior Visiting Research Fellow, Center for the Philosophy of Science, University of Pittsburgh.
2018-2025	Reader in Philosophy of Physics, King's College London.
May 2018-May 2019	Maternity Leave.
From 2017	Senior Lecturer in Philosophy, King's College London.
March-September 2015	Maternity Leave.
From 2014	Lecturer in Philosophy, King's College London.
Spring 2013	Visiting Assistant Professor, Pittsburgh HPS (on leave from Leverhulme fellowship).
2011-2014	Leverhulme Early Career Fellowship, King's College London.
2009-2011	Chandaria Postdoctoral Research Fellow, Institute of Philosophy, School for Advanced Study, University of London.

PUBLICATIONS

Articles:

1. 'Functionalism Fit for Physics' with David Wallace. Forthcoming in *The Journal of Philosophy*. Available at https://philsci-archive.pitt.edu/22631/1/Functionalism_in_Physics%20%285%29.pdf.

2. 'Philosophy of Spacetime Physics', Forthcoming in the *Oxford Research Encylopedia of Physics*, OUP and the American Institute of Physics.

3. 'Levels worth having: A view from Physics'. In *Levels of Explanation* (2024) Robertson and Wilson eds. OUP.

4. 'Physical Relativity from a Functionalist Perspective'. *Studies in History and Philosophy of Modern Physics*(2019), Vol.67 pp. 118-124.

5. 'Emergence Without Limits: the Case of Phonons'. (with Alex Franklin) *Studies in History and Philosophy of Modern Physics*(2018), Vol.64 pp. 68-78.

6. 'Novel Explanation in the Special Sciences: Lessons from Physics'. *Proceedings of the Aristotelian Society* (2017), Vol. 117, 2, pp.123–140.

7. 'Abstraction and its Limits'. *Nous*(2016), Vol. 50 pp.41–60.

8. 'Newtonian Spacetime Structure in Light of the Equivalence Principle'. *The British Journal for the Philosophy of Science* (2014), Vol. 65, 4 pp.863-880. (Winner of the 2015 Cushing Memorial Prize).

9. 'Effective Spacetime Geometry'. *Studies in History and Philosophy of Modern Physics* (2013), Vol. 44, 3 pp. 346-356.

10. 'Newton-Cartan theory and teleparallel gravity: the force of a formulation'. *Studies in History and Philosophy of Modern Physics*(2011), Vol.42,4 p.264-275.

11. 'Flavour-Oscillation Clocks and the Geometricity of General Relativity'. *The British Journal for the Philosophy of Science* (2010), Vol.61,2 p.433-452.

Edited Book:

10. *The Routledge Companion to Philosophy of Physics*, edited with Alastair Wilson. Due for publication in 2020.

Invited Book Reviews:

13. 'On Constraints, Context and Spatiotemporal Explanation'. (with John Heron) *Philosophy and Phenomenological Research*(2019), Vol 99 (3), pp.732-738.

14. Review of Chris Pincock *Mathematics and Scientific Representation*. (with Sean Walsh and Adam Caulton) *Philosophy of Science* (2014) Vol 81,3 pp.460-469.

15. Review of Dean Rickles (ed.) *Ashgate Companion to Contemporary Philosophy of Physics*. In *International Studies in the Philosophy of Science* (2011) Vol 25,2 pp.199-202.

EDUCATION

2006-2009	DPhil Philosophy, Oxford University.
	Geometry, Inertia and Spacetime Structure. Supervised by David Wallace and Harvey Brown, examined by Jeremy Butterfield and Simon Saunders.
2004-2006	BPhil, Philosophy, Oxford University: *Distinction*.
	Thesis: *Geometrical Explanation: A prelude to spacetime studies*. Supervised by Harvey Brown.
1999-2003	BA, Physics and Philosophy, Oxford University: *First Class Honours*.

ACADEMIC PRIZES AND AWARDS

2017-	Member of FQXI, *The Foundational Questions Institute*.
2015	The Cushing Memorial Prize. (A prize of $2000 awarded by the University of Notre Dame for the best article by a young philosopher of physics.)
2011-2014	Leverhume Early Career Fellowship. (Approx. value £75,000)
2008	Visiting scholar at the Perimeter Institute for Theoretical Physics, Waterloo, Canada.
2006-2009	Arts and Humanities Research Council Doctoral Award.(Approx. value £50,000)
2005-2006	Oxford Philosophy Faculty Graduate Scholarship.
2004-2009	Senior Scholar, New College Oxford.

PUBLIC ENGAGEMENT

- *Thinking Outside the Container: Spacetime Philosophy for a New Physics*, O'Hare Public Lecture in the Philosophy of Physics, University of Washington, April 2026.
- *Is Every Atom Unique?*, BBC Crowdscience radio show and podcast, June 2024.
- *The Impossible Number*, Curious Cases of Rutherford and Fry, BBC radio 4, February 2023.
- *What is Infinity?*, BBC Crowdscience radio show and podcast, Jan 2020.
- *Inside Science*, BBC Radio 4 show, Dec 2019.
- *Is Maths Real?*, BBC Crowdscience radio show and podcast, Oct 2019.
- *Into the Void*, Science Gallery Panel Discussion, June 2019
- *Magic Numbers: Hannah Fry's Mysterious World of Maths*, BBC Documentary series, interview appearance, first aired October 2018.
- *European Forum For Philosophy*, 'Parallel Universes', LSE, Oct 2017.
- *The Essence of Time*. Mass Interaction, Airspace, London. (Public debate) May 2017.
- *Is emergent quantum mechanics grounded in classical physics?*, Guardian Science Podcast, Feb 2017.
- *How The Light Gets In: The Hay on Wye festival of music and philosophy*, Public lecture and 2 public debates, May 2016.
- *European Forum For Philosophy*, 'Does Science Have all the Answers?' LSE, Feb 2016.
- *Inside Einstein's Mind*, BBC/PBS Nova documentary first aired Nov. 2015. Scientific advisor and interview appearance.
- *The Reasoner*, guest editor, Nov 2014.
- *How The Light Gets In: The Hay on Wye festival of music and philosophy*, May 2014. Public lecture course and 2 public debates.
- *European Forum For Philosophy*, 'The Unreasonable Effectiveness of Mathematics', LSE, May 2014.
- *Cafe Sci* at The Exchange, Nov 2013. An evening of discussion with artist Nick Laessing.
- *Launch of Bristol Center for Science and Philosophy*, Dec 2012. 'The Curious Case of the Vanishing Spacetime: Philosophy and quantum gravity'.

KEYNOTE AND PLENARY TALKS AND PRESENTATIONS

Keynote and Plenary:

July 2026	TBC, BSPS annual conference (Keynote).
October 2024	'Emergence and (Constitutive) Functionalism', Conference: Probing the Prospects of Emergence in Phase and Evolutionary Transitions, Namur, Belgium. (Plenary).
April 2023	'Spacetime Functionalism: an opinionated overview', Spacetime Functionalism Conference, Pittsburgh (Plenary).
October 2021	Spacetime Functionalism in Newtonian Theories, European Foundations of Physics Conference, Paris. (Keynote).
Feb 2020	'How to be a Spacetime Functionalist', Oxford Graduate Philosophy of Physics Conference. (Keynote).
May 2019	'Emergence and Novel Explanation', DIEP Emergence Conference, Amsterdam. (Plenary).
June 2017	'Spacetime Functionalism and Noncommutative Gravity', 3rd International Conference in the Philosophy of Quantum Gravity, Geneva. (Keynote).
June 2017	'Spacetime Functionalism', SILFS (Italian Society for Logic and the Philosophy of Science), Bologna. (Plenary).
August 2015	'Spacetime Functionalism', 15th Congress of Logic, Methodology and Philosophy of Science, Helsinki (Plenary).
April 2013	'Effective Spacetime Geometry', Irvine-Pittsburgh-Princeton Conference on the Mathematical and Conceptual Foundations of Physics (Keynote).
Sept 2012	'Spacetime Structuralism or Spacetime Functionalism?', Structuralism in Physics and Mathematics, Bristol (Plenary).
July 2011	'Inertia and the a priori', Conventional Principles in Science: a conference in honour of Michael Friedman, Bristol University (Plenary).

Invited Talks:

Nov 2023	'Functionalism Fit for Physics', UCL Departmental Symposium.
Oct 2023	'Functionalism Fit for Physics', Jowett Society, Oxford.
May 2023	'Functionalism in Physics', FraMEPhys Conference, Birmingham.
March 2023	'Functionalism in Physics' Workshop, UC Irvine.
March 2023	'Spacetime, Functionalism and Inertial Frames', Center for Philosophy of Science, Pittsburgh.
Jan 2023	'Functionalism in Physics: Lewis or Dennett/Wallace?', Oxford workshop.
Dec 2022	'Functionalism in Physics and Inter-theoretic relations', Center for Philosophy of Science, Pittsburgh.

Invited Talks (cont.):

June 2021	'Lewis, Dennett, Functionalism and Reduction', Bristol 'Going Up' Conference.
Dec 2020	'How to be a Spacetime Functionalist', Lichtenberg Research Seminar on History and Philosophy of Physics, Bonn.
Sept 2020	'How to be a Spacetime Functionalist', Harvard Mini-Workshop.
Oct 2019	'Functionalism and (Spacetime) Emergence', Rethinking Emergence workshop, Lisbon.
Dec 2018	'Comments on Marc Large's Because Without Cause', APA Eastern meeting, NYC.
Feb 2018	'Emergent or Effective Spacetime from Non-commutative Gravity: a functionalist story' COST Quantum Structure of Spacetime Conference, Sofia.
June 2017	'Inertial Frames vs. Maximal Symmetries: Two kinds of spacetime structure', The Philosophy of Howard Stein and its Contemporary Interest, Chicago.
June 2017	'Spacetime Functionalism', Bergen Philosophy of Science Workshop, Bergen, Norway.
May 2017	'Spacetime Functionalism and Noncommutative Gravity', New Directions in Foundations of Physics, Tarquinia, Italy.
May 2017	'Spacetime Functionalism and Noncommutative Gravity', Sigma club, LSE.
January 2017	'Novel Explanation in the Special Sciences: Lessons from Physics', Aristotelian Society, London.
Nov 2016	'Spacetime Functionalism', Metaphysics of Entanglement Series, Oxford.
Nov 2016	'Weatheralling the Resurrection of the Hole Argument', Cambridge Masterclass in Philosophy of Physics, Cambridge.
Nov 2016	'Spacetime Functionalism', Metaphysics and Physics: methodological connections, Lausanne.
May 2016	'Novel Explanation and the Emergence of Phonons', UNC/KCL worskshop.
May 2016	'Novel Explanation and the Emergence of Phonons', Oxford Philosophy of Physics Seminar.
May 2016	'Symmetry Principles. Why Use Them? Where Do They Lead?', Oxford Structure in Metaphysics Conference.
April 2016	'Spacetime Functionalism', Cushing Prize Lecture, University of Notre Dame.
April 2016	'Symmetries, Fields and the Function of Spacetime', Field Theories Workshop, Pittsburgh.

Invited Talks (cont.):

Dec 2014	'Spacetime Functionalism and Effective Spacetime Geometry', Workshop on Emergent Time and Emergent Space in Quantum Gravity, Albert Einstein Institute, Berlin.
Nov 2014	'Spacetime Structuralism or Spacetime Functionalism?', CamPoS research seminar, Cambridge.
Oct 2014	'The Dimensions of Duality', Lakatos Award Worshop, LSE.
Oct 2014	'Spacetime Structuralism or Spacetime Functionalism', Nottingham Research Seminar.
Sept 2014	'The Dimensions of Duality', Dualities workshop, Florence.
April 2014	'Spacetime Structuralism or Spacetime Functionalism?', Southern California Philosophy of Physics Seminar, Irvine CA.
March 2014	'Spacetime Structuralism or Spacetime Functionalism?', Logic, Epistemology and Metaphysics Seminar, University of London.
April 2013	'Spacetime Structuralism or Spacetime Functionalism?', Consciousness and Structural Realism Workshop, Liverpool.
March 2013	'Abstraction and its limits: Finding Space for Novel Explanation', Pittsburgh Center for Philosophy of Science.
April 2012	'Newtonian Spacetime Structure in Light of the Equivalence Principle', Philosophy of Science Conference, Inter-University Centre,Dubrovnik.
March 2012	'Newtonian Spacetime Structure in Light of the Equivalence Principle', Bristol Philosophy of Physics Seminar.
Jan 2012	'Abstraction and its limits: Finding Space for Novel Explanation', Barnard College Columbia University.
Oct 2011	'Abstraction and its limits: Finding Space for Novel Explanation', Bristol Departmental Research Seminar.
July 2011	'Abstraction and its limits: Finding Space for Novel Explanation', Ghent Metaphysics, Methodology and Science workshop.
March 2011	'Inertial Thinking? Reconsidering Reference Frames in General Relativity', Philosophy of Physics Seminar, Oxford University.
Feb 2011	'Abstraction and its limits: Finding Space for Novel Explanation', British Society for the Philosophy of Science meeting, London.
Feb 2011	'Abstraction and its limits: Finding Space for Novel Explanation', HPS Seminar, Leeds University.
Nov 2010	'Geometry and Inertia: Constraints on spacetime theories', Logic and Metaphysics Forum, University of London.
July 2010	'Explanatory Emergence?, Emergence in Physics conference, University of London.

Invited Talks (cont.):

July 2010	'Geometrising Gravity and Vice Versa: the force of a formulation', Towards a Theory of Spacetime Theories, conference, Wuppertal,
Feb 2010	'Geometry and Inertia: Constraints on spacetime theories', Sigma Club, LSE.
Feb 2010	'Explanatory Emergence?, Department Seminar, UCLA.
April 2009	'Geometrical Explanation, Spatiotemporal and Otherwise', Philosophy of Science Conference, Inter-University Centre, Dubrovnik.
Oct 2008	'Geometrising Gravity and Vice Versa: the force of a formulation', Bristol University.
May 2008	'Geometrising Gravity and Vice Versa: the force of a formulation', Philosophy of Physics Seminar, Oxford University.

Refereed Conference Presentations:

Nov 2024	'When metric and affine structure diverge: spacetime in the geometric trinity', PSA 2024 New Orleans.
Nov 2022	'Gravitational theories with torsion and spacetime functionalism', PSA 2022, Pittsburgh
Sept 2017	'Interpreting spacetime theories: questions of representation', part of the symposium *Interpreting Physical Theories* at the 2017 EPSA meeting, Exeter.
Nov 2016	'Spacetime Functionalism and General Relativity', part of the symposium *General Relativity in its Second Century* at the 2016 PSA meeting, Atlanta.
Sept 2013	'The Dimensions of Duality', Conference on the Philosophical Foundations of Quantum Gravity, Chicago.
July 2013	'The Gravity-Inertia split in Newtonian and Relativistic Contexts', Foundations of Physics conference, Munich.
Nov 2012	'Newtonian Spacetime Structure in Light of the Equivalence Principle', PSA conference, San Diego.
Oct 2011	'Abstraction and its limits: Finding Space for Novel Explanation', European Philosophy of Science Association, Athens.
July 2010	'Explanatory Emergence?', BSPS annual conference, Dublin,
October 2009	'Geometry and Inertia: Constraints on spacetime theories', European Philosophy of Science Association conference, Amsterdam.
July 2008	'Geometrising Gravity and Vice Versa: the force of a formulation', BSPS annual conference, St. Andrews.
June 2008	'Geometrising Gravity and Vice Versa: the force of a formulation', Third International Conference on the Nature and Ontology of Spacetime, Montreal.

TEACHING

PhD and MPhilStud Thesis Supervision: Totte Harinen (2015), John Heron (2017), Alex Franklin (2018), Sam Kimpton-Nye (2018), Athamos Stradis (2020), Lucy Mason (2024).

King's College London Undergraduate and Taught Postgraduate Lectures and Seminars:

- BA Philosophy of Physics I: Space and Time,
- BA Philosophy of Physics II: Quantum Mechanics,
- Gender and Philosophy (co-taught with colleagues),
- MA Philosophy of Mathematics,
- BA Philosophy of Mathematics,
- MA Philosophy of Physics,
- MA Philosophy of Science,
- BA Philosophy of Science.
- Methodology.
- Various BA and MA thesis supervision.

Pittsburgh University (2013):

- Graduate class: Philosophy of Space and Time.
- Undergraduate class: Philosophy of 20th century physics.

ADDITIONAL ACADEMIC EXPERIENCE

2025-	Associate Editor, Mind.
2023-	Research Lead, Philosophy Department, KCL.
2022-2024	Founder and Trustee of the Philosophy of Physics Society.
2020-2022	Associate Editor, Foundations of Physics.
2017-2022	Department Education Lead (Head of undergraduate and taught postgraduate studies), Philosophy Department, KCL.
2017, 2023-present	External Examiner for Honour Schools of Mathematics and Philosophy, Physics and Philosophy and Computer Science and Philosophy, University of Oxford.
2016-	Editorial Board, *Studies in History and Philosophy of Modern Physics*.
2014-2017	Admissions tutor, Philosophy department, KCL.
2011-2015	Treasurer, British Society for the Philosophy of Science.
2014-	PhD and MPhil examiner for the University of Oxford, University of Sydney, the University of Leeds, and Birkbeck College.
2008-	Referee for *The British Journal for the Philosophy of Science*, *Foundations of Physics*, *Studies in History and Philosophy of Modern Physics*, *Philosophy of Science*, *European Journal for Philosophy of Science*, *Erkenntnis* and *Journal for General Philosophy of Science*.

MEMBERSHIP OF PROFESSIONAL AND LEARNED SOCIETIES

- British Society for the Philosophy of Science,
- American Philosophical Association,
- Philosophy of Science Association,
- Aristotelian society.