

Chris Heunen – Curriculum Vitae

Personal details

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- Address: School of Informatics, 10 Crichton Street, Edinburgh EH8 9AB, United Kingdom
- Children: Tristan (2011), Nora (2014)



Employment history

- 2015–present: Senior Research Fellow at University of Edinburgh.
- 2014–2015: EPSRC Early Career Research Fellow at University of Oxford.
- 2014–2015: Lecturer at St. Hugh's College Oxford.
- 2013–2014: Senior Research Fellow at University of Oxford.
- 2011–2013: Research Assistant at University of Oxford.
- 2009–2012: Visiting researcher at California Institute of Technology.
- 2009–2011: NWO Rubicon Research Fellow at University of Oxford.
- 2005–2009: Junior Researcher at Radboud University Nijmegen.
- 2000–2008: Various teaching assistantships at Radboud University Nijmegen.

Academic history

- 1/2010: PhD in Mathematics and Computer Science, Radboud University Nijmegen.
- 9/2005: MSc in Mathematics (*cum laude*), Radboud University Nijmegen.
- 9/2005: MSc in Computer Science (*cum laude*), Radboud University Nijmegen.

Funding history

- MURI Project, *Semantics and Structures for Higher-level Quantum Programming Languages*, co-PI, 2015-2018.
- EPSRC Early Career Fellowship, *Combining Viewpoints in Quantum Theory*, PI, 2013–2018.
- JMH Junior Research Fellowship, Linacre College, Oxford, PI, 2010–2012, re-elected 2013.
- NWO Rubicon Fellowship, *Quantum Theory and Categorical Logic*, PI, 2009–2011.

Honours

- Birkhoff–von Neumann prize, International Quantum Structures Association, 2012.
- Aia Software award, best BSc thesis in Computer Science, 2003.
- National CIVI award, Royal Holland Society of Sciences and Humanities, 2000.

Leadership activities

- Founding editor (elected) *Quantum* journal, 2016–present.
- Councillor (elected) *International Quantum Structures Association* 2016–2020.
- Programme committee: *Mathematical Foundations of Programming Semantics (MFPS)* 2017, *Foundations of Software Science and Computation Structures (FoSSaCS)* 2016, *Quantum Physics and Logic (QPL)* 2016 (co-chair), 2015 (co-chair), 2014, *Quantum Interaction* 2016, *Semantic Spaces* 2016.
- Organiser *Quantum Physics and Logic* conference, Glasgow 2016, Oxford 2015.
- Lead organiser biannual *Categories Logic and Physics Scotland* workshops, 2016–present.
- Linacre College governing body JRF representative, 2013.
- Convenor of weekly *OASIS seminar*, Oxford, 2011–2015.
- Organiser of weekly *Quantum Lunch seminar*, Oxford, 2012–2014.
- Organiser *Categorical Flow of Information in Quantum Physics and Linguistics* workshop, Oxford, 10/2010.
- Maintainer of *Oxford Quantum Talks* online video archive (≥ 300 talks), 2009–2015.
- Organiser *Sheaves and Geometry in Quantum Theory* workshop, Nijmegen, 09/2008.
- Organiser reading group *Homotopy Type Theory*, 2013–2014.
- Organiser reading group on *Quantum Logic and Quantum Information*, 2006–2008.

Supervision

- P. Moliner, PhD 2019.
- M. Karvonen, PhD 2018.
- O. Cunningham, DPhil 2017.
- S. Tull, DPhil 2017.
- V. Patta, DPhil 2016.
- J. H. M. N. Kopp, DPhil 2016.
- M. Karvonen, MSc 2014 (distinction).
- M. Gachechiladze, MSc 2014.
- A. Coladangelo, BSc 2014.
- P. Hoorn, MSc 2010 (distinction).
- K. Cohn–Gordon, MSc 2010 (distinction).
- Ph.D. examination:
 - F. A. Roumen, Radboud University Nijmegen, 2017.
 - B. Fuller, University of Sheffield, 2016.

Teaching

- PhD summer school *Categories and Quantum Informatics*, University of Pisa, 2017: Lectures (20), writing lecture notes/book.
- MSc course *Categories and Quantum Informatics*, University of Edinburgh, 2016–present: Lectures, writing lecture notes/book, creating coursework, creating exam, marking exam.
- MSc course *Categorical Quantum Mechanics*, University of Oxford, 2011–2015: Lectures, writing lecture notes/book, creating coursework, creating exam, marking exam.
- BSc course *Algorithms and Data Structures*, University of Edinburgh, 2015–2016: Tutorials, marking coursework.
- BSc course *Logic and Proof*, University of Oxford, 2014–2015: Lectures, creating coursework, creating exam, marking exam.
- MSc course *Toposes in the Foundations of Quantum Mechanics*, University of Zurich, 2011: Lectures, writing lecture notes, creating coursework.
- BSc tutorials, St. Hugh’s College Oxford, 2014–2015:
 - Linear algebra.
 - Functional programming.
 - Algorithms.
 - Continuous mathematics.
- Plenary tutorial *Introduction to Monoidal Categories*:
 - Spring school on Quantum Foundations and Categories, Oxford, 2014: Lectures.
 - QICS Spring school, Oxford, 2010: Lectures.
- Twelve teaching assistantships, Radboud University Nijmegen, 2000–2008: Tutorials, marking.
 - Discrete mathematics (1st year course, three times).
 - Functional programming (1st year course).
 - Imperative programming (1st year course).
 - Logic (2nd year course).
 - Introduction to Compilers (3rd year course).
 - Introduction to Complexity Theory (3rd year course, twice).
 - Security (3rd year course, twice).
 - Hilbert spaces and quantum mechanics (4th year course).

Reviewing services

- EPSRC
- Journals: Journal of Algebra, Journal of Pure and Applied Algebra, Theory and Applications of Categories, Applied Categorical Structures, Order, Annals of Pure and Applied Logic, Journal of Logical and Algebraic Methods in Programming, Communications in Mathematical Physics, Journal of Mathematical Physics, Proceedings of the Royal Society A, New Journal of Physics, Journal of Physics A, Foundations of Physics, Semigroup Forum, Synthese, Studia Logica, Logical Methods in Computer Science, Mathematical Structures in Computer Science, Journal of Logic and Computation, Mathematical Logic Quarterly, Information Processing Letters, International Journal of Theoretical Physics, Studies in the History and Philosophy of Modern Physics, Journal of Applied Non-Classical Logic, Quantum Studies: Mathematics and Foundations, Axioms, Entropy, SIGMA
- Conferences: LiCS, CSL, ICALP, FoSSaCS, CONCUR, MFPS, CALCO, QPL, FM, Calculemus
- Mathematical Reviews, Computing Reviews

Professional organisations

- American Mathematical Society
- Royal Dutch Mathematical Society
- International Quantum Structures Association
- European Association for Theoretical Computer Science
- Association for Computing Machinery, Special Interest Group on Logic and Computation

Selected invited presentations

- Young Functional Analysts' Workshop, University of Glasgow, 03/2017.
- Category Theory Seminar, Université Catholique de Louvain, 12/2016.
- Scottish Operator Algebra Research meeting, University of Glasgow, 12/2016.
- Logical Structures in Computing seminar, University of California at Berkeley, 10/2016.
- Uncertainty in Computation workshop, University of California at Berkeley, 10/2016.
- Mathematical Physics seminar, University of Edinburgh, 05/2016.
- Workshop on Information and Processes, University Paris Diderot, 04/2016.
- Mathematical Physics seminar, University of York, 02/2016.
- Higher TQFT and categorical QM workshop, ESI Institute Vienna, 10/2015.
- Domains XII conference, University College Cork, 9/2015.
- CALCO conference, Radboud University Nijmegen, 6/2015.
- Second Amsterdam Quantum Logic workshop, University of Amsterdam, 5/2015.
- Departmental Computer and Information Sciences seminar, University of Strathclyde, 3/2015
- Algebra seminar, Heriot-Watt University, 3/2015
- Laboratory for Foundations of Computer Science seminar, University of Edinburgh, 3/2015
- Quantum Structures conference, University of Olomouc, 6/2014.
- Departmental Computer Science seminar, University of Southampton, 6/2014.
- Departmental Computer Science seminar, University of Oxford, 4/2014.
- Mathematics colloquium, Bowdoin College, 4/2014.
- Amsterdam Quantum Logic Workshop, University of Amsterdam, 3/2014.
- Philosophy of Mechanics workshop, Université Paris Diderot, 2/2014.
- World Congress of Paraconsistent Logic, Indian Statistical Institute Calcutta, 2/2014.
- Theory seminar, Queen Mary University of London, 1/2014.
- Whither quantum structures workshop, Vrije Universiteit Brussel, 11/2013.
- LogIC seminar, Imperial College London, 10/2013.
- Quantum Information & Foundations conference, University of British Columbia, 7/2013.
- Functional Analysis seminar, University of Oxford, 1/2013.

- Quantum Structures conference, University of Cagliari, 7/2012.
- Quantum geometry seminar, University of California at Berkeley, 3/2012.
- Category theory seminar, University of Cambridge, 1/2012.
- Mathematical Physics seminar, Institute of Technology Zurich, 5/2011.
- Classical and Quantum Information Flow workshop, Bellairs Institute Barbados, 4/2011.
- Institute for Quantum Information seminar, Caltech Institute of Technology, 4/2011.
- Mathematical Physics seminar, University of California at San Diego, 3/2011.
- Algebra seminar, Free University Brussels, 1/2011.
- Mathematical aspects of foundations of physics seminar, University of Oxford, 1/2011.
- Noncommutative geometry seminar, California Institute of Technology, 12/2010.
- Algebra seminar, Masaryk University Brno, 9/2010.
- Quantum Field Theory seminar, University of Oxford, 5/2010.
- Theory seminar, University of Birmingham, 1/2010.
- Institute for Quantum Information seminar, California Institute of Technology, 11/2009.
- Analytic topology seminar, University of Oxford, 11/2009.
- Algebra|Coalgebra seminar, University of Amsterdam, 11/2009.
- Mathematics seminar, University of Tokyo, 6/2009.
- Research Institute Mathematical Sciences seminar, University of Kyoto, 6/2009.
- Mathematics seminar, University of Cambridge, 01/2009.
- Foundational structures for quantum information conference, Obergurgl, 9/2008.
- Categories, logic and foundations of physics workshop, Imperial College London, 1/2008.
- Formal Topology conference, Padova, 5/2007.