

# Christian Wüthrich

## Curriculum Vitæ

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Department of Philosophy

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### Primary Academic Positions

- as of 2015 **Associate Professor** of Philosophy, *University of Geneva*.
- 2012-2015 **Associate Professor** of Philosophy and Science Studies, *University of California, San Diego*.
- 2007-2012 **Assistant Professor** of Science Studies, *University of California, San Diego*.
- 2006-2012 **Assistant Professor** of Philosophy (tenure track), *University of California, San Diego*.

### Other Academic and Visiting Positions

- 2018 **Visiting Professor** in Philosophy, *Università della Svizzera italiana*.
- 2017 **Visiting Professor** in Philosophy, *University of Tübingen*.
- 2007-2009 **Collaborateur Scientifique** in Philosophy for the Swiss National Science Foundation Project 'Properties and Relations', *University of Geneva*.
- 2004-2006 **Lecturer** in History and Philosophy of Science, *University of Bern*.
- 2004 **Visiting Scholar** at the *Centre de Physique Théorique, Centre National de Recherche Scientifique, Marseille*.
- 2003 **Visiting Scholar** at the *Perimeter Institute for Theoretical Physics* and at the *University of Waterloo*.
- 2002-2003 **Teaching Fellow** in History and Philosophy of Science, *University of Pittsburgh*.
- 2001-2002 **Teaching Assistant** in History and Philosophy of Science, *University of Pittsburgh*.
- 1995-1999 **Teaching Assistant** in Theoretical Physics, *University of Bern*.

### Education

- 2006 **PhD in History and Philosophy of Science**, *University of Pittsburgh*.
- 2005 **MA in Philosophy**, *University of Pittsburgh*.
- 2000 **MPhil in History and Philosophy of Science**, *University of Cambridge*.
- 1999 **MSc in Theoretical Physics**, *University of Bern*.

### Areas of Research and Teaching

- Specialization Philosophy of Physics, Philosophy of Science, Metaphysics
- Competence Epistemology, Philosophy of Mind, Philosophy of Mathematics, Scientific Reasoning

### Fellowships, Honours, and Awards (Selection)

- 2012 **Lauener Prize for Up-and-Coming Philosophers**, Lauener Foundation, Switzerland.
- 2010-2012 **American Council of Learned Societies (ACLS)**, Collaborative Research Fellowship (with Nick Huggett).
- 2010-2011 **UC President's Fellowship in the Humanities**, University of California.
- 2010-2011 **Arts and Humanities Initiative Award**, University of California, San Diego.
- 2010 **Research Assistantship** to hire graduate student, University of California, San Diego.
- 2009-2010 **Hellman Fellowship**, University of California, San Diego.

- 2009 **Philosophy of Science Association Recent Ph.D. Essay Award** for 'Challenging the spacetime structuralist', *Philosophy of Science* **76** (2009): 1039-1051.
- 2008 **Research Assistantship** to hire graduate student, University of California, San Diego.
- 2005-2006 **Andrew Mellon Predoctoral Fellowship**, University of Pittsburgh.
- 2003-2004 **Fellowship for Prospective Researchers**, Swiss National Science Foundation.
- 2003-2005 **Dean's Tuition Scholarships**, University of Pittsburgh.
- 2000-2001 **Andrew Mellon Scholarship** for graduate study, University of Pittsburgh.
- 1999-2000 **Arnold Gerstenberg Studentship** for graduate study in philosophy, University of Cambridge.
- 1999-2000 **Cambridge Overseas Trust Bursary**, University of Cambridge.

## Membership in Editorial and Governing Boards

- Member Council, Society for the Metaphysics of Science (since 2015).  
Governing Board, Philosophy of Science Association (2012-2015).
- Associate Editor *British Journal for the Philosophy of Science* (since 2017).
- Section Editor *Ergo*, an open access journal of philosophy (2013-2014).
- Series Editor Springer's *Fundamental Theories of Physics* (since January 2010).
- Member Editorial Committee, *Dialectica* (since October 2008).  
Consulting Board, *Dialectica* (September 2005-October 2008).  
Scientific Media Advisory Board, Forum Einstein 2005 Bern.

## Membership in Scientific Committees

- Member Program Committee, Annual Conference of the British Society for the Philosophy of Science, Oxford, 2018.
- Member Scientific Committee, Fifth International Conference on the Nature and Ontology of Spacetime, Albena, 2018.
- Member Program Committee, Logic, Relativity and Beyond: 3rd International Conference, Budapest, 2017.
- Member Scientific Committee, First Hermann Minkowski Meeting on the Foundations of Spacetime Physics, Varna, 2017.
- Member Scientific Committee, Conference on 'Ground in Philosophy', Geneva, 2016.
- Member Scientific Committee, Fourth International Conference on the Nature and Ontology of Spacetime, Varna, 2016.
- Member Program Committee, 2nd International Logic and Relativity Conference, 2015.
- Member Program Committee, 17th UK and European Meeting on the Foundations of Physics, Munich, 2013.

## Professional Service: Refereeing

- Ext. Reviewer
- PhD thesis, Jagiellonian University in Cracow, 2018.
  - PhD thesis, University of Sydney, May 2014.
  - PhD thesis, University of Lausanne, July 2013.
  - MSc thesis, University of Sydney, September 2008.
- Funding Agencies The United States National Science Foundation (NSF), Swiss National Science Foundation, Agence Nationale de la Recherche (France), National Science Center Poland, Alexander von Humboldt-Stiftung.
- Publishers Continuum, MIT Press, Oxford University Press, Polity Press, Routledge, Springer, Thomson Learning, University of Chicago Press, World Scientific.

- Journals *Analysis, Analytic Philosophy, Annals of the New York Academy of Sciences, Australasian Journal of Philosophy, British Journal for the Philosophy of Science, Canadian Journal of Philosophy, Dialectica, Erkenntnis, European Journal for Philosophy of Science, European Journal of Analytic Philosophy, Foundations of Physics, International Studies in the Philosophy of Science, Journal for General Philosophy of Science, Mind and Matter, Naturwissenschaften, Philosophical Studies, Philosophy of Science, Physics Essays, Polish Journal of Philosophy, Proceedings of the Royal Society A, Southern Journal of Philosophy, Studies in the History and Philosophy of Modern Physics, Synthese, Theoria.*
- Conferences Deputy referee for the Pacific Meeting of the American Philosophical Association (2013), Sixth International Pittsburgh Graduate Philosophy Conference (2004), Third Annual Pittsburgh Graduate Philosophy Conference (2001).
- Prize Société de Philosophie des Sciences, Young Scholars Award (2009).

## Organisation of Scientific Meetings

- 2019 **Biennial Meeting of the European Philosophy of Science Association**, *Co-Chair of the Local Organizing Committee*, University of Geneva.  
<http://philsci.eu/epsa19>
- 2018 **Split International Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: Entropy.
- 2018 **Spacetime Functionalism (Workshop)**, *Co-organizer*, University of Geneva.  
<https://spacetimefunctionalism.wordpress.com/>
- 2017 **Indeterminism, at the Crossroad of Philosophy and Physics (Workshop)**, *Co-organizer*, University of Geneva.  
<https://indphilphys.wordpress.com/a-propos/>
- 2017 **Thinking about Space and Time: 100 Years of Applying and Interpreting General Relativity**, *Co-organizer*, University of Bern.  
[http://www.philosophie.unibe.ch/news/spacetime2017/index\\_eng.html](http://www.philosophie.unibe.ch/news/spacetime2017/index_eng.html)
- 2017 **Black Forest Summer School on the Philosophy of Physics**, *Co-organizer*, Topic: Space, Time, and Matter: New Directions in the Philosophy of Physics.  
<https://wp.unil.ch/isspp/>
- 2017 **3rd Conference on the Philosophical Foundations of Quantum Gravity**, *Co-organizer*, University of Geneva.
- 2016 **Second Annual Meeting of the Society for the Metaphysics of Science**, *Chair of the Local Organizing Committee*, University of Geneva.  
<https://sites.google.com/site/socmetsci/2016-sms-conference>
- 2016 **Black Forest Summer School on the Philosophy of Physics**, *Co-organizer*, Topic: Understanding Quantum Physics: The Meaning of the Wave-Function.  
<https://wp.unil.ch/isspp/archive/2016-2/>
- 2016 **International Summer Institute in the Philosophy of Physics**, *Co-organizer*, Topic: Philosophy of Quantum Gravity.  
<https://beyondspacetime.net/2016summerschool/>
- 2015 **Black Forest Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: Ontology.  
<https://sites.google.com/site/isspp2015/>
- 2015 **2nd Seminar on the Philosophical Foundations of Quantum Gravity**, *Co-organizer*, UCSD.  
<http://beyondspacetime.net/2015-conference/>
- 2014 **Black Forest Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: Probability.  
<http://www.probabilitysummer2014.philosophie.uni-muenchen.de/>
- 2013 **Seminar on the Philosophical Foundations of Quantum Gravity**, *Co-organizer*, University of Illinois at Chicago.  
<http://beyondspacetime.net/2013-conference-archive/>
- 2013 **Black Forest Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: Philosophy and Physics of Time.  
<http://www.unil.ch/philo/page95121.html>

- 2007-2013 **Southern California Group in Philosophy of Physics**, *Organizer*.  
<http://jamesowenweatherall.com/socal-philosophy-of-physics/>
- 2009 **Geneva Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: 'Is Schrödinger's Cat Dead or Alive or Both?.'
- 2008 **Geneva Summer School in the Philosophy of Physics**, *Co-organizer*, Topic: 'What is the Nature of Space and Time?.'
- 2003 **Fifth Annual Pittsburgh Graduate Philosophy Conference**, *Co-organizer*.

## Supervision of Postdoctoral Fellows

since 2015 **One Scientific Collaborator, two postdocs**, *University of Geneva*, (Philosophy).

## Chair or Co-Chair of PhD-Committees

- since 2016 **Augustin Baas**, *University of Geneva*, (Philosophy).  
 since 2016 **Niels Linnemann**, *University of Geneva*, (Philosophy).  
 2012-2016 **Sybil de Clark**, *University of Arizona*, (Physics).  
 2009-2015 **Nat Jacobs**, *University of California, San Diego*, (Philosophy).

## Membership in PhD-Committees

- 2015-2017 **John Dougherty**, *University of California, San Diego*, (Philosophy).  
 2013-2014 **Samuel Fletcher**, *University of California, Irvine*, (Logic and Philosophy of Science).  
 2013-2015 **Christopher Pariso**, *University of California, San Diego*, (Philosophy).  
 2013-2015 **Casey McCoy**, *University of California, San Diego*, (Philosophy).  
 2013-2015 **Hooman Sherkat**, *University of California, San Diego*, (Mathematics).  
 2012-2016 **Tomoya Sato**, *University of California, San Diego*, (Philosophy).  
 2012-2015 **Alexandre Marcellesi**, *University of California, San Diego*, (Philosophy).  
 2012-2015 **Kyle Sereda**, *University of California, San Diego*, (Philosophy).  
 2011-2015 **Sindhuja Bhakthavatsalam**, *University of California, San Diego*, (Philosophy).  
 2011-2015 **Cole Macke**, *University of California, San Diego*, (Philosophy).  
 2011-2015 **Daniel Minsky**, *University of California, San Diego*, (Mathematics).  
 2008-2012 **Tarun Menon**, *University of California, San Diego*, (Philosophy).  
 2008-2011 **Asif Shakeel**, *University of California, San Diego*, (Mathematics).  
 2006-2009 **Ioan Muntean**, *University of California, San Diego*, (Philosophy).

## Intramural Service

- Member Commission des études post-grade, Faculté des lettres, University of Geneva (since 2016).  
 Commission de titularisation, Faculté des sciences, University of Geneva (2018).
- Co-organizer Colloquium Series, Science Studies Program, UCSD (2013-14).  
 Colloquium Series, Department of Philosophy, UCSD (2007-09).
- Member Search Committee, Philosophy, UCSD (2013-14).  
 Graduate Admissions Committee, Philosophy, UCSD (2013-14).  
 Graduate Admissions Committee, Science Studies Program, UCSD (2013-14).  
 Graduate Essay Prize Committee, Philosophy, UCSD (2013-14).  
 UC President's Faculty Fellowship Committee, University of California (2013-14).  
 Graduate Program Review Committee, Department of Philosophy, UCSD (Fall 2008).  
 Academic Senate Committee for Administrative Computing and Telecommunications (2008-2010).  
 University Child Care Oversight Committee, UCSD (January 2007-June 2008).

Faculty for Science Studies for philosophy students, UCSD (2007-09, and since 2012).  
Advisor

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## Professional Memberships

- Society for the Metaphysics of Science (since 2015).
- European Philosophy of Science Association (since 2009).
- Sigma Xi, The Scientific Research Society (2006-2012).
- American Philosophical Association (2005-2014).
- International Spacetime Society (since 2004).
- British Society for the Philosophy of Science (since 2000).
- Philosophy of Science Association (since 2000).

# Publications

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## Books

- Under contract: *Out of Nowhere: The Emergence of Spacetime in Quantum Theories of Gravity*. Oxford: Oxford University Press (with Nick Huggett).

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## Edited Volumes and Special Journal Issues

- (5) *Philosophy Beyond Spacetime* (working title). (in preparation, with Nick Huggett and Baptiste Le Bihan).
- (4) Under contract: *Beyond Spacetime: The Foundations of Quantum Gravity* (working title). Cambridge: Cambridge University Press (with Nick Huggett and Keizo Matsubara).
- (3) Under contract: *Thinking About Space and Time: 100 Years of Applying and Interpreting General Relativity. Einstein Studies*, Basel: Birkhäuser (with Claus Beisbart and Tilman Sauer).
- (2) *Metaphysics in Contemporary Physics*. In *Poznan Studies in the Philosophy of the Sciences and the Humanities* Leiden: Brill (2016, with Tomasz Bigaj).
- (1) Special issue on *The Emergence of Spacetime in Quantum Theories of Gravity*. In *Studies in the History and Philosophy of Modern Physics* **44**/3 (2013, with Nick Huggett).

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## Articles

- (29) The (a)temporal emergence of spacetime. To appear in *Philosophy of Science* (with Nick Huggett).
- (28) Are black holes about information?. To appear in Richard Dawid, Radin Dardashti, Karim Thébault (eds.), *Epistemology of Fundamental Physics*, Cambridge: Cambridge University Press.
- (27) Putnam looks at quantum mechanics (again and again). To appear in Michael Frauchiger (ed.), *Themes from Putnam*, (Lauener Library of Analytical Philosophy, Volume 5, edited by W. K. Essler and M. Frauchiger) Berlin: De Gruyter.
- (26) What becomes of a causal set. *British Journal for the Philosophy of Science* **68** (2017): 907-925 (with Craig Callender).
- (25) Die Struktur von Raum und Zeit. In Markus Schrenk (ed.), *Handbuch Metaphysik*, Stuttgart/Weimar: Verlag J.B. Metzler (2017), 244-249.
- (24) Philosophie der Physik. In Simon Lohse and Thomas Reydon (eds.), *Grundriss Wissenschaftsphilosophie: Die Philosophien der Einzelwissenschaften*, Hamburg: Meiner (2017), 201-228.
- (23) Raiders of the lost spacetime. In Dennis Lehmkuhl, Gregor Schiemann, and Erhard Scholz (ed.), *Towards a Theory of Spacetime Theories*, Basel: Birkhäuser (2017), 297-335.
- (22) Introduction. In Tomasz Bigaj and Christian Wüthrich (eds.), *Metaphysics in Contemporary Physics*, Leiden: Brill (2016), 7-23.
- (21) A quantum-information-theoretic complement to a general-relativistic implementation of a beyond-Turing computer. *Synthese* **192** (2015): 1989-2008.
- (20) No categorial support for radical ontic structural realism. *British Journal for the Philosophy of Science* **66** (2015): 605-634 (with Vincent Lam).
- (19) The fate of presentism in modern physics. In Roberto Ciunti, Kristie Miller and Giuliano Torrenco (eds.), *New Papers on the Present*, Munich: Philosophia Verlag (2013), 91-131.
- (18) Emergent spacetime and empirical (in)coherence. *Studies in the History and Philosophy of Modern Physics* **44** (2013): 276-285 (with Nick Huggett).
- (17) The emergence of spacetime in quantum theories of gravity. *Studies in the History and Philosophy of Modern Physics* **44** (2013): 273-275 (with Nick Huggett).
- (16) Time in quantum gravity. In Adrian Bardon and Heather Dyke (eds.), *The Blackwell Companion to the Philosophy of Time*, Chichester: Wiley-Blackwell (2013), 242-261 (with Nick Huggett and Tiziana Vistarini).

- (15) A la recherche de l'espace-temps perdu. In Soazig LeBihan (ed.), *Précis de philosophie de la physique*, Paris: Vuibert (2013), 222-241.
- (14) The structure of causal sets. *Journal for General Philosophy of Science* **43** (2012): 223-241.
- (13) Die allgemeine Relativitätstheorie als Ausgangspunkt einer Quantentheorie der Gravitation. (In German) In Michael Esfeld (ed.), *Philosophie der Physik*, Berlin: Suhrkamp (2012), 306-324.
- (12) Demarcating presentism. In Henk de Regt, Samir Okasha, and Stephan Hartmann (eds.), *EPSA Philosophy of Science: Amsterdam 2009*, Dordrecht: Springer (2012), 439-448.
- (11) Can the world be shown to be indeterministic after all?. In Claus Beisbart and Stephan Hartmann (eds.), *Probabilities in Physics*, Oxford: Oxford University Press (2011), 365-389.
- (10) Time travel and time machines. In Craig Callender (ed.), *The Oxford Handbook of Philosophy of Time*, Oxford: Oxford University Press (2011), 577-630 (with Chris Smeenk).
- (9) No presentism in quantum gravity. In Vesselin Petkov (ed.), *Space, Time, and Spacetime: Physical and Philosophical Implications of Minkowski's Unification of Space and Time*, Berlin: Springer (2010), 257-278.
- (8) Challenging the spacetime structuralist. *Philosophy of Science* **76** (2009): 1039-1051. (2009 Philosophy of Science Association Recent Ph.D. Award).
- (7) Do the laws of physics forbid the operation of time machines?. *Synthese* **169** (2009): 91-124 (with John Earman and Christopher Smeenk).
- (6) A twist in the geometry of rotating black holes: seeking the cause of acausality. *General Relativity and Gravitation* **40** (2008): 1809-1823 (with Hajnal Andréka and István Németi).
- (5) Zeitreisen und Zeitmaschinen. (In German) In Thomas Müller (ed.), *Philosophie der Zeit: Neue analytische Ansätze*, Frankfurt a.M.: Vittorio Klostermann (2007), 191-219.  
Excerpts reprinted as:  
(5.2) Zeitreisen in Philosophie und Physik. In Romeo Grünfelder (ed.), *Horror Vacui*, Berlin: The Green Box (2011), 151-173.  
(5.1) Das Paradoxe an Zeitreisen im 'Terminator' (2007). Peter Bekes, Volker Frederking, and Axel Krommer (eds.), *Philos—Philosophieren in der Oberstufe*, Paderborn: Schöningh (2010), 131-133.
- (4) To quantize or not to quantize: fact and folklore in quantum gravity. *Philosophy of Science* **72** (2005): 777-788.
- (3) Time Machines. In Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2004 Edition, revised 2010). <http://plato.stanford.edu/entries/time-machine/> (with John Earman).
- (2) Generic incomparability of infinite-dimensional entangled states. *Physics Letters A* **303** (2002): 121-124 (with Rob Clifton and Brian Hepburn).
- (1) Henri Laueners offener Transzendentalismus. (In German) *Information Philosophie* **28/5** (2000): 34-41 (with Philipp Keller, Stephan Leuenberger, and Nora Nussbaum).

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## Book Reviews

- (6) Review of Stephen Mumford and Matthew Tugby (eds.), *Metaphysics and Science*, Oxford: Oxford University Press (2013). *Philosophical Review* **126** (2017): 136-140.
- (5) Review of Tian Yu Cao, *From Current Algebra to Quantum Chromodynamics: A Case for Structural Realism*, Cambridge: Cambridge University Press (2010). *HOPOS: The Journal of the International Society for the History of Philosophy of Science* **4** (2014): 368-371.
- (4) Review of Nick Huggett, *Everywhere and Everywhen: Adventures in Physics and Philosophy*, New York: Oxford University Press, 2010. *Metascience* **21** (2012): 485-488.
- (3) Review of Katherine Brading and Elena Castellani (eds.), *Symmetries in Physics: Philosophical Reflections*, Cambridge: Cambridge University Press, 2003. *Studies in the History and Philosophy of Modern Physics* **36** (2005): 576-582.
- (2) Review of Nick Bostrom, *Anthropic Bias: Observation Selection Effects in Science and Philosophy*, New York: Routledge, 2002. *Philosophy of Science* **71** (2004): 230-232.

- (1) Review of Helena Eilstein (ed.), *A Collection of Polish Works on Philosophical Problems of Time and Spacetime*, Dordrecht: Kluwer, 2002. *Erkenntnis* **60** (2004): 265-270.



# Teaching Experience

For more information on my teaching, please visit <http://www.wuthrich.net/teaching/>.

- Tübingen **Wochenendseminar zur Ontologie von Raum und Zeit** (Studienkolleg Forum Scientiarum, with Thomas Sattig), January 2017.  
<http://www.forum-scientiarum.uni-tuebingen.de/studium/studienkolleg/archiv/studienkolleg1617/weseminare.html>
- Geneva **Introduction à la philosophie des sciences** (BA), Fall 2017, Fall 2016, Fall 2015.  
[http://www.wuthrich.net/teaching/\\_BA2b\\_PhilSci\\_2017.html](http://www.wuthrich.net/teaching/_BA2b_PhilSci_2017.html)
- Metaphysics of Science** (MA seminar, with Claudio Calosi), Fall 2017.  
[http://wuthrich.net/teaching/\\_MA2\\_MPhSci\\_2017.html](http://wuthrich.net/teaching/_MA2_MPhSci_2017.html)
- General Philosophy of Science II** (MA seminar, with Raphael Scholl and Marcel Weber), Spring 2017.  
[http://wuthrich.net/teaching/\\_MA1\\_GenPhilSci\\_2017\\_1.html](http://wuthrich.net/teaching/_MA1_GenPhilSci_2017_1.html)
- General Philosophy of Science II** (MA seminar, with Raphael Scholl and Marcel Weber), Fall 2016.  
[http://www.wuthrich.net/\\_MA1\\_GenPhilSci\\_2016\\_2.html](http://www.wuthrich.net/_MA1_GenPhilSci_2016_2.html)
- General Philosophy of Science** (MA seminar, with Michael Baumgartner and Marcel Weber), Spring 2015.  
[http://www.wuthrich.net/\\_MA1\\_GenPhilSci\\_2016\\_1.html](http://www.wuthrich.net/_MA1_GenPhilSci_2016_1.html)
- General Philosophy of Science** (MA seminar, with Michael Baumgartner and Marcel Weber), Fall 2015.  
[http://www.wuthrich.net/\\_MA1\\_GenPhilSci\\_2015\\_2.html](http://www.wuthrich.net/_MA1_GenPhilSci_2015_2.html)
- Philosophy of Physics** (MA seminar, with Karen Crowther), Fall 2017.  
[http://wuthrich.net/teaching/\\_MA6\\_PhilPhys\\_2017.html](http://wuthrich.net/teaching/_MA6_PhilPhys_2017.html)
- Philosophy of Physics** (MA seminar), Fall 2016.  
[http://www.wuthrich.net/\\_MA6\\_PhilPhys\\_2016.html](http://www.wuthrich.net/_MA6_PhilPhys_2016.html)
- Philosophy of Physics** (MA seminar), Fall 2015.  
[http://www.wuthrich.net/\\_MA6\\_PhilPhys\\_2015.html](http://www.wuthrich.net/_MA6_PhilPhys_2015.html)
- Professionalization Workshop** (for PhD and MA students), Academic Year 2016-17.  
[http://wuthrich.net/teaching/\\_Professionalization\\_2017\\_1.html](http://wuthrich.net/teaching/_Professionalization_2017_1.html)
- Professionalization Workshop** (for PhD and MA students), Academic Year 2015-16.  
[http://www.wuthrich.net/\\_Professionalization\\_2016\\_1.html](http://www.wuthrich.net/_Professionalization_2016_1.html)
- UCSD **Introduction to Philosophy: Metaphysics** (introductory), Winter 2015, Winter 2014, Winter 2009.
- Introduction to Philosophy: Knowledge and Its Limits** (introductory), Spring 2010, 2009, 2007.
- Introduction to Logic** (introductory), Spring 2015, Summer 2013.
- Scientific Reasoning** (introductory), Summer 2013, Summer 2010, Fall 2007.
- Science, Philosophy, and the Big Questions** (introductory), Winter 2012.
- Freshman Seminar: Paradoxes** (introductory), Fall 2007.
- Freshman Seminar: Time Travel** (introductory), Spring 2010, Winter 2009.
- Philosophy of Mathematics** (intermediate), Winter 2014, Winter 2012.
- Metaphysics** (intermediate), Fall 2012.
- Philosophy of Science** (intermediate), Fall 2013, Fall 2012, Fall 2011, Spring 2008, Winter 2007.
- Philosophy of Physics: Spacetime** (intermediate), Fall 2007.
- Philosophy of Physics: Quantum Mechanics** (intermediate), Winter 2013, Winter 2009.
- Laws, Modality, and Properties in Naturalistic Metaphysics** (graduate seminar, with Tomasz Bigaj), Spring 2015.
- Reduction and Emergence** (graduate seminar), Fall 2013.

**Core Seminar in Metaphysics** (graduate seminar), Winter 2013.  
**The Epistemology of Science** (graduate seminar), Fall 2011.  
**Structure in Philosophy, Mathematics, and Physics** (graduate seminar), Spring 2010.  
**Philosophical Foundations of Quantum Mechanics** (graduate seminar), Spring 2009.  
**Heat, Time, and Roulette Wheels** (graduate seminar, with Craig Callender), Spring 2008.  
**Philosophy of Space, Time, and Spacetime** (graduate seminar), Spring 2007.

Bern **Determinism** (block seminar), Spring 2011.  
**Introduction to Philosophy of Physics** (intermediate), Summer Semester 2006.  
**Bell's Inequality and Quantum Reality** (seminar, with Gerd Grasshoff, Samuel Portmann, and Adrian Wüthrich), Summer Semester 2006.  
**Einstein 1905** (intermediate), Summer Semester 2005.  
**Paradoxes** (intermediate), Winter Semester 2004-2005.  
**Philosophy of Time and Spacetime** (intermediate), Summer Semester 2004.

Pittsburgh **Problem Solving** (introductory), Spring 2003.  
**Principles of Scientific Reasoning** (introductory), Fall 2002.

# Talks

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## 2017 (19)

- 27 October Spacetime is as spacetime does. Workshop 'Spacetime: Fundamental or Emergent?', University of Bonn.
- 25 August The disappearance of spacetime in quantum theories of gravity. Invited talk at the Annual Meeting of the Swiss Physical Society, Geneva.
- 17 July The disappearance and re-emergence of spacetime quantum theories of gravity based on general relativity. Fifth International Summer School in Philosophy of Physics, Saig (Germany).
- 14 July The temporal and atemporal emergence of (space-)time. Plenary speaker at the annual meeting of the British Society for the Philosophy of Science, University of Edinburgh.
- 12 July When the actual world is not even possible. XXth International Summer School in Philosophy of Physics, University of Urbino (Italy).
- 12 July Spacetime is as spacetime does (based on joint work with Vincent Lam). XXth International Summer School in Philosophy of Physics, University of Urbino (Italy).
- 11 July The structure of causal sets. XXth International Summer School in Philosophy of Physics, University of Urbino (Italy).
- 10 July Quantum gravity: motivations and implications. XXth International Summer School in Philosophy of Physics, University of Urbino (Italy).
- 7 July What becomes of the future?. Space and Time in Physics and Philosophy, University of Split (Croatia).
- 6 July The disappearance of space and time in quantum theories of gravity. Space and Time in Physics and Philosophy, University of Split (Croatia).
- 13 June Our world may be deterministic or indeterministic – or both. 4th Annual Conference of the International Association for the Philosophy of Time, Gargnano (Italy).
- 20 May Considering information-theoretic and analogical reasoning in black-hole physics. 21st Seven Pines Symposium 'Black Holes in the Spotlight', Seven Pines, Minnesota.
- 26 April Considering information-theoretic and analogical reasoning in black-hole physics. Do Black Holes Exist? – The Physics and Philosophy of Black Holes, Bad Honnef (Germany).
- 7 April The (a)temporal emergence of spacetime. The Physics and Phenomenology of Time, University of Rome 3.
- 15 March Grounding (space-)time. The Foundation of Reality: Fundamentality, Space and Time, University of Oxford.
- 10 February When the actual world is not even possible. *Center for Philosophy of Time* colloquium, University of Milan.
- 3 February Identity in physics. *eidos Graduate School in Metaphysics on 'Identity'*, University of Neuchâtel (Switzerland).
- 18 January When the actual world is not even possible. *The Metaphysics of Entanglement* project, University of Oxford.
- 6 January The philosophical depth of quantum gravity. Cluster of Excellence 'Image Knowledge Gestaltung', Humboldt University Berlin.

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## 2016 (12)

- 9 November The (a)temporal emergence of spacetime. EXRE Colloquium, University of Fribourg (Switzerland).
- 4 November The (a)temporal emergence of spacetime (with Nick Huggett). 25th Biennial Meeting of the Philosophy of Science Association, Atlanta.
- 14 September Grounding time (and space). Conference 'Ground in Philosophy of Science', Geneva.

- 21 July Relativistic quantum physics. Fourth International Summer School in Philosophy of Physics, Saig (Germany).
- 30 June The atemporal emergence of temporality. Société de philosophie des sciences, Lausanne.
- 20 June Quantum gravity: motivations and implications. International Summer Institute on the Philosophy of Quantum Gravity, Williams Bay, Wisconsin.
- 10 June Is time (or spacetime) fundamental according to theories of quantum gravity? (Symposium). International Association for the Philosophy of Time, Winston-Salem, North Carolina.
- 31 May Spacetime is as spacetime does. Fourth International Conference on the Nature and Ontology of Spacetime, Varna (Bulgaria).
- 27 May What becomes of the future. Lake Geneva Graduate Conference, Geneva.
- 21 April Our world may be deterministic or indeterministic—or both. Quodlibeta, Department of Philosophy, University of Geneva.
- 10 March Considering the role of information theory in fundamental physics. Symposium 'Methodological Challenges in Quantum Gravity', Gesellschaft für Wissenschaftsphilosophie, Düsseldorf.
- 2 March Quantum gravity: blend or mélange?. Symposium Quantentheorie und Gravitation, Deutsche Physikalische Gesellschaft, Hamburg.

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## 2015 (8)

- 8 December Considering the role of information theory in fundamental physics. Why trust a theory?, MCMP, Munich.
- 5 December Theoretical tools and the renaissance of general relativity (round table). A Century of General Relativity, Max Planck Institute for the History of Science, Berlin.
- 10 November What does philosophy understand by logic?. The Big Bang and the interfaces of knowledge: towards a common understanding of Logic?, Wilton Park Meeting, Lucens (Switzerland).
- 26 September Functional emergence of spacetime in quantum gravity (contributed paper, with Vincent Lam). EPSA15, Biennial Meeting of the European Philosophy of Science Association, Düsseldorf.
- 10 September What becomes of a causal set (with Craig Callender). Prospects for causal set quantum gravity, ICMS, Edinburgh.
  - 21 July A philosophical Introduction to ontology. 3rd International Black Forest Summer School in the Philosophy of Physics, Saig (Germany).
  - 25 April Spacetime from causal sets. Southern California Group in Philosophy of Physics, Irvine.
- 23 January Space and time from causality. Minnesota Center for Philosophy of Science.

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## 2014 (6)

- 16 December Functionalist causal set theory. Workshop 'Emergent Time and Emergent Space in Quantum Gravity', Albert Einstein Institute, Golm (Germany).
- 7 November What becomes of a causal set (contributed paper, with Craig Callender). 24th Biennial Meeting of the Philosophy of Science Association, Chicago.
- 7 October The conspicuous absence of space and time in quantum gravity. Workshop on the History of Time Accuracy in Physics and Astronomy, Observatoire de Paris (cancelled).
- 26 July On the metaphysics and physics of determinism and indeterminism. 2nd International Black Forest Summer School in the Philosophy of Physics, Saig (Germany).
- 10-11 July What becomes of a causal set (with Craig Callender). Annual Conference of the British Society for the Philosophy of Science, University of Cambridge.
- 17 April What becomes of a causal set (with Craig Callender, presented by him). Pacific APA, San Diego, Philosophy of Time Society.

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## 2013 (11)

- 28 September Canonical quantum gravity for philosophers. Seminar on the Philosophical Foundations of Quantum Gravity, University of Illinois, Chicago.
- 27 September Why 'philosophical' foundations? (with Nick Huggett). Seminar on the Philosophical Foundations of Quantum Gravity, University of Illinois, Chicago.
- 14 September Building bridges: potential lessons from quantum gravity. Workshop 'Metaphysics Meets the Philosophy of Physics in Rochester', University of Rochester.
- 26 July The disappearance and re-emergence of space and time in quantum theories of gravity. Summer School 'Physics and Philosophy of Time', Saig (Germany).
- 5 July What if the world was quantum gravitational?. Workshop 'The Question "What if?" in the Sciences and Humanities', University of Geneva.
- 28 June Time and space in causal set theory. Journée Philosophie de la physique au séminaire Philosophie et Physique du Laboratoire SPHERE, University of Paris 7, Denis Diderot.
- 1 June Time and space in causal set theory. Quantum Gravity in Perspective, Munich Centre for Mathematical Philosophy (LMU Munich).
- 29 May Auf der Suche nach der verlorenen Raumzeit. Department of Philosophy, University of Tübingen.
- 17 May The problem of space in quantum gravity. Annual Philosophy of Physics Conference, Western University (formerly University of Western Ontario).
- 29 March Comment on Oliver Pooley's 'Three types of gauge redundancy and the problem of time'. Pacific APA, San Francisco.
- 2 February Should the actual be possible?. Law and Order conference, University of California, San Diego.

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## 2012 (7)

- 17 November What, if anything, is spacetime, fundamentally? (symposium paper). 23rd Biennial Meeting of the Philosophy of Science Association, San Diego.
- 15 October The problem of space in quantum gravity. 40th Anniversary of the First Osgood Hill Conference on Quantum Gravity, Center for Philosophy and History of Science, Boston University.
- 22 September Humean possibilities. Workshop 'What is really possible 2 (WIRP-2): Logical and philosophical aspects of real possibility', Konstanz.
- 18 September When the actual world is not even possible. GAP8, Gesellschaft für Analytische Philosophie, Konstanz.
- 14 September The measurement problem in non-relativistic and relativistic quantum theories. Institute for Theoretical Physics, University of Bern.
- 10 September A quantum-information-theoretic complement to a general-relativistic implementation of a beyond-Turing computer (invited lecture). First International Conference on Logic and Relativity: honoring István Németi's 70th birthday, Budapest.
- 22 June Putnam looks at quantum mechanics (again and again). 5th International Lauener Symposium on Analytical Philosophy in Honour of Professor Hilary Putnam, Bern.

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## 2011 (12)

- 8 October No categorical support for radical ontic structural realism. Contributed paper, with Vincent Lam, 3rd Conference of the European Philosophy of Science Association, Athens.
- 20 July How large is a structuralist universe?. 14th Congress of Logic, Methodology, and Philosophy of Science, Nancy.
- 29 June The physics and metaphysics of no time and space. PERSP Space and Time Seminar, Barcelona.
- 23 June To what extent is relativistic quantum field theory relativistic?. Workshop on Decoherence and No-Signalling, University of Bern.

- 28 March Crushing the resurgence: presentism meets its physical fate. Department of Philosophy, University of Geneva.
- 18 March The structure of causal sets. Department of Physics and Astronomy, University of Utrecht.
- 16 March How the emergence of spacetime might save the structuralist. Invited talk at the annual spring meeting of the *Deutsche Physikalische Gesellschaft*, Dresden.
- 10 March The physical fate of presentism. Philosophy of Physics Research Seminar, University of Oxford.
- 9 March To the Planck scale and back: on the emergence of spacetime in quantum theories of gravity. Colloquium Physics and Philosophy, University of Bristol.
- 8 March The fate of presentism in modern physics. *Present State of Presentism Workshop*, University of Bristol.
- 7 March To the Planck scale and back: on the emergence of spacetime in quantum theories of gravity. Sigma Club, London School of Economics.
- 22 January Die Nachrichten vom Ableben des Determinismus sind stark übertrieben. Department of Philosophy, Leibniz University Hannover.

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## 2010 (10)

- 6 November A priori vs. a posteriori non-fundamentality of spacetime. Symposium co-organized with Nick Huggett, 22nd Biennial Meeting of the Philosophy of Science Association, Montreal.
- 5 November A giants' singular struggle: Einstein, de Sitter, Weyl, and Klein's debate on an alleged singularity. History of Science Society Annual Meeting, Montreal.
- 4 November Determinism and general relativity. Contributed paper, with Chris Smeenk, 22nd Biennial Meeting of the Philosophy of Science Association, Montreal.
- 19 October Space, time, and spacetime, part II: emergent spacetime in quantum theories of gravity. Osher Lifelong Learning Institute, University of California, San Diego.
- 5 October Space, time, and spacetime, part I: from Newton's bucket to Einstein's hole. Osher Lifelong Learning Institute, University of California, San Diego.
- 22 July Raiders of the lost spacetime. Workshop on Foundations of Spacetime Theories, University of Wuppertal.
- 13 July The emergence of spacetime: what it is not and what it might be. Conference on Emergence in Physics, Institute of Philosophy, London.
- 1 July Auf der Suche nach der verlorenen Raumzeit. Department of Philosophy, University of Konstanz.
- 18 March Puzzling aspects of quantum mechanics, part II: non-locality. Osher Lifelong Learning Institute, University of California, San Diego.
- 4 February Puzzling aspects of quantum mechanics, part I: the measurement problem. Osher Lifelong Learning Institute, University of California, San Diego.

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## 2009 (13)

- 20 November Space and time do not exist, fundamentally. Department of Philosophy, University of California, San Diego.
- 29 October An old and a new theorem in quantum mechanics and what they don't imply for indeterminism. Institute for History and Foundations of Science, University of Utrecht.
- 27 October Raum und Zeit in der modernen Physik: Auf der Spur von Leibniz' Relationalismus in der Quantengravitation. Zentrale Einrichtung für Wissenschaftstheorie und Wissenschaftsethik (ZEWV), Leibniz University of Hannover.
- 23 October Demarcating presentism. 2nd Meeting of the European Philosophy of Science Association, Amsterdam.
- 16 October Let's go for a ride on a time machine. LARSIM, Commissariat à l'Énergie Atomique, Orme des Merisiers (France).

- 15 October An old and a new theorem in quantum mechanics and what they don't imply for indeterminism. Institut d'Histoire et de Philosophie des Sciences et des Techniques (IHPST), Paris.
- 13 July The hole and the loop. British Society for the Philosophy of Science Annual Conference, University of East Anglia, Norwich (UK).
- 11 July Demarcating presentism. Joint Session of the Aristotelian Society and the Mind Association, University of East Anglia, Norwich (UK).
- 9 July Gleason's theorem, Conway and Kochen's 'free will theorem', and indeterminism. Geneva Summer School in the Philosophy of Physics, Arolla (Switzerland).
- 7 July Some technicalities of quantum mechanics. Geneva Summer School in the Philosophy of Physics, Arolla (Switzerland).
- 6 July Bell's theorem, the GHZ theorem, and non-locality. Geneva Summer School in the Philosophy of Physics, Arolla (Switzerland).
- 21 June A philosopher looks at science. Osher Lifelong Learning Institute, University of California, San Diego.
- 27 March Demarcating presentism. Department of Philosophy, University of Nevada, Las Vegas.

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## 2008 (11)

- 19 December Comment on E.J. Lowe's 'Experience of change and change of experience'. eidos workshop *Time and Time Experience*, University of Geneva.
- 15 December How properties and relations are had in a Lorentz-covariant way. eidos meeting, University of Fribourg.
- 8 November Challenging the spacetime structuralist. 21st Biennial Meeting of the Philosophy of Science Association, Pittsburgh.
- 6 October Who wants to take a ride on a time machine?. Science Studies colloquium, University of California, San Diego.
- 3 September Conceivability and possibility: a tutorial. 8th eidos workshop, University of Geneva.
- 19 August Demarcating a position: is presentism really distinct from eternalism?. 7th eidos workshop, University of Geneva.
- 1 August Einstein's nemesis conquered at last?. Geneva Summer School in the Philosophy of Physics, Arolla (Switzerland).
- 31 July Let's take a ride on a time machine. Geneva Summer School in the Philosophy of Physics, Arolla (Switzerland).
- 15 July The many lives of presentism. eidos Metaphysics Conference, Geneva.
- 14 June No presentism in quantum gravity. Third International Conference on the Nature and Ontology of Spacetime, Concordia University, Montreal.
- 21 March Comment on Bradford Skow's 'Local and global relativity principles'. Pacific APA, Pasadena.

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## 2007 (3)

- 21 December Challenging the spacetime structuralist. 3rd eidos workshop, University of Geneva.
- 12 September The end of time. 2nd eidos workshop, University of Geneva.
- 28 January Loop quantum big bang. Southern California Group in the Philosophy of Physics, University of California, Irvine.

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## 2006 (7)

- 30 June Presentism, becoming, and the Rietdijk-Putnam argument reconsidered. Department of Philosophy, University of Florence.
- 17 June Albert Einstein's *annus mirabilis* of 1905 in Bern and its implications for the world. Sigma Xi, Swiss Chapter, Bern.

- 24 March Challenging the spacetime structuralist. Philosophy of Physics Meeting, Centre Romand for Logic, History and Philosophy of Science, University of Lausanne.
- 27/30 January Approaching the Planck scale from a generally relativistic point of view. Department of History and Philosophy of Science, Indiana University; Department of Philosophy, Ohio State University.
- 26 January Singularities, time machines, and the future of gravity. Department of History and Philosophy of Science, Indiana University.
- 13 January Quantum gravity from a generally relativistic point of view. Colloquium in History and Philosophy of Science, University of Bern.

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## 2005 (10)

- 18 November Mit Einstein auf Zeitreisen. Naturwissenschaftliche Gesellschaft (Society of Natural Sciences), Winterthur (Switzerland).
- 10 November Das Schiffsmastexperiment—eines der wichtigsten Gedankenexperimente der Physik der frühen Neuzeit. Cantonal Meeting of High School Teachers of Information Science, Mathematics, and Physics, Thun (Switzerland).
- 4 September General covariance in quantum general relativity. Philosophical and Foundational Issues in Quantum Theory, European Science Foundation Scientific Network Conference, Budapest.
- 8 August Misner spacetime as a counterexample against Krasnikov's no-go theorem?. Logic in Hungary, Budapest.
- 5 August Let's build a time machine. Logic in Hungary, Budapest.
- 30 July Foundational issues in loop quantum gravity. New PhDs' Seminar in Physics and Philosophy, Department of Philosophy, University of Illinois, Chicago.
- 15 July Costs and gains of a Hamiltonian formulation of general relativity. Philosophy, Probability and Physics Lecture Series, University of Konstanz.
- 30 June Die Bedeutung von Albert Einsteins *Annus mirabilis* 1905 für Bern—und für die Welt. Chambre of Commerce and of Industry of the Canton of Bern.
- 5 April Einstein und de Sitter: Grenzen der Mathematik oder viel Lärm um nichts?. Astronomical Society Bern.
- 12 March Einstein's nemesis conquered at last? The fate of singularities in loop quantum cosmology. Seventh International Conference on the History of General Relativity, La Orotava, Tenerife.

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## 2004 (6)

- 1 December Mit Einstein auf Zeitreisen. Albert Einstein Colloquium for High School Teachers, University of Bern.
- 19 November To quantize or not to quantize: fact and folklore in quantum gravity. 19th Biennial Meeting of the Philosophy of Science Association, Austin.
- 14 June Quantum gravity and the 3D vs. 4D controversy. Rendez-vous des Thésards, Centre de Physique Théorique, Marseille.
- 12 May Quantum gravity and the 3D vs. 4D controversy. International Conference on the Ontology of Spacetime, Concordia University, Montreal.
- 30 January Conceptualizing time machines. Séminaire de Travail en Physique Mathématique, Centre de Physique Théorique, Marseille.
- 16 January Vorwärts im Lichtkegel und zurück in die Vergangenheit: Zeitreisen und Zeitmaschinen in der modernen Physik. Colloquium in History and Philosophy of Science, University of Bern.

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## 2003 (4)

- 21 November Philosophical problems at the Planck scale. Department of Philosophy, University of Waterloo.
- 12 April Does modern physics permit the operation of time machines?. UCSD Graduate Student Philosophy Conference, University of California, San Diego.



- 5 April An early episode in the perennial struggle with singularities. Midwest Junto for the History of Science, University of Minnesota, Minneapolis.
- 18 March Does modern physics permit the operation of time machines?. Grad Expo, University of Pittsburgh.

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## 2002 (1)

- 16 March No-go theorems for time machines in classical general relativity. Fourth Annual Carnegie Mellon University/University of Pittsburgh Graduate Philosophy Conference.

# External Funding

- 2017-19 **Swiss National Science Foundation**, *PI Christian Wüthrich*, CHF 392,076.  
Project title: To and Fro: Scientific Metaphysics at Physic's Frontiers
- 2016-19 **Swiss National Science Foundation**, *PI Christian Wüthrich*, CHF 495,941.  
Project title: New Avenues Beyond Space and Time
- 2016-19 **Swiss National Science Foundation**, *PI Kevin Mulligan, Co-PIs Olivier Massin and Christian Wüthrich*, CHF 224,397.  
Project title: Quantities
- 2015-18 **John Templeton Foundation**, *Co-PIs Nick Huggett and Christian Wüthrich*, US\$ 1,104,281.  
Project title: Space and Time After Quantum Gravity
- 2013 **New Agendas for the Study of Time, Center for Time, University of Sydney**, *Small grant (PI Christian Wüthrich)*, US\$ 15,000.  
Conference title: Time in Quantum Gravity
- 2013 **National Science Foundation**, *Small conference grant (PI Nick Huggett)*, US\$ 12,900.  
Conference title: Seminar on the Philosophical Foundations of Quantum Gravity
- 2010-12 **American Council of Learned Societies**, *Collaborative Fellowship, Co-principal investigator (with Nick Huggett)*, US\$ 111,000.  
Project title: Emergent Spacetime in Quantum Theories of Gravity
- 2010-11 **UC Office of the President**, *UC President's Fellowship in the Humanities*, US\$ 35,000.  
Project title: Emergent Spacetime in Quantum Theories of Gravity
- 2007-09 **Swiss National Science Foundation**, *Co-applicant and co-coordinator of one of three subprojects, Principal Investigator: Kevin Mulligan, University of Geneva*, CHF 458,854.  
Project title: Properties and Relations
- 2003-04 **Swiss National Science Foundation**, *Fellowship for prospective researchers*, CHF 26,740 plus CA\$ 13,000.  
Research stay at the University of Waterloo and the Perimeter Institute, as well as at the Centre de Physique Théorique (Marseille)