Baptiste Le Bihan

Areas of Research and Teaching

Specialisation Philosophy of physics, philosophy of science, metaphysics

Competence Philosophy of mind, history of philosophy

Academic Positions

2023–2028 **Assistant Professor**, *Principal Investigator*, University of Geneva.

Principal investigator of a Swiss NSF Starting Grant project of CHF 1'750'000 entitled *Space, Time and Causation in Quantum Gravity*, including a PhD and two postdoctoral positions.

2019–2023 Ambizione Research Fellow, Principal Investigator, University of Geneva.

Principal investigator of a Swiss National Science Foundation research project of CHF 570'000 on the metaphysics of space, time and emergence in the context of quantum gravity, entitled *Composing the World out of Nowhere*.

2018–2019 **Scientific Collaborator**, Senior Researcher, University of Geneva.

Scientific collaborator associated with Prof. Wüthrich's Swiss National Science Foundation project *To and Fro: Scientific Metaphysics at Physics's Frontiers*.

2016–2018 **Postdoctoral Researcher**, University of Illinois at Chicago and University of Geneva. Joint project *Space and Time after Quantum Gravity* lead by Prof. Huggett (Illinois at Chicago) and Prof. Wüthrich (Geneva).

since 2015 Associate Researcher, University of Rennes 1.

Fall 2014 **Temporary Lecturer**, University of Geneva.

Assistant of Prof. Marcel Weber.

2011–2014 **Temporary Lecturer**, University of Rennes 1.

Two years as a 'Mission d'enseignement' (2011–2013) and one semester as an ATER (spring 2014).

Education

2021 **Habilitation in Philosophy of Science**, *University of Bern*.

Title: 'Building on the ruins of spacetime: When quantum gravity meets metaphysics'. Supervisor: Prof. Claus Beisbart (University of Bern). Committee members: Prof. Vera Hoffman-Kolss (University of Bern) and Prof. Christian Wüthrich (University of Geneva). External reviewer: Prof. Kristie Miller (University of Sydney).

2010–2015 **PhD in Philosophy**, *University of Rennes 1*.

Title: 'Contingencies Within Spacetime'. Grade: very honourable with jury congratulations (highest grade). Supervisors: Dr. habil. Jiri Benovsky (University of Fribourg) and Prof. Pierre Joray (University of Rennes 1). Examiners: Prof. Fabrice Correia (University of Neuchâtel), Dr. Filipe Drapeau Vieira Contim (University of Rennes 1) and Prof. Frédéric Nef (EHESS). Defended on June 24 2015.

2008–2010 MA in Philosophy, University of Rennes 1.

- 2005–2008 **BA in Philosophy**, *University of Rennes 1*.
- 2005–2006 BA1 in Physics, Chemistry, Geosciences and Engineering, University of Rennes 1.

Academic Visits

- 2022 Australian Catholic University, December 3–12.
- 2022 Oxford University, Pembroke College, September 8-10.
- 2020 Complutense University of Madrid, February 25–March 3.
- 2020 **Paris-Sorbonne University**, February 10–17.
- 2019 University of Western Australia, December 13–21.
- 2019 Oxford University, Pembroke College, April 29–May 5.
- 2018 University of Illinois at Chicago, September 12-October 3.
- 2010 University of Fribourg, April 1-June 30.

Publications

Monograph

2019 Qu'est-ce que le temps ?, Paris: Vrin.

Edited Volume

2021 *Philosophy Beyond Spacetime*, Oxford: Oxford University Press. With Nick Huggett and Christian Wüthrich.

Articles

- Forthcoming 'The Great Loop: From Conformal Cyclic Cosmology to Aeon Monism', *Journal for General Philosophy of Science*.
 - 2024 'Causal Theories of Spacetime', Noûs, 58 (1), 202–224. With S. Baron.
 - 'Metaphysical Indeterminacy in Everettian Quantum Mechanics', European Journal for the Philosophy of Science, 14 (3). With D. Glick.
 - 2023 'Trouble on the Horizon for Presentism', *Philosophers' Imprint*, 23 (1): 2. With S. Baron.
 - 'What Does the World Look Like According to Superdeterminism?', British Journal for the Philosophy of Science, 74 (3). With A. Baas.
 - 2022 'Spacetime Quietism in Quantum Gravity', in A. Vassalo (ed.) *The Foundations of Spacetime Physics: Philosophical Perspectives*. New York: Routledge, 155–175. With S. Baron.
 - 2022 'Composing Spacetime', Journal of Philosophy, 119 (1), 33-54. With S. Baron.
 - 2022 'Quantum Gravity and Mereology: Not So Simple', *Philosophical Quarterly*, 72 (1), 19–40. With S. Baron.
 - 2022 'Les théories méréologiques du faisceau', in Métaphysique et ontologie, D. Berlioz, F. Drapeau Contim and F. Loth (eds.). Paris: Vrin.
 - 2021 'Spacetime Emergence in Quantum Gravity: Functionalism and the Hard Problem', *Synthese*, 199 (2), 371–393.
 - 2021 'The Landscape and the Multiverse: What's the Problem?', *Synthese*,199 (3-4), 7749–7771. With J. Read.

- 2021 'Analytic Metaphysics versus Naturalized Metaphysics: The Relevance of Applied Ontology', *Erkenntnis*, 86, 21–37. With A. Barton.
- 2021 *Philosophy Beyond Spacetime: Introduction*, Oxford: Oxford University Press. With Nick Huggett and Christian Wüthrich.
- 2020 'From Spacetime to Space and Time: A Reply to Markosian', Analysis, 80 (3), 456–462.
- 2020 'String Theory, Loop Quantum Gravity and Eternalism', European Journal for Philosophy of Science, 10, 17.
- 2019 'The No-Self View and The Meaning of Life', *Philosophy East and West*, 69 (2), 419–438.
- 2019 'Have We Lost Spacetime on the Way? Narrowing the Gap between General Relativity and Quantum Gravity', *Studies in History and Philosophy of Modern Physics*, 65, 112–121. With N. Linnemann.
- 2019 'Aspects in Dual-Aspect Monism and Panpsychism', *Philosophical Investigations*, 42 (2), 186–201.
- 2018 'Duality and Ontology', Philosophy Compass, 13 (12), e12555. With J. Read.
- 2018 'Space Emergence in Contemporary Physics: Why We Do Not Need Fundamentality, Levels of Reality and Emergence', *Disputatio*, 10 (49), 71–95.
- 2018 'Priority Monism Beyond Spacetime', Metaphysica, 19 (1), 95–111.
- 2018 'Contre les défenses du présentisme par le sens commun', Igitur, 9 (1), 1–23.
- 2018 'L'éternité sans le temps', Revue philosophique de Louvain, 116 (3), 441-462.
- 2018 'L'espace et le temps existent-ils ? Le mystère de la gravité quantique', *Implications Philosophiques*. https://www.implications-philosophiques.org/implications-epistemologiques/lespace-et-le-temps-existent-ils/
- 2016 'Super-Relationism: Combining Eliminativism about Objects and Relationism about Spacetime', *Philosophical Studies*, 173 (8), 2151–2172.
- 2016 'Les proprieties du vide et de l'espace-temps', *Philosophiques*, 43 (1), 49-66.
- 2015 'No Physical Particles for a Dispositional Monist?', *Philosophical Papers*, 44 (2), 207–232.
- 2015 'The Unrealities of Time', Dialogue: Canadian Philosophical Review, 54 (1), 25-44.
- 2014 'No-futurism and Metaphysical Contingentism', Axiomathes, 24 (4), 483-497.
- 2013 'Why a Gunk World is Compatible with Nihilism about Objects', Studia Philosophica Estonica 6 (1), 1–14.

Other entries

- 2021 Review of Alastair Wilson's *The Nature of Contingency*, Oxford: OUP, in *The British Journal for the Philosophy of Science*, https://www.thebsps.org/reviewofbooks/le-bihan-on-wilson/, 2021.
- 2021 'Philosophie et gravité quantique', in La recherche, 566, 24-28, July-September 2021.
- 2016 'Le temps (grand public)', *L'Encyclopédie Philosophique*, ed. M. Kristanek. http://encyclo-philo.fr/temps/
- 2016 'Le temps (public académique)', *L'Encyclopédie Philosophique*, ed. M. Kristanek. http://encyclo-philo.fr/temps-a/

Translations

- 2021 'Théorie des cordes, gravité quantique à boucles et éternalisme', translation into French of my article in the *European Journal for Philosophy of Science*, 10 (2), 2020. In *Métaphysique du temps : perspectives contemporaines* (ed. Declos and Tiercelin), OpenEdition Books.
- 2018 'The Cheshire Cat Problem and Other Spatial Obstacles to Backwards Time Travel', translation into French of Robin Le Poidevin's article in *The Monist*, 88 (3), 2005. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière.
- 2018 'Time Without Change in Three Steps', translation into French of Robin Le Poidevin's article in *American Philosophical Quarterly*, 47 (2), 2010. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière.
- 2018 'Time Without Change', translation into French of Sydney Shoemaker's article in *Identity, Cause, and Mind*, Cambridge University Press, 1984. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière.
- 2018 'Time and Thisness', translation into French of R. M. Adams's article in *Midwest Studies in Philosophy*, 11 (1), 1986. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière. With Annabel Colas.
- 2018 'The Space-Time World', translation into French of J. J. C. Smart's chapter VII in Philosophy and Scientific Realism, Routledge and Keagan Paul, 1963. In Philosophie du temps (ed. Benovsky), Editions La Baconnière.
- 2018 'The Unreality of Tense', translation into French of Hugh Mellor's article in *The Philosophy of Time*, Oxford University Press, 1993. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière.
- 'How do We Know it is Now Now?', translation into French of David Braddon-Mitchell's article in *Analysis*, 64 (3), 2004. In *Philosophie du temps* (ed. Benovsky), Editions La Baconnière.
- 2018 'The Time of Our Lives', translation into French of Hugh Mellor's article in *Philosophy* at the new Millennium, ed. Anthony O'Hear, Cambridge: Cambridge University Press, 2001, 45–59. In Métaphysique contemporaine: structure, identité et métaontologie (ed. Nef and Schmitt), collection Textes Clefs, Vrin.
- 2011 'Van Inwagen and the Possibility of gunk', translation into French of Ted Sider's paper in *Analysis*, 53 (4), 1993. In *Repha* 4, September 2011.

Teaching Experience

- 2022-2023 Introduction to philosophy of science (BA course), Geneva.
- 2019-2020 Epistemology of science (MA seminar, with Christian Wüthrich), Geneva.
- 2018-2019 Introduction to metaphysics (BA tutorial), Geneva.
- 2018-2019 Introduction to philosophy of time (MA seminar), Rennes.
- 2014–2015 Introduction to philosophy of science (BA tutorial), Geneva.
- 2014–2015 Metaphysics of time (BA course), Rennes.
- 2013–2014 Introduction to logic (BA course + tutorial), Rennes.
- 2013–2014 Methodology (BA tutorial), Rennes.
- 2012–2013 Introduction to logic (BA course + tutorial), Rennes.

- 2012–2013 Introduction to the metaphysics of time (BA course), Rennes.
- 2011–2012 Philosophy of science: What is a law of nature? (BA course), Rennes.
- 2011–2012 Methodology: Reading history of philosophy, philosophy of language and philosophy of mind (BA course), Rennes.

Fellowships and Awards

- 2023–2028 Principal investigator of a Swiss NSF Starting Grant project of CHF 1'750'000 entitled Space, Time and Causation in Quantum Gravity, including a PhD and two postdoctoral positions.
- 2019–2023 Scientific collaborator (research associate), project leader of the SNF project 'Composing the World Out of Nowhere: The Mereological Structures of Quantum Gravity', University of Geneva, Switzerland (CHF 570 000).
 - 2010 Mobility grant from the European University of Bretagne: Visiting researcher at the University of Fribourg (April 1–June 30).

Supervision of Postdoctoral Fellows

- since 2024 Enrico Cinti (Swiss NSF Fellow), University of Geneva.
- since 2024 Emilia Margoni (Swiss NSF Fellow), University of Geneva.

Supervision or Co-supervision of PhDs

- since 2024 Elisa Ballabio (co-supervision), University of Geneva.
- since 2023 Annica Vieser, University of Geneva.

Membership in Scientific Committees

- 2024 11èmes Rencontres doctorales internationales en philosophie des sciences (RDIPS), Lyon, September 19-20.
- 2024 Program Committee, Annual Conference of the British Society for the Philosophy of Science, University of York, July 17-19.
- 2023 Program Committee, Society for the Metaphysics of Science, Halifax, August 10-12.
- 2023 Program Committee, Annual Conference of the British Society for the Philosophy of Science, University of Bristol, July 5-7.
- 2022 Program Committee, Annual Conference of the British Society for the Philosophy of Science, University of Exeter, July 6-8.
- 2021 Program Committee, Annual Online Conference of the British Society for the Philosophy of Science, July 7-9.
- 2020 Program Committee, Annual Conference of the British Society for the Philosophy of Science, Kent.
- 2019 Program Committee, Annual Conference of the British Society for the Philosophy of Science, Durham, 2019.
- 2017 Prize Committee, JTF Essay Prize 'Space and Time After Quantum Gravity'.
- 2016 Prize Committee, JTF Essay Prize 'Space and Time After Quantum Gravity'.

2013 Program Committee, 'Workshop Young Researchers on Philosophy of Science', University of Rennes 1, Rennes, May 23–24.

Professional Service: Refereeing

External University of Urbino (2023)

Reviewer

Funding National Science Center, Poland, Social Sciences and Humanities Research Council of

Agencies Canada

Publishers Cambridge University Press, Routledge.

Analysis, Analytic Philosophy, Argumenta, Australasian Journal of Philosophy, Axiomathes, British Journal for the Philosophy of Science, dialectica, Encyclopédie philosophique, Entropy, Ergo, Erkenntnis, European Journal for Philosophy of Science, Foundations of Physics, Implications philosophiques, International Studies in the Philosophy of Science, Journal for General Philosophy of Science, Journal of Philosophy, Journal of Value Inquiry, Lato Sensu, Logic and Logical Philosophy, Manuscrito, Mind and Matter, Organon F, Philosophia, Philosophers' Imprint, Philosophical Papers, Philosophical Quarterly, Philosophical Studies, Philosophy of Science, Philosophy Compass, Praxis, Scopus, Southern Journal of Philosophy of Science, Synthese, Theoria.

Organisation of Scientific Meetings

- 2023 Conference 'Metaphysics Beyond Spacetime 2023: Second Conference on the Metaphysics of Quantum Gravity', University of Geneva, Ovronnaz, Switzerland, June 20–23. With C. Wüthrich. Main local organiser.
- 2022 Conference 'Metaphysics Beyond Spacetime: First Conference on the Metaphysics of Quantum Gravity', University of Geneva, Ovronnaz, Switzerland, June 16–19. With C. Wüthrich. Main local organiser. Previously planned on 2020, reported because of Covid-19.
- 2017 Symposium 'The Metaphysics of Spacetime Emergence', ECAP 9, Munich, August 23–28. With interventions from Karen Crowther, Nick Huggett and David Yates.
- 2017 Conference '3rd International Conference in Philosophy of Quantum Gravity', University of Geneva, Céligny, Ovronnaz, June 17–30. With N. Huggett, K. Matsubara and C. Wüthrich. Main local organiser with C. Wüthrich.
- 2013 Conference 'Mereology: Parts and Wholes in Logic and Ontology', University of Rennes 1, Rennes, October 17–18. With P. Joray.
- 2011 Conference 'Workshop Young Researchers on Philosophy of Science', University of Rennes 1, Rennes, May 23–24. with F. Drapeau Contim and Y. Tonnerre.
- 2010–2014 Coordinator of the research group LAGON (Language and Ontology), University of Rennes 1, Rennes.

Talks

^{*} Invited

⁺ Refereed

- 2023 'Beyond Spacetime Functionalism', Workshop Spacetime is as spacetime does: pro and contra, University of Florence, June 9.*
- 2023 'Beyond Spacetime Functionalism', Spacetime: Emergence and Mereology, University of Lisbon, May 30.*
- 2022 'Plato's Holographic Cave: String Theory and Spatial Dimensionality', Dianoia Institute of Philosophy Seminar Series in Philosophy, Australian Catholic University, December 9.*
- 2022 'Prolegomena to a Metaphysics of Black Holes', The Metaphysics of Black Holes Workshop, Birmingham University, September 12.*
- 2022 'Multiplicity and Indeterminacy in Everettian Quantum Mechanics', 2022 Conference of the Metaphysics of Science Society, September 10.+
- 2022 'Duality, Metaphysics and Spacetime', Dualities Between Physics and Philosophy, XXV International Summer School in Philosophy of Physics, University of Urbino, June 6–11.*
- 2021 'Composing Spacetime', Forschungskolloquium theoretische Philosophie: Philosophie des Geistes und Metaphysik, University of Berne, October 8.*
- 2021 'Composing Spacetime Out of Nowhere', Working Group on Philosophy of Physics of the German Physical Society (SMuK 2021), Online, September 2.+
- 2021 'Can We Learn From Physics that We Live in a Multiverse?', Laboratoire Astroparticules et Cosmologie, University of Paris, June 17.*
- 2021 'Quantum Gravity and Mereology: Not So Simple', Warsaw Spacetime Colloquium, Warsaw University of Technology, May 21.*
- 2021 'La physique peut-elle nous apprendre que nous vivons dans un multivers ?', Conférences de l'Institut de Physique de Rennes, University of Rennes, April 13.*
- 'What Does the World Look Like According to Superdeterminism?', Philosophy of Physics Seminar, University of Oxford, December 3.*
- 2020 'The Landscape Problem and the Multiverse', The 20th UK and European Conference on Foundations of Physics, La Sorbonne Paris, July 8–10. Cancelled because of Covid-19.+
- 2020 'String Theory, Loop Quantum Gravity and Eternalism', Seventh Annual Conference of The International Association for Philosophy of Time, University of Barcelona, June 30–July 2. Cancelled because of Covid-19.+
- 2020 'String Theory, Loop Quantum Gravity and Eternalism', Time: From Theory to Practice, University of Kent, June 24–26. Cancelled because of Covid-19.+
- 2020 'La théorie des cordes a-t-elle trop de solutions ? Réflexions sur l'existence du multivers', Conférences de l'IPR, Institut de Physique de Rennes, April 14. Cancelled because of Covid-19.*
- 2020 'The Landscape Problem and the Multiverse', Conference on the Foundations in Cosmology and Quantum Gravity, New York University Abu Dhabi, January 19–21.+
- 2020 'Super-Relationism and the Emergence of Spacetime', Structural, Factual, and Super-Relationist Views of Objects: Complutense University of Madrid-University of Geneva Joint Workshop, Complutense University of Madrid. March 3.*

- 2019 'String Theory, Loop Quantum Gravity and Eternalism', Time and Emergence, University of Western Australia, December 17–18.*
- 2019 'Fundamentality Beyond Spacetime', Quodlibetta, University of Geneva, November 20.*
- 2019 'Théorie des cordes, gravité quantique à boucles et éternalisme', La métaphysique du temps, Collège de France, October 4–5.*
- 2019 'Spacetime Emergence and Functional Realization', British Society for the Philosophy of Science Annual Conference 2019, University of Durham, July 17–19.+
- 2019 'Fundamentality Beyond Spacetime', Workshop on Fundamentality in Metaphysics and in Science, University of Bristol, June 6–7.*
- 2019 'From Quantum Gravity to Eternalism', Philosophy of Science Research Seminar, University of Bonn, May 13.*
- 2019 'The Lost Time', Séminaire interdisciplinaire des Archives Jean Piaget, University of Geneva, April 16.*
- 2019 'Contre la fragmentation de l'existence', Modes d'être, degrés d'être, Aix-en-Provence University, April 10.*
- 2019 'From Quantum Gravity to Neutral Monism', Mind and Matter: Exploring Alternatives to Physicalism and Dualism, University of Neuchâtel, March 14.*
- 2019 'Eternalism Without Time', Bern-Geneva-Lausanne Workshop in Philosophy of Science, University of Bern, March 5.*
- 2019 'L'éternalisme: arguments physiques et philosophiques", Journée d'étude sur le temps, University of Toulouse, France, January 9.*
- 2018 'A la recherche du temps et de l'espace perdus', Nuit de la philosophie, UNESCO, Paris, November 17.*
- 2018 'Vers une métaphysique de la gravité quantique ?', Les principes métaphysiques, Collège de France, Paris, October 2–3.*
- 2018 'Composing the World Out of Nowhere', SPS 2016, Septième congrès de la Société de philosophie des sciences, University of Nantes, July 4-6.+
- 2018 'Composing the World Out of Nowhere', Congrès international triennal 2018 de la Société de philosophie analytique, University of Louvain–la–Neuve, July 2–5.+
- 2018 'Have we Lost Spacetime on the Way? Narrowing the Gap between General Relativity and Quantum Gravity', Space and Time: An Interdisciplinary Approach, University of Vilnius, September 28–29. [with Niels Linnemann]+
- 2018 'Have we Lost Spacetime on the Way? Narrowing the Gap between General Relativity and Quantum Gravity', ENFA 7 Seventh National Meeting In Analytic Philosophy, University of Lisbon, September 13–15.+
- 2018 'Spacetime Functionalism: No Hard Problem of Spacetime?', Workshop on Spacetime Functionalism, University of Geneva, Switzerland, March 1-2.+
- 2017 'All the Way Down into the Non-Spatial', Society for the Metaphysics of Science: 3rd Annual Conference, Fordham University, New York, October 5–7.+
- 2017 'Emergence or Mereological Composition in Quantum Gravity?', Symposium 'The Metaphysics of Spacetime Emergence', ECAP 9, LMU Munich, August 23–28.+

- 2017 'A Defense of Atemporal Eternity', Journées interdoctorales 2017, University of Bourgogne (Dijon), May 4.*
- 2017 'An Indirect Defense of Eternalism', Phileas, Université of Geneva, March 23.*
- 2016 'Eternity Without Time', Lundis de la philosophie, ENS Paris, December 12.*
- 2016 'Is Spacetime a Mereological Sum?', Metaphysics and Physics: Mereological Links, University of Lausanne, November 17–19.*
- 2016 'In Defense of Monism about Being', Trenton Merricks, Workshop on Eliminativism, commentator, University of Fribourg, Ovronnaz, Switzerland, July 4–7.*
- 2016 'Classifier le monde empirique sans classeurs', SPS 2016, Sixième congrès de la Société de philosophie des sciences, Lausanne, June 29–July 2.+
- 2015 'Spacetime Without Substances', Experience and Reality 2, University of Fribourg, Schwarzsee, September 7–10.*
- 2015 'A Spacetime Made of Relations and Properties', Sopha 2015, Montreal, Canada. (Selected, but not able to attend), June 17–20.+
- 2015 'A Spacetime Made of Relations and Properties', Time, Substance and Things, University of Paris VIII, May 20-22.+
- 2014 'Contingency Within Spacetime', SPS 2014, Fifth Congress of the French Society for Philosophy of Science, University of Lille 3, June 25–27.+
- 2014 'Bad Intuitions, Nihilism and Mereology', Candoc Colloquium 2014: a ProDoc Workshop, University of Fribourg, Ovronnaz, Switzerland, January 27–28.*
- 2013 'Mereological Sums Without Ordinary Objects', Mereology: Parts in Logic and Metaphysics, University of Rennes 1, France, October 17–18.*
- 2013 'The Aesthetics of Stereoscopy', Robin Le Poidevin, Philosophy of Photography, June, University of Fribourg, Ovronnaz, Switzerland, commentator, June 26–29.*
- 2012 'A World Without Time', Workshop in Analytical Metaphysics: Challenging Perspectives on the Ontology of Time, University of Namur, May 14–15.*
- 2012 'The Future: Between Existence and Contingency', ATMOC, ENS Paris, France, February 10.*
- 2012 'No Time? Physical and Metaphysical Aspects', Pro*Doc Workshop: Philosophy of Time, Commentary on Vincent Lam's Talk, University of Fribourg, Ovronnaz, January 27–30.*
- 2011 'An Open Future in a Block Universe', Séminaire de philosophie des sciences, University of Lausanne, April 20.*
- 2011 'Eternalism, Actualism and the Open Future', Monday Colloquium, University of Fribourg, April 4.*
- 2010 'What's Wrong with the Growing Block Theory?', Workshop on the Metaphysics of Time, University of Geneva, August 27–28.*
- 2009 'Against No-Futurism', Sopha 2009, University of Geneva, September 2-5.+