Curriculum Vitae

Matthias Egg
University of Bern
Institute of Philosophy
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Date of birth: 13th November 1978
Nationality: Swiss
Marital status: married
Children: 2 (born 2010 and 2013)
CV last updated May 2021

Employment and Academic Visits

Since 2015	Postdoctoral Researcher and Lecturer; Institute of Philosophy, University of Bern
Apr.-Sept. 2020	Substitute Professor for Philosophy; Interdisciplinary Centre for Science and Technology Studies (IZWT), University of Wuppertal
Jan.-July 2019	Visiting Researcher; School of Philosophy, Religion and History of Science, University of Leeds
Fall term 2014	Substitute Professor for Philosophy of Science; University of Lausanne
2013-2015	Junior Lecturer; Department of Philosophy, University of Lausanne
Feb.-May 2013	Visiting Scholar; History and Philosophy of Science Graduate Program, University of Notre Dame (USA)
2010-2013	Research and Teaching Assistant; Department of Philosophy, University of Lausanne
2008-2010	Research Associate; Institute of Philosophy, University of Zurich
2005-2008	High School Physics Teacher; Kantonsschule Frauenfeld (Switzerland)

Education

2012 PhD in Philosophy, University of Lausanne
- Thesis: *Causal Explanations and Scientific Realism in Particle Physics*
- Supervisor: Michael Esfeld, University of Lausanne
- Examiners: Anjan Chakravartty, University of Notre Dame
  Nicolas Gisin, University of Geneva
  Mauricio Suárez, Complutense University of Madrid

2006 Degree in Higher Education in Physics, University of Zurich

2004 MSc in Theoretical Physics, University of Zurich (minor subjects: Mathematics and Philosophy)

Publications

Book

1. *Scientific Realism in Particle Physics: A Causal Approach*, Boston/Berlin: De Gruyter (2014).

Articles

1. "Quantum Ontology without Speculation", *European Journal for Philosophy of Science 11* (2021): 32.
2. "Dissolving the Measurement Problem Is Not an Option for the Realist", *Studies in History and Philosophy of Modern Physics 66* (2019): 62-68.

3. "Naturwissenschaft pur? – Zu den Ambitionen und Erfolgsaussichten einer naturalistischen Metaphysik", *Hermeneutische Blätter 25* (2019): 88-97.
4. "The Physical Salience of Non-Fundamental Local Beables", *Studies in History and Philosophy of Modern Physics 57* (2017): 104-110.
5. "Particles, Cutoffs and Inequivalent Representations: Fraser and Wallace on Quantum Field Theory" (with Vincent Lam and Andrea Oldofredi), *Foundations of Physics 47* (2017): 453-466.
6. "Expanding Our Grasp: Causal Knowledge and the Problem of Unconceived Alternatives", *The British Journal for the Philosophy of Science 67* (2016): 115-141.
7. "Primitive Ontology and Quantum State in the GRW Matter Density Theory" (with Michael Esfeld), *Synthese 192* (2015): 3229-3245.
8. "Non-local Common Cause Explanations for EPR" (with Michael Esfeld), *European Journal for Philosophy of Science 4* (2014): 181-196.
9. "Delayed-Choice Experiments and the Metaphysics of Entanglement", *Foundations of Physics 43* (2013): 1124-1135.
10. "The Foundational Significance of Leggett's Non-local Hidden-Variable Theories", *Foundations of Physics 43* (2013): 872-880.
11. "Causal Warrant for Realism about Particle Physics", *Journal for General Philosophy of Science 43* (2012): 259-280.
12. "What is Kitcher's Real Realist Really a Realist About?", *Conceptus 94* (2009): 107-119.

Book Chapters

13. "A Revealing Parallel between Husserl's Philosophy of Science and Today's Scientific Metaphysics", in H. Wiltsche and Ph. Berghofer (eds.), *Phenomenological Approaches to Physics*, Synthese Library Vol. 429, Springer (2020).
14. "Entity Realism", in J. Saatsi (ed.), *The Routledge Handbook of Scientific Realism*, London: Routledge (2018): 120-132.
15. "Why Did Lady Sybil Die?", in A. Barkman and R. Arp (eds.), *Downton Abbey and Philosophy*, Popular Culture and Philosophy, Chicago: Open Court (2015): 89-97.
16. "Causal Realism in the Context of Bell-type Experiments", in T. Sauer and A. Wüthrich (eds.), *New Vistas on Old Problems: Recent Approaches to the Foundations of Quantum Mechanics,* Max Planck Research Library for the History and Development of Knowledge, Berlin: Edition Open Access (2013): 139-148.
17. "Was bewirken Neutrinos? Eine Fallstudie zu Kausalität und Realismus in der Teilchenphysik", in M. Esfeld (ed.), *Philosophie der Physik*, Berlin: Suhrkamp (2012): 185-202.

Book Reviews

18. Review of D. Dürr and D. Lazarovici, *Verständliche Quantenmechanik,* in *Journal for General Philosophy of Science* (online first, 2019), DOI: 10.1007/s10838-019-09459-5.
19. Review of J. Wright, *Explaining Science's Success: Understanding How Scientific Knowledge Works*, in *Dialectica 67* (2013): 367-372.

Work in Progress

20. "Stances and Doctrines in Scientific Metaphysics", invited contribution to the volume on *Themes from Bas van Fraassen,* edited by Claus Beisbart and Michael Frauchiger, to appear in the *Lauener Library of Analytical Philosophy*, De Gruyter.
21. "Scientific Realism and Quantum Physics" (with Juha Saatsi), revised manuscript under review for publication in *Philosophy Compass*.

22. "Running Mice and Successful Theories: The Limitations of a Classical Analogy" (with August Hämmerli), manuscript under review for publication in *Synthese*.
23. "Quantum Fundamentalism vs. Scientific Realism", invited contribution to the volume *Quantum Mechanics and Fundamentality: Naturalizing Quantum Theory between Scientific Realism and Ontological Indeterminacy,* edited by Valia Allori, to appear in the *Synthese Library* series.

Talks

Invited Talks

1. "Overcoming the Limits of Science? Ambitions and Prospects of Scientific Metaphysics", *CSH Science and Religion Forum*, Bern, November 2019.
2. "Stances and Doctrines in Scientific Metaphysics", *History and Philosophy of Science Seminar*, University of Leeds, May 2019.
   8th International Lauener Symposium on Analytical Philosophy (on Themes from Bas van Fraassen), Bern, September 2018.
3. "The Holy Grail of Quantum Metaphysics: Towards a Non-Speculative Realism about Quantum Mechanics", *History and Philosophy of Science WiP Seminar*, University of Leeds, March 2019.
4. "Dissolving the Measurement Problem Is Not an Option for the Realist", *Philosophy of Physics Seminar*, University of Bristol, February 2019.
5. "How Scientific Can a Metaphysics of Quantum Mechanics Be?", *Workshop on New Topics in Quantum Foundations*, Lausanne, November 2018.
6. "Underdetermination about the Status of Local Beables in Quantum Mechanics", *Workshop on Underdetermination and Quantum Physics*, Leeds, May 2016.
7. "Explanation without Causation in Quantum Mechanics?", *Workshop on Causality and Causal Reasoning in Physics*, Bern, June 2014.
8. "Primitive Ontology and the Wave Function in the GRW Matter Density Theory", *II PERSP Workshop on Space-time and the Wave Function*, Barcelona, May 2014.
9. "Understanding what Happens without Knowing what there Is? On the Explanatory Role of Primitive Ontology in Physical Theories", *Research Colloquium,* University of Bern, April 2014.
10. "Causal Explanations in Quantum Mechanics: Some Constraints from Recent Experiments", *German Physical Society AG Phil Summer Workshop*, Munich, August 2012.

Contributed Talks

11. "Textbook Quantum Mechanics and the Problem of Ontological Commitment", *Workshop How Quantum Mechanics Changed Philosophy,* Wuppertal, January 2020.
12. "Scientific Metaphysics and the Manifest Image", *European Philosophy of Science Association Biennial Conference*, Geneva, September 2019.
    16th International Congress on Logic, Methodology and Philosophy of Science and Technology, Prague, August 2019.
13. "Dissolving the Measurement Problem Is Not an Option for the Realist",
    Philosophy of Science Association Biennial Conference, Seattle, November 2018.
    Society for the Metaphysics of Science Annual Conference, Milan, August 2018. Commentator: Vera Matarese.
14. "A Revealing Parallel between Husserl's Philosophy of Science and Today's Scientific Metaphysics", *Workshop on Phenomenological Approaches to Physics*, Graz, June 2018.
15. "Causal Knowledge as a Resource for Selective Scientific Realism", *Quo Vadis Selective Scientific Realism Workshop*, Durham, August 2017.

16. "Metaphysical Underdetermination in Quantum Mechanics and Quantum Field Theory", *Workshop on Scientific Realism and the Quantum*, Leeds, September 2017.
    European Congress of Analytic Philosophy, Munich, August 2017.
    Nordic Network for the Philosophy of Science, Copenhagen, April 2017. Commentator: Sebastian Lutz.
17. "Assessments of Ontological Priority in the Primitive Ontology Debate", *Workshop on Metaphysics and Physics: Methodological Links*, Lausanne, November 2016.
18. "Real Patterns without Underlying Stuff', *Foundations of Physics Conference*, London, July 2016.
    British Society for the Philosophy of Science Annual Conference, Cardiff, July 2016.
    Société de Philosophie des Sciences Conference, Lausanne, June 2016.
19. "Primitive Ontology and Ontological Reduction in Quantum Mechanics", *Workshop on New Trends in Metaphysics of Science*, Paris, December 2015.
20. "Do We Need a Primitive Ontology to Make Quantum Mechanics Empirically Coherent?", *European Philosophy of Science Association Biennial Conference*, Düsseldorf, September 2015.
    British Society for the Philosophy of Science Annual Conference, Manchester, July 2015.
21. "Objectivity in Fundamental Physics", *Objectivity in Science Conference*, Tilburg, June 2015.
22. "Views of the Quantum State in Bohmian Mechanics and the GRW Theory", *British Society for the Philosophy of Science Annual Conference*, Cambridge, July 2014.
23. "Primitive Ontologies, the Quantum State, and the 'Building Block' Metaphor", *Société de Philosophie des Sciences Conference*, Lille, June 2014.
24. "The Role of the Wave Function in the GRW Matter Density Theory", *The Quantum State as the Memory of a Quantum System Workshop*, Lausanne, May 2014.
    German Physical Society Annual Meeting, Berlin, March 2014.
25. "Inequivalent Representations Do Not Undermine Realism about Particles", *Foundations of Physics Conference*, Munich, July 2013.
26. "Non-local Causality in EPR-type Experiments", *Conference on Causality and Experimentation in the Sciences*, Paris, July 2013.
27. "The Demand for Causal Explanation and its Alleged Disappearance in Scientific Revolutions", *History and Philosophy of Science Workshop*, Notre Dame (IN), May 2013.
28. "Common Cause Explanations in Quantum Mechanics", *The Fifth Workshop in Philosophy of Science, Technology, Engineering and Mathematics (PhiloSTEM)*, Fort Wayne (IN), March 2013. Commentator: Charles Sebens.
29. "Delayed-Choice Experiments and the Metaphysics of Entanglement", *Philosophy of Science Association Biennial Conference*, San Diego, November 2012.
    British Society for the Philosophy of Science Annual Conference, Stirling, July 2012.
30. "The Role of Common Sense in the Debate on Scientific Realism", *Société de Philosophie Analytique Conference*, Paris, May 2012.
31. "Philosophical Lessons from Recent Tests of Quantum Non-Locality", *Workshop on The Metaphysics of Contemporary Physics*, Lausanne, May 2012.
    German Physical Society Annual Meeting, Berlin, March 2012.
32. "Expanding Our Grasp: Can Causal Knowledge Save Realism from Stanford's New Induction?" *14th Congress of Logic, Methodology and Philosophy of Science*, Nancy, July 2011.
33. "Causal Realism in the Context of Bell-type Experiments", *Workshop on Decoherence and No-Signalling: Current Interpretational Problems of Quantum Theory*, Bern, June 2011.
34. "What is Kitcher's Real Realist Really a Realist About?", *Workshop on Naturalist Strategies in Ethics and Epistemology*, Zurich, June 2010.
35. "Theoretische Entitäten in kausalen Erklärungen (am Beispiel des Neutrinos)", *Workshop Philosophie der Physik in Deutschland*, Hannover, June 2010.
36. "Causal Explanations and Scientific Realism in Modern Physics", *German Physical Society Annual Meeting*, Bonn, March 2010.

Teaching

University of Wuppertal (BUW), Philosophisches Seminar

Summer 2020 *Logik*: introductory course (13 x 2 lessons with weekly exercises)
Erkenntnistheorie, introductory course (13 x 2 lessons) and accompanying seminar (13 x 2 lessons; key authors: Plato, Descartes, Hume, Kant, Gettier, Goldman, Hardwig, Zagzebski, Lackey)
Reduktionismus, seminar (13 x 2 lessons; key authors: Oppenheim/Putnam, E. Nagel, Fodor, Kim)

University of Bern, Institute of Philosophy

Spring 2021 *Das wissenschaftliche und das manifeste Weltbild:* MA seminar (14 x 2 lessons; key authors: Sellars, van Fraassen, deVries, Esfeld, Rouse, Dennett)
Wissenschaftlicher Realismus: BA seminar (13 x 2 lessons; based on selected chapters from Saatsi (ed.): The Routledge Handbook of Scientific Realism, 2018)
Fall 2020 *Erkenntnistheorie*, introductory course (14 x 2 lessons)
Fall 2019 *Erkenntnistheorie*, introductory course (14 x 2 lessons)
Reduktionismus: Alles Physik oder was?, BA seminar (14 x 2 lessons; key authors: Oppenheim/Putnam, E. Nagel, Fodor, Kim)
Spring 2019 *Philosophie der Quantenmechanik* BA/MA block course (4 days; based on selected chapters from Lewis, Peter J.: Quantum Ontology, 2016)
Fall 2018 *Wissenschaftlicher Realismus*: BA seminar (13 x 2 lessons)
Wissenschaftsphilosophie: introductory course (14 x 2 lessons)
Spring 2018 *Logik*: introductory course (14 x 2 lessons with weekly exercises)
Fall 2017 *Naturalistische Metaphysik*: BA seminar (13 x 2 lessons; key authors: Callender, Ladyman, Chakravartty)
Wissenschaftsphilosophie: introductory course (13 x 2 lessons)
Spring 2017 *Alternative Ansätze in der Wissenschaftsphilosophie*: BA seminar (13 x 2 lessons; key authors: Friedman, Husserl, Heidegger, Habermas)
Fall 2016 *Philosophie der Quantenmechanik:* BA seminar (14 x 2 lessons; key authors: Friebe, Albert, Maudlin, Norsen)
Wissenschaftsphilosophie: introductory course (14 x 2 lessons)
Spring 2016 *Kausalität von Hume bis heute*: BA seminar (13 x 2 lessons; key authors: Hume, Kant, Lewis, Loewer, Maudlin)
Fall 2015 *Reduktionismus*: BA seminar (13 x 2 lessons; cf. Fall 2019)
Essaytutorium: tutorial on how to write an essay in philosophy (13 x 2 lessons)
Spring 2015 *Wissenschaftlicher Realismus*: BA seminar (13 x 2 lessons; key authors: Laudan, Worrall, Ladyman, Cartwright)

Social and Human Sciences Program (SHS) at the Ecole Polytechnique Fédérale de Lausanne (EPFL)

2010-2015 *Philosophical Perspectives on the Exact Sciences and their History* (2010-2014 as teaching assistant with Michael Esfeld, 2014/15 as professor): two-semester master course including 5 x 3 lessons of introductory teaching, followed by individual or group project work. The 95 projects supervised during these 6 years covered a wide range of topics within general philosophy of science, philosophy of physics and philosophy of mathematics.
Fall 2014 *La philosophie de la nature: Physique et philosophie au XXe siècle:* undergraduate course (14 x 2 lessons) on the philosophy of modern physics (in French).

Spring 2013 *Philosophy of the Life Sciences* (with Christian Sachse): supervision of 6 group projects on free will, determinism and neuroscience.

2010-2012 As part of Michael Esfeld's undergraduate course *La philosophie de la nature: Physique et philosophie au XXe siècle*, I lectured on causal realism and philosophical issues in quantum field theory (in French).

Other teaching experience

July 2017 **International Summer School *Space, Time, and Matter: New Directions in the Philosophy of Physics*, Lenzkirch-Saig, Germany**: group tutorial on primitive ontology of matter and laws (with Tiziano Ferrando and Dustin Lazarovici).

July 2015 **International Summer School *The Ontology of Physics*, Lenzkirch-Saig, Germany**: group tutorial on structural realism and the ontology of physical objects (with Davide Romano and Tiziano Ferrando).

July 2014 **International Summer School *Probabilities in Physics*, Lenzkirch-Saig, Germany**: group tutorial on probabilities in quantum mechanics (with Radin Dardashti).

July 2013 **International Summer School *Physics and Philosophy of Time*, Lenzkirch-Saig, Germany**: group tutorial on EPR and non-locality.

2005-2008 **Kantonsschule Frauenfeld, Switzerland** (public high school): complete physics curriculum (classical mechanics, thermodynamics, electrodynamics, laboratory course, selected topics in modern physics).

Spring 2004 **Kyrgyz State University of Construction, Transportation and Architecture, Bishkek, Kyrgyzstan**: tutorials on thermodynamics and solar energy.

2001-2005 **Physics Institute, University of Zurich**: tutorials on physics for medical students.

Grants and Fellowships

2019 Travel grant from the Swiss National Science Foundation for a research visit to the University of Leeds; scientific exchange project *The Limits of Scientific Metaphysics: Lessons from Quantum Mechanics* (approx. EUR 17'000)

2013 Travel grant from the *Fondation du 450ème anniversaire de l'université de Lausanne* for a research visit to the University of Notre Dame (approx. EUR 1500)

2008-2010 PhD research grant from the *Forschungskredit*, University of Zurich (approx. EUR 80'000)

2000-2010 Member of the Swiss Study Foundation

Professional Services

Referee for:

- Abstracta (2013)
- Analysis (2017, 2018)
- Biology and Philosophy (2017)
- British Journal for the Philosophy of Science (2014, 2015 (2x), 2016, 2017, 2018, 2021 (2x))
- Dialectica (2013)
- Erkenntnis (2011, 2012, 2017 (3x), 2018)
- European Journal for Philosophy of Science (2013, 2015, 2016, 2017, 2018, 2020, 2021)
- Foundations of Physics (2014, 2015)

- Foundations of Science (2013, 2020)
- International Studies in the Philosophy of Science (2016)
- Journal for General Philosophy of Science (2015, 2016, 2018, 2019)
- Lato Sensu (2017)
- Mind (2020)
- Philosophical Papers (2016 (2x))
- Philosophical Studies (2020)
- Philosophy of Science (2013, 2014, 2015, 2016 (2x), 2017 (2x), 2018, 2020, 2021)
- Science and Christian Belief (2017)
- Scientonomy: Journal for the Science of Science (2018)
- Studies in History and Philosophy of Biological and Biomedical Sciences (2016)
- Studies in History and Philosophy of Modern Physics (2013, 2014, 2017, 2018 (2x), 2019 (3x))
- Studies in History and Philosophy of Science (2013, 2016, 2018, 2021)
- Synthese (2014, 2017 (2x), 2019 (2x))
- Synthese Library (2018)
- Theoria (2015)

Committee membership and academic self-administration:

- Editorial committee of the journal *Dialectica* (since 2015)
- Study consultation at the Institute of Philosophy, University of Bern (since 2017)
- Treasurer of the *krino – Philosophische Gesellschaft Bern* (since 2020)
- Responsible for web content promoting the master program in philosophy, University of Bern (2018-2019)
- Hiring committee for a professorship in Theoretical Philosophy, University of Bern (2017-2018)
- Conference programme committee *Scientific Realism and the Quantum*, Leeds (2017)
- Structural committee at the Institute of Philosophy, University of Bern (2016-2017)

As a founding member (and current president) of the think tank *foχs | Forum for Christian Studies*, I co-organized the following events:

- Workshop *Glauben und Wissen: Jürgen Habermas' "Auch eine Geschichte der Philosophie"*, University of Zurich, October 2020.
- Summer School *Religion und Bildung in der Weltgesellschaft*, Mariastein, August 2019 (included tutoring students and giving a lecture on the notion of „Bildung" in a naturalistic context).
- Workshop *Himmlische Quellen und irdisches Recht,* University of Zurich, April 2019.
- Workshop *Weltanschaulich-religiöse Neutralität der öffentlichen Schule?,* University of Zurich, April 2018.
- Workshop *Gott und die Physik,* University of Zurich, March 2017.
- Workshop *Transforming Truth: Art, Religion, and Science,* March 2016.

Languages

Fluent in German, English and French; good knowledge of Latin; basic knowledge of Russian.