Curriculum Vitæ

Dustin Lazarovici

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Employment

09/2017 – present	Graduate assistant (assitant diplômé). Department of Philosophy, Université de Lausanne (UNIL), Switzerland. Director: Michael Esfeld.
01/2016 – 07/2017	Post-Doctoral fellow. Department of Philosophy, Université de Lausanne. Supported by a Feodor Lynen Research Fellowship of the Alexander von Humboldt Foundation. Director: Michael Esfeld.

Education

06/2020	Ph.D. (D. ès L.) Department of Philosophy, Université de Lausanne Dissertation: "Typicality as a Way of Reasoning in Physics and Metaphysics." Supervisor: Michael Esfeld.
12/2015	Dr. rer. nat. (*summa cum laude*), Mathematics, LMU Munich Dissertation: "Mean field limits for charged particles." Supervisor: Detlef Dürr.
12/2011	Diploma (with distinction), Mathematics, LMU Munich
01/2011	Diploma (with distinction), Physics, LMU Munich

Research Interests

Philosophy of Physics:	Foundations of Quantum Mechanics, Foundations of Statistical Mechanics
Philosophy of Science:	Laws of Nature, Probabilistic and Non-Causal Reasoning
Metaphysics:	Space and Time, Primitive Ontology, Modality

Grants and Scholarships

2019	Doc.Mobility Fellowship of the Swiss National Science Foundation (SNSF)
2016 – 2017	Feodor Lynen Research Fellowship of the Humboldt Foundation
2015	Research Grant by the Cogito Foundation. (Grant holder: Michael Esfeld)
2012 – 2015	PhD Scholarship, Studienstiftung des deutschen Volkes (German Academic Scholarship Foundation)
2011 – 2012	Young Researcher Scholarship of the Parmenides Foundation
2005 – 2011	Scholarship of the Studienstiftung des deutschen Volkes

Academic Stays and Fellowships

02/2019 – 07/2019	Columbia University, NY. Doc.Mobility Fellowship (SNSF). Host: David Z Albert
04/ 2012	Rutgers University, NJ. COST short-term scientific mission. Host: Sheldon Goldstein
2007 – 2008	McGill University, Montreal, Canada. Visiting Student

Publications

Books

Detlef Dürr and Dustin Lazarovici: *Understanding Quantum Mechanics. The World According to Modern Quantum Foundations*. Springer International Publishing. ISBN 978-3-030-40068-2

Detlef Dürr and Dustin Lazarovici: *Verständliche Quantenmechanik. Drei mögliche Weltbilder der Quantenphysik.* (Textbook on foundations of quantum mechanics in German.) Springer-Spektrum (2018). ISBN 978-3-662-55888-1

Peer-Reviewed Journal Articles

"Position Measurements and the Empirical Status of Particles in Bohmian Mechanics." *Philosophy of Science* 87:3, 409-424 (2020). DOI: 10.1086/709412

"On Boltzmann vs. Gibbs and the Equilibrium in Statistical Mechanics." *Philosophy of Science* 86:4, 785-793, (2019). DOI: 10.1086/704983

Dustin Lazarovici and Mario Hubert: "How Quantum Mechanics can consistently describe the use of itself," *Scientific Reports* 9:470 (2019). Open Access: https://www.nature.com/articles/s41598-018-37535-1

"Super-Humeanism: A starving ontology," *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics*. (In Press). DOI: 10.1016/j.shpsb.2018.07.001

Dustin Lazarovici, Andrea Oldofredi, and Michael Esfeld: "Observables and unobservables in quantum mechanics: How the no-hidden-variables theorems support the Bohmian particle ontology," *Entropy* 20(5) (2018), Special Issue: Emergent Quantum Mechanics – David Bohm Centennial Perspectives. DOI: 10.3390/e20050381

"Against Fields," *European Journal for Philosophy of Science* 8(2) (2018), pp. 145-170. DOI: 10.1007/s13194-017-0179-z

Michael Esfeld, Dustin Lazarovici, Vincent Lam, and Mario Hubert: "The Physics and Metaphysics of Primitive Stuff," *British Journal for the Philosophy of Science* 68 (2017), pp. 131-168. DOI: 10.1093/bjps/axv026

Dustin Lazarovici and Peter Pickl: "A mean-field limit for the Vlasov-Poisson system," *Archive for Rational Mechanics and Analysis* 225(3) (2017), pp. 1201-1231. DOI: 10.1007/s00205-017-1125-0

"The Vlasov-Poisson dynamics as the mean-field limit of extended charges," *Communications in Mathematical Physics* 347(1) (2016), pp. 271-289. DOI: 10.1007/s00220-016-2583-1

Andrea Oldofredi, Dustin Lazarovici, Dirk-André Deckert, and Michael Esfeld: "From the universe to subsystems: Why quantum mechanics appears more stochastic than classical mechanics," *Fluctuations and Noise Letters* 15:03 (2016). DOI: 10.1142/S0219477516400022

Dustin Lazarovici and Paula Reichert: "Typicality, Irreversibility and the Status of Macroscopic Laws," *Erkenntnis* 80 (2015), pp. 689-716. DOI: 10.1007/s10670-014-9668-z

"A relativistic retrocausal model violating Bell's inequality," *Proceedings of the Royal Society* A 471: 20140454 (2015). DOI: 10.1098/rspa.2014.0454

Michael Esfeld, Dustin Lazarovici, Mario Hubert, and Detlef Dürr: "The ontology of Bohmian mechanics," *The British Journal for the Philosophy of Science* 65(4) (2014), pp. 773-796. DOI: 10.1093/bjps/axt019

Articles in Books and Conference Proceedings

Dustin Lazarovici and Paula Reichert: "Arrow(s) of Time without a Past Hypothesis," in: V. Allori (ed.), *Statistical Mechanics and Scientific Explanation: Determinism, Indeterminism, and Laws of Nature.* World Scientific (2020).

Contributions to: Michael Esfeld and Dirk-André Deckert: *A minimalist ontology of the natural world*. Routledge Studies in the Philosophy of Mathematics and Physics. Routledge (2018). ISBN 978-1-138-30730-8

"Relativistic Interactions and the Structure of Time," in A. von Müller, T. Filk (eds.), *Re-Thinking Time at the Interface of Physics and Philosophy*. On thinking Vol. 4, Springer (2015).

"Lost in Translation: A Comment on `Noncommutative Causality in Algebraic Quantum Field Theory,'" in: Galavotti et al. (eds.), *New Directions in the Philosophy of Science. The Philosophy of Science in a European Perspective*, Vol. 5, Springer (2014).

Detlef Dürr and Dustin Lazarovici: "Quantenphysik ohne Quantenphilosophie," in: M. Esfeld (ed.), *Philosophie der Physik*. Suhrkamp, Berlin (2012), pp. 110-134.

Detlef Dürr and Dustin Lazarovici: "Der Dialog des Demokrit," in: J. Nida-Rümelin & E. Özmen (eds.), *Welt der Gründe. Proceedings des XXII. Deutschen Kongresses für Philosophie*, Meiner (2012), pp. 1207-1217.

Preprints and Other Publications

"A particle approximation for the relativistic Vlasov-Maxwell dynamics." (2016). arXiv:1602.07251

"Time Evolution in the external field problem of Quantum Electrodynamics." Diploma thesis, LMU München (2011). arXiv:1310.1778

Book Reviews

Review of Shan Gao: "The Meaning of the Wave Function: In Search of the Ontology of Quantum Mechanics." *International Studies in the Philosophy of Science* 31(3) (2017), pp. 321-324. DOI: 10.1080/02698595.2018.1463694

Under Review

Typical Humean Worlds have no Laws

Typicality versus Humean Probabilities as the Foundation of Statistical Mechanics

Teaching Experience

Graduate Courses taught

Extracurricular Seminar: Foundations of Mathematics for Philosophers. UNIL, Spring Term 2018

Seminar: Foundations of Mathematics for teacher trainees. LMU Munich, 2012 – 2014

Teaching Assistant with Participation in Teaching

Philosophy, Epistemology and History of Science. EPFL / UNIL Lausanne, 2016 – present
(3-4 lectures, supervision of student projects)

Invited Lectures

Rutgers University. Seminar: Advanced Topics in Philosophy of Physics. 2019 (1 lecture)

ICTS Bangalore. School: Fundamental Problems of Quantum Physics. 2016 (4 lectures)

MCMP Munich. Advanced Philosophy of Physics. 2013 – 2014 (2 lectures)

MFO Oberwolfach. Teacher Training: Mathematical Foundations of Quantum Mechanics. 2012 (3 lectures)

Short Courses and Workshops taught

Summer Academy of the German Scholarship Foundation: "Weltbilder der Quantenmechanik." Olang, IT, 2019 (2 weeks)

Summer Academy of the Swiss Study Foundation: „Wahrscheinlichkeiten, Determinismus und freier Wille in Naturwissenschaften und Philosophie," Magliaso, CH, 2018 (4 lectures)

Working group: "Primitive Ontology of Matter and Laws." 5th International Summer School in Philosophy of Physics. Saig, 2017 (1 week)

Working group: "Typicality as the foundation of probabilities in physics." 2nd International Summer School in Philosophy of Physics. Saig, 2014 (1 week)

Discussion group: "Bell's Theorem." Summer School Foundations of Quantum Mechanics. Sesto, 2014

Working group: "Entropy and the Arrow of Time." Summer School Physics and Philosophy of Time. Saig, 2013

Teaching Assistant

Seminar: The Ontology of Physics. LMU Munich, 2015

Analysis I. LMU Munich, 2011

Tutoring for various undergraduate courses in mathematics. LMU Munich, 2005 – 2011

Selected Talks

Typicality of Worlds and the Metaphysics of Laws
Workshop: Structure, Time & Laws, Lausanne, 2019; MAPS, NYU, New York, March 2019; Workshop: Essentialism and realism in the metaphysics of science, Lausanne, 2018

Why field theories are not theories of fields
Symposium: Particles, Fields, or both?, CLMPST Prague, 2019

Typicality versus Humean Probabilities as the Foundation of Statistical Mechanics
The Chimera of Entropy II, John Bell Institute, 2019; Workshop: Philosophy of Physics. The City College of New York, 2019.

Arrows of Time without a Past Hypothesis
Foundations of Probability Seminar, Rutgers, 2019; Conference: The Second Law, MCMP Munich, 2017

The Frauchiger-Renner theorem
Oberseminar Mathematische Physik, LMU München, 2018

Super-Humeansim: A starving ontology
SMS 4th Annual Conference, Milano, 2018

The wave function in a relativistic world
Workshop: Multi-Time Wave Functions, Rutgers, 2018; International summer school in philosophy of physics, Saig, 2016

Typicality and Objective Probabilities in Physics
Kolloquium Wissenschaftsphilosophie, Uni Bern, 2017

Wigner's false friends
Workshop: Understanding Quantum Mechanics, Lausanne, 2017

Against Fields
EPSA 17, Exeter, 2017; ECAP 9, Munich, 2017; BSPS Annual Meeting, Edinburgh, 2017

Spacetime is One Whole – Priority Monism meets Structural Realism
SMS 3rd Annual Conference, New York, 2017; Tübingen Master Class with Jonathan Schaffer, Tübingen, 2017; The 91st Joint Session of the Aristotelian Society, Edinburgh, 2017

Relativity, Nonlocality, and the Consequences
SILFS 2017, Bologna, 2017

Mean field limits for charged particles
Seminar Applied Analysis, Marseille, 2016; Autumn School Mathematical Foundations of Physics, LMU Munich, 2016

A time-symmetric relativistic model violating Bell's Inequality
Conference: Free Will and Retrocausality in a Quantum World, Cambridge, 2014; Workshop: Is quantum theory exact? Laboratori Nazionali di Frascati, 2014

Are 'macroscopic laws' laws? - Typicality as the basis for statistical reasoning in physics
Workshop: Reduction and Emergence in Physics, MCMP & CAS, Munich, 2013

What are Quantum States?
Workshop: The metaphysics of contemporary physics, Lausanne, 2012

On external field QED — And why it doesn't exist (yet)
Fourth School and Workshop on Mathematical Methods in Quantum Mechanics, Bressanone, 2011

Services to the Profession

Event Organizer

Summer School: The Nature of Entropy I: From thermodynamics to black holes. July 22-27, 2019, Saig (GER) Supported by a grant from the Volkswagen Foundation.

Workshop: New Topics in Quantum Foundations. November 29-30, 2018, Lausanne (CH)

Public Lectures and Outreach

Philosophie der Physik. Pizza, Philosophy, and Science (organized by *reatch*), Bern, 2018

Das mathematische Kontinuum und die Paradoxien des Zenon. Mathematik am Samstag, LMU Munich, 2012

Probestudium Physik (trial studies), LMU Munich 2006

Selection Committee

Selection Seminar of the German Academic Scholarship Foundation, 2012, 2014 – 2019

Journal Referee

Acta Analytica, The British Journal for the Philosophy of Science, Canadian Journal of Physics, Communication in Mathematical Physics, Entropy, Erkenntnis, European Journal for Philosophy of Science, The European Physical Journal, Fluctuation and Noise Letters, Foundations of Physics, Frontiers in Psychology, Frontiers in Psychology, IEEE Access, IEEE Transactions on Information Theory, Journal for General Philosophy of Science, Journal of Physics A, Journal of Statistical Physics, Physica Scripta, Philosophy of Science, Proceedings of the Royal Society A, Studies in History and Philosophy of Modern Physics, Synthese

Further Services

Creation of websites and flyers for the workgroup "Philosophie des sciences," UNIL, 2018 – present

IT Devices Manager. Workgroup Mathematical Foundations of Physics. LMU, Munich, 2013 – 2014

Professional Affiliations

The British Society for the Philosophy of Science (BSPS)

Civic Affiliations

Humboldt-Club (German alumni association of the Humboldt Foundation)

Deutscher Tierschutzbund (Animal Welfare Association)

Alumni der Studienstiftung e.V.

Languages

German (native speaker)
English (near-native)
Romanian (fluent in speaking)
French (very good command)
Italian (basic skills)

References

Michael Esfeld, UNIL	Michael-Andreas.Esfeld@unil.ch
Detlef Dürr, LMU München	duerr@math.lmu.de
Sheldon Goldstein, Rutgers	oldstein@math.rutgers.edu
Barry Loewer, Rutgers	loewer@philosophy.rutgers.edu
David Albert, Columbia	da5@columbia.edu
Jeffrey Barrett, UCI	j.barrett@uci.edu