

# RESUME

December 9, 2024



**TECHNION**  
Israel Institute  
of Technology

Dustin Lazarovici

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## ACADEMIC DEGREES

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Université de Lausanne	Lausanne, Switzerland
<b>PH.D. PHILOSOPHY</b> “Typicality as a Way of Reasoning in Physics and Metaphysics”, under the supervision of Prof. Michael Esfeld.	Sep. 2017 - Jun. 2020
Ludwig-Maximilians-Universität	Munich, Germany
<b>DR. RER. NAT. MATHEMATICS, SUMMA CUM LAUDE</b> “Mean field limits for charged particles”, under the supervision of Prof. Detlef Dürr.	Jan. 2012 - Dec. 2015
Ludwig-Maximilians-Universität	Munich, Germany
<b>DIPL. MATHEMATICS, WITH DISTINCTION</b>	Apr. 2005 - Dec. 2011
Ludwig-Maximilians-Universität	Munich, Germany
<b>DIPL. PHYSICS, WITH DISTINCTION</b>	Oct. 2004 - Jan. 2011

## ACADEMIC APPOINTMENTS

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Technion - Israel Institute of Technology, Department of Humanities and Arts <b>ASSISTANT PROFESSOR (SENIOR LECTURER)</b> My main research area is Philosophy of Physics.	Haifa, Israel Mar. 2022 - present
Université de Lausanne <b>POST-DOC / ASSISTANT DIPLOMÉ</b> Institute de Philosophie	Lausanne, Switzerland Aug. 2021 - Feb. 2022
Université de Lausanne <b>POST-DOCTORAL FELLOW</b> Feodor Lynen Research Fellowship of the Alexander von Humboldt Foundation	Lausanne, Switzerland Jan. 2016 - Jul. 2017

## RESEARCH INTERESTS

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Philosophy of Physics (Foundations of Quantum Mechanics, Foundations of Statistical Mechanics, Arrow of Time)  
Philosophy of Science (Laws of Nature, Non-causal Explanations, Epistemic Norms)

## TEACHING

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2024 <b>Humanistic Technology</b> , Graduate Seminar, Instructor	Technion
2023-24 <b>Foundations of Quantum Mechanics</b> , All levels, Main teacher	Technion
2022-24 <b>Philosophy of Time and Space</b> , All levels, Main teacher	Technion
2022-24 <b>Milestones of Mathematical Thought</b> , All levels, Main teacher	Technion
2020-22 <b>Philosophical perspectives on the exact sciences</b> , TA with participation in teaching	EPFL Lausanne
2016-20 <b>Philosophy, Epistemology and History of Science</b> , TA with participation in teaching	EPFL Lausanne
2019 <b>Weltbilder der Quantenmechanik</b> , Summer Academy (2 weeks), Co-instructor	Studienstiftung
2018 <b>Foundations of Mathematics for Philosophers</b> , Extracurricular Seminar	UNIL Lausanne

## TECHNION, DEPARTMENTAL AND OTHER ACTIVITIES

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- 2023- **Member of the Search Committee**, Humanities and Arts, Technion
- 2022- **Member of the Graduate Committee**, Humanities and Arts, Technion
- 2022- **Member of the Teaching Committee**, Humanities and Arts, Technion

## ACADEMIC PROFESSIONAL ACTIVITIES

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2020-24 **Journal Referee**, Acta Analytica, The British Journal for the Philosophy of Science, Canadian Journal of Physics, Cambridge Essentials, Communication in Mathematical Physics, Critica-Revista Hispanoamericana de Filosofia, Entropy, Erkenntnis, European Journal for Philosophy of Science, European Journal of Physics, The European Physical Journal, Europhysics Letters, Fluctuation and Noise Letters, Foundations of Physics, Foundations of Science, Frontiers in Psychology, Frontiers in Psychology, IEEE Access, IEEE Transactions on Information Theory, Journal for General Philosophy of Science, Journal of Philosophical Logic, Journal of Physics A, Journal of Statistical Physics, Oxford University Press, Philosophy of Physics, Philosophy of Science, Physica Scripta, Proceedings of the Royal Society A, Quantum Reports, Studies in History and Philosophy of Modern Physics, Scientific Reports, Synthese, Universe, World Scientific

## FELLOWSHIPS, AWARDS AND HONORS

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2022-24 **Women's Division Career Advancement Chair**, Technion  
2019 - **Fellow of the John Bell Institute for the Foundations of Physics**, JBI  
2021 **Prix Arnold Reymond**, Dissertation Award of the UNIL  
2021 **Paul Bernays Award**, Dissertation Award, Swiss Society for Logic and Philosophy of Science  
2012-15 **PhD Scholarship**, Studienstiftung des deutschen Volkes  
2011-12 **Young Researcher Scholarship**, Parmenides Foundation  
2005-11 **Studienstiftung des deutschen Volkes**, German Academic Scholarship Foundation

## STUDENT SUPERVISION

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### Post-Docs

2022 -24 **Dr. Yoav Beirach**, Leibniz and Huygens on Time Measurement (with Prof. Ohad Nachtomly) *PostDoc*  
2023 - **Dr. Caterina Scaccia**, Humor in Scientific Discourse on Quantum Mechanics (with Dr. T. Rakedzon) *PostDoc*  
2024 - **Dr. Christian Beck**, Project: Nonlocal Vacuum Phenomena *PostDoc*

### PhD Students

2023 - **Bernard Nabet**, De Broglie's "Double Solution" Theory *PhD*

## GRANTS

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2023 **ISF Personal Research Grant**, "Can Arrival Time Measurements Test Bohmian Mechanics?"  
2023 **ISF New-Faculty Equipment Grant**, Principle Investigator  
2019 **Volkswagen Foundation "Symposia and Summer Schools"**, Co-applicant  
2019 **Volkswagen Foundation "Symposia and Summer Schools"**, Co-applicant  
2019 **Swiss National Science Foundation: Doc.Mobility Fellowship**,  
2016-17 **Feodor Lynen Research Fellowship**, Humboldt Foundation

## CONFERENCES

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### Invited talks:

2024 **On Gödel's Argument for the Unreality of Time**, Research Seminar of the Cohn Institute *Tel Aviv*  
2024 **Why the Book of Nature is Written in the Language of Mathematics**, Laws of Nature Lecture Series *Online*  
2023 **On the physical possibility of closed timelike curves**, Conference: Gödel and Kant on Mathematics and Physics *Online*  
2022 **What do Bell tests actually test?**, Quantum Center Retreat Day *Technion*  
2022 **Typicality as a Way of Reasoning**, Laws of Nature Lecture Series *Online*  
2020 **Typicality and the Arrow of Time**, Oberseminar Mathematische Physik LMU *Online*  
2019 **Typicality of Worlds and the Metaphysics of Laws**, MAPS *NYU, New York*  
2019 **Typicality vs. Humean Probability**, Advanced Topics in Philosophy of Physics *Rutgers University*  
2018 **The wave function in a relativistic world**, Workshop: Multi-Time Wave Functions *Rutgers University*

## Contributed talks:

2024	<b>It from Bit? On the pernicious influence of “information” on physics and philosophy</b> , Annual Conference of the Israeli Philosophical Association	Haifa, IL
2022	<b>Why Everett Solved the Probability Problem</b> , ISF research workshop: The Many-Worlds Interpretation of Quantum Mechanics	Tel Aviv, IL
2019	<b>Why field theories are not theories of fields</b> , Symposium: Particles, Fields, or both?, CLMPST	Prague, CZ
2018	<b>Super-Humeansim: A starving ontology</b> , SMS 4th Annual Conference	Milano, IT
2017	<b>Arrows of Time without a Past Hypothesis</b> , Conference: The Second Law	Munich, GER
2017	<b>Against Fields</b> , EPSA 17	Exeter, UK
2017	<b>Against Fields</b> , BPSA Annual Meeting	Edinburgh, UK
2017	<b>Spacetime is One Whole – Priority Monism meets Structural Realism</b> , SMS 3rd Annual Conference	New York, US
2017	<b>Relativity, Nonlocality, and the Consequences</b> , SILFS – Triennial International Conference	Bologna, IT

## Conference organization:

2022	<b>Laws of Nature (in memory of Detlef Dürr)</b> , Conference	Munich, GER
2022	<b>The Nature of Entropy II: Arrow of Time</b> , Summer School	Kochel, GER
2021	<b>Shape Dynamics: Achievements &amp; Perspectives in Relational Physics</b> , Workshop	Online
2019	<b>The Nature of Entropy I: From thermodynamics to black holes</b> , Summer School	Saig, GER
2018	<b>New Topics in Quantum Foundations</b> , Workshop	Lausanne, CH

**Refereed papers in professional journals:**

- [J1] 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
- [J2] **Dustin Lazarovici**. *A relativistic retrocausal model violating Bell's inequality*, Proceedings of the Royal Society A 471. 2015
- [J3] **Dustin Lazarovici** and Paula Reichert. *Typicality, Irreversibility and the Status of Macroscopic Laws*, Erkenntnis 80. 2015
- [J4] 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
- [J5] **Dustin Lazarovici**. *The Vlasov-Poisson dynamics as the mean-field limit of extended charges*, Communications in Mathematical Physics 347(1). 2016
- [J6] **Dustin Lazarovici** and Peter Pickl. *A mean-field limit for the Vlasov-Poisson system*, Archive for Rational Mechanics and Analysis 225(3). 2017
- [J7] 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
- [J8] **Dustin Lazarovici**. *Against Fields*, European Journal for Philosophy of Science 8(2). 2018
- [J9] **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
- [J10] **Dustin Lazarovici**. *Super-Humeanism: A starving ontology*, Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics 64. 2018
- [J11] **Dustin Lazarovici** and Mario Hubert. *How Quantum Mechanics can consistently describe the use of itself*, Scientific Reports 9:470. 2019
- [J12] **Dustin Lazarovici**. *On Boltzmann vs. Gibbs and the Equilibrium in Statistical Mechanics*, Philosophy of Science 86:4. 2019
- [J13] **Dustin Lazarovici**. *Position Measurements and the Empirical Status of Particles in Bohmian Mechanics*, Philosophy of Science 87:3. 2020
- [J14] **Dustin Lazarovici** and Paula Reichert. *The Point of Primitive Ontology*, Foundations of Physics 52. 2022
- [J15] **Dustin Lazarovici**. *How Everett Solved the Probability Problem in Everettian Quantum Mechanics*, Quantum Reports 5(2), 407-417. 2023
- [J16] **Dustin Lazarovici**. *Hidden Variables in Quantum Mechanics from the Perspective of Boltzmannian Statistical Mechanics*, Quantum Reports 6(3), 465-481. 2024
- [J17] Christian Beck and **Dustin Lazarovici**. *Relativistic Consistency of Nonlocal Quantum Correlations*, Entropy 26(7), 548. 2024

**Books:**

- [B1] Detlef Dürr and **Dustin Lazarovici**. *Verständliche Quantenmechanik. Drei mögliche Weltbilder der Quantenphysik*, Springer-Spektrum, 229 pages. 2018
- [B2] Detlef Dürr and **Dustin Lazarovici**. *Understanding Quantum Mechanics. The World According to Modern Quantum Foundations*, Springer International Publishing, 239 pages. 2020
- [B3] **Dustin Lazarovici**. *Typicality Reasoning in Probability, Physics, and Metaphysics*, New Directions in the Philosophy of Science. Palgrave Macmillan, 374 pages. 2023

**Book chapters:**

- [b1] Detlef Dürr and **Dustin Lazarovici**. *Quantenphysik ohne Quantenphilosophie*, in: M. Esfeld (ed.), Philosophie der Physik. Suhrkamp. 2012
- [b2] **Dustin Lazarovici**. *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
- [b3] Contributions to: Michael Esfeld and Dirk-André Deckert with **Dustin Lazarovici**, Andrea Oldofredi, and Antonio Vassallo. *A minimalist ontology of the natural world*, Routledge. 2018

- [b4] **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
- [b5] **Dustin Lazarovici**. *Typicality versus Humean Probabilities as the Foundation of Statistical Mechanics*, in: B. Loewer, E. Winsberg, and B. Weslake (eds.), *The Probability Map of the Universe: Essays on David Albert's Time and Chance*. Harvard University Press. 2023
- [b6] **Dustin Lazarovici**. *Why the book of nature is written in the language of mathematics*. in: A. Bassi, S. Goldstein, R. Tumulka, and N. Zanghì (eds), *Physics and the Nature of Reality: Essays in Memory of Detlef Dürr*. Springer. 2024

### Conference proceedings:

- [T1] Detlef Dürr and **Dustin Lazarovici**. *Der Dialog des Demokrit*, in: J. Nida-Rümelin and E. Özmen (eds.), *Welt der Gründe. Proceedings des XXII. Deutschen Kongresses für Philosophie*, Meiner. 2012
- [T2] **Dustin Lazarovici**. *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

### Book reviews:

- [T3] **Dustin Lazarovici**. *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