

# Valia Allori

## Curriculum Vitae

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Associate Professor

[Department of Letter, Philosophy, and Communication](#), University of Bergamo  
Via Pignolo 123, Bergamo, Italy

Fellow - FQXi- Foundational Questions Institute <https://fqxi.org/>

Fellow - The John Bell Institute for the Foundations of Physics <https://www.johnbellinstitute.org>

Fellow (2017-2018)- National Humanities Center <https://nationalhumanitiescenter.org/>

### Educational Background

- Rutgers University, Ph. D., Philosophy, 2002-2007 (Defense date May 16, 2007).
  - Thesis Title: "Fundamental Physical Theories: Mathematical Structures grounded on a Primitive Ontology"
  - Supervisor: Tim Maudlin (Philosophy, Rutgers); Committee: Frank Arntzenius, Barry Loewer (Philosophy, Rutgers); Sheldon Goldstein (Mathematics, Physics and Philosophy, Rutgers); David Z. Albert (Philosophy, Columbia)
- University of Genova, Italy, Ph. D., Physics, 1999-2002
  - Thesis Title: "Decoherence and the Classical Limit of Quantum Mechanics"
  - Supervisor: Nino Zanghì (Physics, University of Genova, Italy); Committee: Detlef Dürr (Mathematics, LMU, Germany); Lodovico Lanz (Physics Department, University of Milano, Italy)
- University of Milano, Italy, Certificate in Scientific Communication, 1999
- University of Milano, Italy, Master, Physics *Summa cum laude*, 1991-1997
  - Thesis Title: "Interaction of  $^{12}\text{C}$  with  $^{103}\text{Rh}$  at Energies greater than 33 MeV/nucleon"
  - Supervisor: Ettore Gadioli (Physics, University of Milano, Italy); Committee: Claudio Birattari, Roberto Bonetti (Physics, University of Milano, Italy)

### Area of Specialization

Philosophy of Physics, Philosophy of Science, Metaphysics

### Area of Competence

Logic

### Professional Experience

- 2023-Present: Associate Professor, Department of Letters, Philosophy and Communication, University of Bergamo, Italy
- 2020 - 2023: Full Professor, Philosophy Department, Northern Illinois University
- 2019 - Present: Fellow, The John Bell Institute for the Foundations of Physics
- 2017 - 2018: Fellow, National Humanities Center

- 2013 - 2020: Associate Professor, Philosophy Department, Northern Illinois University
- 2007 - 2013: Assistant Professor, Philosophy Department, Northern Illinois University
- 2006 - 2007: Instructor, Philosophy Department, Rutgers University
- 2005 - 2006: Teaching Assistant, Philosophy Department, Rutgers University

## **Research**

### **A-Publications and Other Professional Contributions**

#### **1a-Books:**

1. Edited book: *Quantum Mechanics and Fundamentality: Naturalizing Quantum Theory between Scientific Realism and Ontological Indeterminacy*. Synthese Library, Springer (August 2022).  
<https://doi.org/10.1007/978-3-030-99642-0>. ISBN: 978-3-030-99642-0
2. Edited book (with Angelo Bassi, Detlef Dürr and Nino Zanghì): *Do Wave Functions Jump? Perspectives on the Work of GianCarlo Ghirardi*. Springer (November 2020)  
<https://doi.org/10.1007/978-3-030-46777-7> ISBN: 978-3-030-46776-0
3. Edited book: *Statistical Mechanics and Scientific Explanation: Determinism, Indeterminism and Laws of Nature*. World Scientific (April 2020) <https://doi.org/10.1142/11591>
4. *La Natura delle Cose: Introduzione ai Fondamenti e alla Filosofia della Fisica* (transl.: *The Nature of Things: Introduction to the Philosophy and the Foundation of Physics*), Carocci, Roma, Italy (2005)  
-- (with M. Dorato, F. Laudisa and N. Zanghì) ISBN: 978-8843035472

#### **1b-Books: Forthcoming or Under contract**

1. *Quantum Mechanics for Metaphysicians: The Fundamentals*.
2. *Dismantling Quantum Paradoxes*.

### **2-Articles and Book Chapters**

#### **2a-Philosophy**

1. "How Bad is the Nonlocality of the Pilot-Wave Theory?" In: A. Oldofredi (ed.) *100 Years of de Broglie-Bohm Theory: Where Do We Stand?* Routledge (forthcoming).
2. "Time in Quantum Mechanics." In: N. Emery (ed.) *The Routledge Companion to Philosophy of Time*, Routledge (forthcoming)
3. "Quantum Mechanics." In: F. Padovani, A. Tuboly (eds.) *The Handbook of the History of Philosophy of Science*, Routledge (forthcoming)
4. "Time for Pancakes." In: O. Lombardi, C. Lopez (eds.) *The Arrow of Time: from Local Systems to the Whole Universe*. Cambridge University Press (forthcoming).
5. "On the Galilei Invariance of the Pilot-Wave Theory." *Foundations of Physics* 52, 111 (2022). DOI: 10.1007/s10701-022-00631-4
6. "What is it Like to be a Relativistic GRW Theory? Or: Quantum Mechanics and Relativity, Still in Conflict After All These Years" *Foundations of Physics* 52, 79 (2022). DOI: 10.1007/s10701-022-00595-5
7. "Towards a Structuralist Elimination of Properties". In V. Allori (ed.) *Quantum Mechanics and Fundamentality: Naturalizing Quantum Theory between Scientific Realism and Ontological Indeterminacy*: 141-155. Springer: Synthese Library (2022). ISBN: 978-3-030-99642-0

8. "Introduction". In V. Allori (ed.) *Quantum Mechanics and Fundamentality: Naturalizing Quantum Theory between Scientific Realism and Ontological Indeterminacy*: i-xxii. Springer: Synthese Library (2022). ISBN: 978-3-030-99642-0
9. "Fundamental Objects without Fundamental Properties: A Thin-object-orientated Metaphysics Grounded on Structure." In: D. Aerts, J. Arenhart, C. De Ronde and G. Sergioli (eds.), *Probing the Meaning and Structure of Quantum Mechanics*. World Scientific (forthcoming)
10. "The Paradox of Deterministic Probabilities." *Inquiry: An Interdisciplinary Journal of Philosophy* (2022). DOI: 10.1080/0020174X.2022.2065530
11. "Spontaneous Localization Theories." In: O. Freire Junior, G. Bacciagaluppi, O. Darrigol, T. Hartz, C. Joas, A. Kojevnikov, and O. Pessoa Junior (eds.), *Oxford Handbook on the History of Interpretations of Quantum Mechanics*. Oxford University Press (2022). ISBN: 978-0-198-84449-5
12. "Primitive Beable is not Local Ontology: On the Relation between Primitive Ontology and Local Beables" *Crítica* 53 (159): 15-43 (2021).
13. "Wave-Functionalism," *Synthese* (2021) <https://doi.org/10.1007/s11229-021-03332-z>
14. "Contemporary Echoes of the World Soul: Quantum Mechanics and Consciousness" In: J. Wilberdin (ed.), *World Soul*: 320-342. Oxford University Press (2021).
15. "Tipicità e Spiegazione Scientifica in Meccanica Statistica" (transl. "Typicality and Scientific Explanation in Statistical Mechanics"). In: E. Montuschi and P. D. Omodeo (eds.), *Ordinare il mondo. Prospettive logiche ed epistemologiche su scienza, natura e società*: 146-172 (transl. *Ordering the World. Logical and Epistemological Perspectives on Science, Nature and Society*). (2021) ISBN-10 : 8869926796
16. "Introduction" E. Schrödinger, *Collected Papers on Wave Mechanics*. Minkowski Institute Press (2020). ISBN: 978-1-927763-80-3
17. "Spontaneous Localization Theories with a Particle Ontology" In: V. Allori, A. Bassi, D. Dürr and N. Zanghì (eds.), *Do Wave Functions Jump? Perspectives on the Work of GianCarlo Ghirardi*: 73-93. Springer (2020). doi: 10.1007/978-3-030-46777-7
18. "Why Scientific Realists Should Reject the Second Dogma of Quantum Mechanics." In: M. Hemmo and O. Shenker (eds.) *Quantum, Probability, Logic: The Work and Influence of Itamar Pitowsky*: 19-48. Springer (2020) (invited/refereed). ISBN 978-3-030-34315-6
19. "Some Reflections on the Statistical Postulate: Typicality, Probability and Explanation between Deterministic and Indeterministic Theories." In: V. Allori (ed.), *Statistical Mechanics and Scientific Explanation: Determinism, Indeterminism and Laws of Nature*: 65-111. World Scientific (2020) (refereed). doi: 10.1142/11591
20. "Introduction" In: V. Allori (ed.), *Statistical Mechanics and Scientific Explanation: Determinism, Indeterminism and Laws of Nature*: ix-xvii. World Scientific (2020). doi: 10.1142/11591
21. "Scientific Realism without the Wave Function". In: J. Saatsi, S. French (eds.), *Scientific Realism and the Quantum*: 212-228. Oxford University Press (2020) (invited/refereed). ISBN: 9780198814979
22. "Free Will in the Quantum World?" In: J. A. de Barros and C. Montemayor (eds.), *Quanta and Mind: Essays on the Connection between Quantum Mechanics and Consciousness*: 3-16. Springer - Synthese Library 414 (2019) (invited). doi: 10.1007/978-3-030-21908-6

23. "Quantum Mechanics, Time and Ontology" *Studies in History and Philosophy of Modern Physics* 66: 145-154 (2019). doi: 10.1016/j.shpsb.2019.02.004
24. "From No-signaling to Spontaneous Localization Theories". *International Journal of Quantum Foundations* 5 1-10 (2019) (invited)
25. "Scientific Realism and Primitive Ontology. Or: the Pessimistic Induction and the Nature of the Wave Function." *Lato Sensu: Revue de la Société de Philosophie des Sciences* 5 (1): 69-76 (2018). doi: 10.20416/lrsps.v5i1.10
26. "A New Argument for the Nomological Interpretation of the Wave Function: The Galilean Group and the Classical Limit of Nonrelativistic Quantum Mechanics." *International Studies in the Philosophy of Science* 31 (2): 177-188 (2018). doi: 10.1080/02698595.2018.1424759
27. "Space, Time, and (how they) Matter: a Discussion about some Metaphysical Insights Provided by our Best Fundamental Physical Theories." In: S. Wuppuluri and G.C. Ghirardi (eds.), *Space, Time, and Frontiers of Human Understanding*: 95-107. Springer (2016). ISBN 978-3-319-44418-5 (invited)
28. "Primitive Ontology and the Classical World." In: R. Kastner, J. Jeknic-Dugic, G. Jaroszkiewicz (eds.), *Quantum Structural Studies: Classical Emergence from the Quantum Level*: 175-199. World Scientific (2016). ISBN: 978-1-78634-140-2. doi: 10.1142/9781786341419\_0007 (invited)
29. "Primitive Ontology in a Nutshell." *International Journal of Quantum Foundations* 1 (3): 107-122 (2015)
30. Reply to Authors: "The Road to Maxwell's Demon," by Meir Hemmo and Orly R. Shenker. *International Studies in the Philosophy of Science* 29 (1): 94-98 (2015). doi: 10.1080/02698595.2015.1079077
31. "Maxwell's Paradox: Classical Electrodynamics and its Time Reversal Invariance." *Analytica* 1:1-19 (2015)
32. "Quantum Mechanics and Paradigm Shifts." *Topoi* 32 (2): 313-323 (2015). doi: 10.1007/s11245-014-9295-y
33. "Predictions and Primitive Ontology in Quantum Foundations: A Study of Examples." *The British Journal for the Philosophy of Science* 65 (2): 323-352 (2014) — (with S. Goldstein, R. Tumulka, and N. Zanghi). doi: 10.1093/bjps/axs048
34. "On the Metaphysics of Quantum Mechanics." In: S. Le Bihan (ed.), *Precis de la Philosophie de la Physique*: 116-151. Vuibert (2013). ISBN : 978-2-311-01100-5 (invited/refereed)
35. "Primitive Ontology and the Structure of Fundamental Physical Theories." In: D. Albert, A. Ney (eds.), *The Wave Function: Essays in the Metaphysics of Quantum Mechanics*: 58-75. Oxford University Press (2013). doi:10.1093/acprof:oso/9780199790807.003.0002 (invited/refereed)
36. "Many-Worlds and Schrödinger's First Quantum Theory." *The British Journal for the Philosophy of Science* 62 (1): 1-27 (2011) — (with S. Goldstein, R. Tumulka, and N. Zanghi). doi: 10.1093/bjps/axp053
37. "La storia del gatto che era sia vivo che morto" (transl: "The Story of the Cat that was both Dead and Alive"). In: E. Giannetto, G. Giannini (eds.), *Da Archimede a Majorana: la fisica nel suo divenire*: 273-283. Guaraldi (2009). ASIN: B00HZLTL8Y
38. "On the Classical Limit of Quantum Mechanics." *Foundations of Physics* 39 (1): 20-32 (2009) – (with N. Zanghi). doi: 10.1007/s10701-008-9259-4

39. "On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." *The British Journal for the Philosophy of Science* 59 (3): 353-389 (2008) – (with S. Goldstein, R. Tumulka, and N. Zanghi). doi: 10.1093/bjps/axn012
40. "Ontologie Quantistiche di Particelle, Campi e Lampi" (transl.: "Quantum Ontologies of Particles, Fields and Flashes"). In: V. Fano and M. Antonelli (eds.), *Strutture dello spazio tra fisica e psicologia, Teorie e Modelli XII, III*: 9-29 (2007) – (with N. Zanghi)
41. "E' completa la descrizione della realtà fisica fornita dalla meccanica quantistica?" (transl.: "Is the Quantum-Mechanical Description of Physical Reality Complete?") *Il Protagora* 9: 163-180 (2007) – (with N. Zanghi)
42. "What is Bohmian Mechanics?" *International Journal of Theoretical Physics* 43: 1743-1755 (2004) – (with N. Zanghi). doi: 10.1023/B:IJTP.0000048817.79384.2a
43. "Seven Steps toward the Classical World." *Journal of Optics B* 4: 482-488 (2002)–(with D. Dürr, S. Goldstein, N. Zanghi). doi:10.1088/1464-4266/4/4/344

## 2b-Physics

1. "Observation of the Doppler Broad and Shift of the Gamma Lines of Residues Produced in the interaction of 400 MeV  $^{12}\text{C}$  Ions with  $^{63}\text{Cu}$ ." In: E. Norman, L. Schroeder, and G. Wozniak (eds.) *Nuclear Physics in the 21st Century: Proceedings of the International Nuclear Physics Conference*, American Institute of Physics Proc. No. 610, Berkeley (2001) – (with E. Gadioli, et al.)
2. "Excitation Functions, Angular Distributions and Recoil Range Distributions of Residues Created in Heavy-Ion Reactions." In: *Proceedings of the South African Institute of Physics National Conference*, South African Institute of Physics Proceedings (1998) – (with E. Gadioli, et al.)
3. "Low Linear Momentum and Energy Transfer Reactions in the Interaction of  $^{12}\text{C}$  with  $^{103}\text{Rh}$ ". In: *Proceedings of the 8th International Conference on Heavy Nucleon Reaction*, Paris (1998) – (with E. Gadioli, et al.)
4. "Spectra of Alpha Particles Emitted in the Interaction of  $^{12}\text{C}$  with  $^{93}\text{Nb}$ ." NAC Annual Report (1998) – (with M. Cavinato, et al.)
5. "Angular Distributions and Forward Recoil Range Distributions of the Residues Created in the Interaction of  $^{12}\text{C}$  and  $^{16}\text{O}$  ions with  $^{103}\text{Rh}$ ," *Nuclear Physics A* 641, 271-296 (1998) – (with E. Gadioli, et al.)
6. "The Interaction of  $^{12}\text{C}$  and  $^{16}\text{O}$  with  $^{103}\text{Rh}$ ." *Acta Physica Hungarica New Series: Heavy Ion Physics* (now European Physical Journal A: Hadrons & Nuclei) 7, 275-287 (1998) – (with E. Gadioli, et al.)
7. "Comprehensive Study of the Reaction of  $^{12}\text{C}$  with  $^{103}\text{Rh}$  up to 33 MeV/nucleon." *Physics Letters B* 394, 29-36 (1997) – (with E. Gadioli, et al.)
8. "Comprehensive Study of the Reaction of  $^{12}\text{C}$  with  $^{103}\text{Rh}$  up to 33 MeV/nucleon." *Physics Letters B* 394, 29-36 (1997) – (with E. Gadioli, et al.)
9. "Study of the Interaction of  $^{12}\text{C}$  and  $^{16}\text{O}$  with  $^{103}\text{Rh}$ ." NAC Annual Report (1997) – (with E. Gadioli, et al.)
10. "A Comprehensive Study of the Interaction of  $^{12}\text{C}$  with Nuclei". In: E. Gadioli (ed.), *Ricerca Scientifica ed Educazione Permanente*, Suppl. 111, 271-281, 10 (1997) – (with E. Gadioli, et al.)

11. "Comprehensive Study of the Interaction of  $^{12}\text{C}$  with  $^{103}\text{Rh}$  up to 33 MeV/nucleon." In: G. Giardina, G. Fazio, M. Lattuada (eds.) *Large Scale Collective Motion of Atomic Nuclei*. World Scientific (1996) — (with E. Gadioli, et al.)

### 3-Book Reviews

1. [Book Review of "Philosophy of Physics: Quantum Theory," by Tim Maudlin.](#) *The British Journal for Philosophy of Science Review of Books* (2020).
2. Book Review of "Beyond the Dynamical Universe: Unifying Block Universe Physics and Time as Experienced," by Michael Silberstein, W.M. Stuckey, and Timothy McDevitt. *Metascience* 28 (2): 341–344 (2019). doi: 10.1007/s11016-019-00417-x
3. Book Review of "Quantum Ontology," by Peter J. Lewis. *Philosophy of Science* 85 (4): 735-738 (2018). doi: 10.1086/699020
4. [Book Review of "Protective Measurement and Quantum Reality," by Shan Gao \(ed.\).](#) *The British Journal for Philosophy of Science Review of Books* (2017).
5. Book Review of "The Road to Maxwell's Demon: Conceptual Foundations of Statistical Mechanics," by Meir Hemmo and Orly R. Shenker. *International Studies in the Philosophy of Science* 27 (4): 451-454 (2013). doi :10.1080/02698595.2013.868179
6. [Book Review of "Do We Really Understand Quantum Mechanics?" by Franck Lalöe;](#) *Notre Dame Philosophical Review* (2013).
7. [Book Review of "Everywhere and Everywhen, Adventures in Physics and Philosophy," by Nick Huggett;](#) *Notre Dame Philosophical Review* (2011).
8. Book Review of "Quantum Mechanics- a Philosopher's Overview," by Salvator Cannavo; *International Studies in the Philosophy of Science* 24 (3), 330-333 (2010). doi: 10.1080/02698595.2010.522416
9. Book review of "The Kantian legacy in the Nineteenth -Century Science," M. Friedman, and A. Nordmann (eds.); *Journal of the History of Philosophy* 47 (3), 478-479 (2009). doi: 10.1353/hph.0.0128

### 4-Papers Read at Professional Meetings (Conferences, Workshops, Invited talks)

1. What is It Like to be a Relativistic GRW Theory? Or: Quantum Mechanics and Relativity, Still in Conflict After All These Years." IX International Workshop on Quantum Mechanics and Quantum Information: Quantum Mechanics and the Notion of Theory. Online. June 22-23, 2023 (invited)
2. "What is it like to be a Spontaneous Localization Theory? Or: Quantum Mechanics and Relativity, Still in Conflict After All These Years". ECR Project Proteus Seminar. April 24th, 2023 (invited)
3. "Time for Pancakes." The Arrow of Time: from Local Systems to the Whole Universe. Buenos Aires (Argentina), February 20-24, 2023 (invited)
4. "Naturalness from a Humean Perspective: A Reduction Argument." 3<sup>rd</sup> Chilean Conference on the Philosophy of Physics. Santiago de Chile (Chile), December 14-17, 2022 (contributed)
5. "Many-Worlds and Scientific Realism." Workshop: The Many-Worlds Interpretation of Quantum Mechanics: Current Status and Relation to Other Interpretations. Tel-Aviv (Israel), October 18-24, 2022 (invited)

6. "Wave-functionalism." Workshop: 70 Years of Bohm's Pilot-Wave theory. University of Lisbon (Portugal). October 12th, 2022 (invited)
7. "Freedom from the Quantum?" Free Will and Physics Workshop, Rutgers University, New Brunswick, NJ (USA). May 11,12, 2022 (invited)
8. Comments on Nina Emery and Gabrielle Kerbel's "Configuration Space Realism and Fundamentality." Pacific APA meeting. Vancouver (Canada). April 13-16, 2022 (invited)
9. "Wave-functionalism." Dartmouth College Philosophy Colloquium. Hanover, NH (USA), October 23, 2021 (invited)
10. "Wave-functionalism." Statistical and Quantum Mechanics: Reconsidering their Foundations on the Basis of New Cutting-edge Experiments and Theoretical Models. Gran Sasso Science Institute, L'Aquila (Italy). September 20-24, 2021. Online meeting (invited)
11. "Naturalness from a Humean Perspective: A Reductio Argument." 6th Annual Conference of the Society for the Metaphysics of Science. September 1-4, 2021. Online meeting (contributed)
12. "What if? Speculations about the Best of All Possible Quantum Worlds." International Conference in Advances in Pilot Wave Theories. July 26-30, 2021. Online meeting (Keynote)
13. "Quantum Scientific Realism. Or How Everyone Learned to Stop Worrying and Love Quantum Mechanics." VII International Workshop on Quantum Mechanics and Quantum Information: Quantum Ontology and Metaphysics. April 15-16 and 22-23, 2021. Online meeting (invited)
14. Comments on Alyssa Ney's Book "The World in the Wave Function." Pacific APA, online. April 6, 2021. Online meeting (invited)
15. "Quantum Scientific Realism. Or How Everyone Learned to Stop Worrying and Love Quantum Mechanics." Quantum Engineering Grenoble, Quantum Foundations Seminars, Institut Néel, March 19, 2021. Online meeting (invited)
16. "The Wavefunction is as the Wavefunction does" Mini-Workshop on the Meaning of the Wave Function. June 15, 2020 (invited)  
<https://sites.google.com/view/harvardfoundationsofphysics/the-meaning-of-the-wave-function-june-15-2020>
17. "Why Scientific Realists Should Reject the Second Dogma of Quantum Mechanics." Conference on Quantum, Probability, and Logic. Jerusalem (Israel), May 25-27, 2020 (invited)
18. "The Wavefunction is as the Wavefunction Does." American Philosophical Association (APA), Central Division Meeting. Chicago, IL (USA), February 26-29, 2020 (contributed)
19. Comments on Chip Seben's paper "Aligning our Theories of the Electromagnetic and Dirac Fields". Society for the Metaphysics of Science Conference. Toronto, ON (Canada), November 7-9, 2019 (invited)
20. "Typicality, Probability and Explanation between Deterministic and Indeterministic Theories" Rutgers Workshop on the Philosophy of Probability. New Brunswick, NJ (USA), October 24-26, 2019 (invited)
21. "Gibbs vs Boltzmann" Summer School: The Nature of Entropy I. Saig (Germany). July 22-27, 2019 (invited)

22. "Time and Pancakes: Some Reflections of Time Reversal Symmetry." IAPT Conference. Boulder, CO (USA). June 22-26, 2019 (Keynote)
23. "Quantum Mechanics between History, Physics and Philosophy." NIU Department of Physics Colloquium. Dekalb, IL (USA), October 26 2018 (invited)
24. "The Wave Function is as the Wave Function Does." International Workshop on 'The Meaning of the Wave Function.' Shanxi University, Taiyuan (China). October 12-14, 2018 (invited)
25. "Some Remarks on Explanation in Statistical Mechanics." Foundations 2018 - The 19th U.K. and European Meeting on the Foundations of Physics, Utrecht (Netherlands). July 10-13, 2018 (contributed)
26. "Some Remarks on Explanation in Statistical Mechanics." 11th MuST Conference 'Models of Explanation,' University of Turin, Turin, (Italy). June 11-13, 2018 (contributed)
27. "Fundamental Objects without Fundamental Properties." Fundamentality in Physics and Metaphysics Workshop. University of Geneve, Geneve (Switzerland). May 29-30, 2018 (invited)
28. "Free Will and the Quantum." International Conference on 'Quanta and Mind.' San Francisco State University, San Francisco, CA (USA). April 11-12, 2018 (invited)
29. "Quantum Mechanics, Time and Ontology." American Philosophical Association (APA) Pacific Division Meeting, San Diego, CA (USA). March 28 – April 1, 2018 (contributed)
30. "Determinism, Indeterminism, and the Statistical Postulate." 118th Statistical Mechanics Conference, Rutgers, New Brunswick, NJ (USA). December 17-19, 2017 (invited)
31. "For Once, Skinny is Not Natural: The Case of the Higgs Particle." 2017 Conference of the Italian Society of Logic and Philosophy of Science (Società Italiana di Logica e Filosofia della Scienza, SILFS). Bologna (Italy), June 20-23, 2017 (contributed)
32. "Towards a Structuralist Elimination of Properties." Rutgers Workshop on Structural Realism and Metaphysics of Science. Rutgers, New Brunswick, NJ (USA). May 18-19, 2017 (invited)
33. "Scientific Realism and the Quantum." American Philosophical Association (APA) Pacific Division Meeting, Seattle, WA (USA). April 12-15, 2017 (contributed)
34. Comments on Olin Robus' paper: "Putnam, Stein, and Space-Time: What Can Science Do for Philosophy?" American Philosophical Association (APA), Central Division Meeting, Kansas City, MO (USA). March 1-4, 2017 (invited)
35. "Structure, Laws of Nature, and Fundamental Properties." Symposium on Radical Ontic Structural Realism. American Philosophical Association (APA), Eastern Division Meeting. Baltimore, MD (USA). January 4-7, 2017 (invited)
36. "Scientific Realism and Primitive Ontology." Philosophy of Science Association (PSA) Meeting. Atlanta, GE (USA). November 3-5, 2016 (contributed)
37. "Laws of Nature, Fundamental Properties and Ontology." Midwest Annual Workshop in Metaphysics (MAWM). University of Nebraska-Lincoln. Lincoln, NE (USA). October 14-15, 2016 (invited)
38. "Scientific Realism and Primitive Ontology." 2016 Conference of the Society of Philosophy of Science (Société de philosophie des science, SPS). University of Lausanne, Lausanne (Switzerland). June 29-July 1, 2016 (contributed)



39. Comments on Jason Turner's paper: "Everettian Quantum Mechanics and Evil." Rutgers Mini-Conference on Multiverse, Theodicy, and Fine-Tuning. Rutgers University, New Brunswick, NJ (USA) June 10-11, 2016 (invited)
40. Comments on Hans Halvorson's paper: "A Probability Problem in the Fine-Tuning Argument." Rutgers Mini-Conference on Multiverse, Theodicy, and Fine-Tuning. Rutgers University, New Brunswick, NJ (USA). June 10-11, 2016 (invited)
41. "What Does Quantum Mechanics tell us about Time?" Department of Philosophy, University of Wisconsin-Milwaukee, Milwaukee, WI (USA). April 10, 2015 (invited)
42. "What Does Quantum Mechanics Tell us about Time?" South Carolina Society for Philosophy, Wofford College, Spartanburg SC (USA), March 27-28, 2015 (contributed)
43. "The Paradox of Deterministic Probabilities" North Carolina Philosophical Society, North Carolina State University, Raleigh, NC (USA), February 27-28, 2015 (contributed)
44. "Physical Theories and Primitive Ontology: a Primer." First iWorkshop on the Meaning of the Wave Function. October 20-26, 2014 (invited)  
<http://www.ijqf.org/groups-2/meaning-of-the-wave-function> (invited)
45. "The Paradox of Deterministic Probabilities." Indiana Philosophical Association Meeting. Indiana University-Purdue University, Fort Wayne, IN (USA). October 16-17, 2014 (contributed)
46. "Quantum Mechanics and Paradigm Shifts." Conference on the Metaphysics of Quantum Mechanics. Oxford University. Oxford (UK). October 2-3, 2014 (invited)
47. "Maxwell's Paradox: On the Metaphysics of Classical Electrodynamics and its Time-Reversal Invariance." 2014 Conference of the Society of Philosophy of Science (Société de philosophie des science, SPS). University of Lille 1 and University of Lille 3, Lille (France). June 25-27, 2014 (contributed)
48. "Quantum Mechanics and Paradigm Shifts." 2014 Conference of the Italian Society of Logic and Philosophy of Science (Società Italiana di Logica e Filosofia della Scienza, SILFS). University of Rome III, Rome (Italy). June 18-20, 2014 (contributed)
49. "What does Quantum Mechanics Tell us about Time?" Philosophy of Time Society Conference. Palazzo Feltrinelli, Gargnano, BS (Italy). May 11-14, 2014 (contributed)
50. "What does Quantum Mechanics Tell us about Time?" Quantum Time Conference. Center for Philosophy of Science, Pittsburgh, PA (USA). March 28-29, 2014 (contributed)
51. "Quantum Mechanics and Paradigm Shifts." 9<sup>th</sup> Annual International Conference on Philosophy. Athens (Greece). May 26-29, 2014 (contributed)
52. "Quantum Mechanics and Paradigm Shifts." 14<sup>th</sup> Annual Conference of the Israeli Society for History and Philosophy of Science (ISHPS). Bloomfield Science Museum, Jerusalem (Israel). December 22, 2013 (contributed)
53. "Primitive Ontology and Laws of Nature." Workshop Bridging Metaphysics and Philosophy of Physics. University of Rochester. Rochester, NY (USA). September 13-14, 2013 (invited)
54. "Pandora's Cat: The Story of the Cat that was neither dead nor alive." Sigma Xi Scientific Research Society brown bag lunch series, Northern Illinois University. Dekalb, IL (USA). January 30, 2013 (invited)

55. "Maxwell's Paradox: On the Metaphysics of Classical Electrodynamics and its Time-Reversal Invariance." Philosophy of Science Association (PSA) Meeting, San Diego, CA (USA). November 15-17, 2012 (contributed)
56. "On the Metaphysics of Classical Electrodynamics and its Time-Reversal Invariance." Illinois Philosophical Association (IPA), Northern Illinois University, Dekalb, IL (USA). November 18-19, 2011 (contributed)
57. "Is the Classical-Quantum Transition truly an example of a Kuhnian Revolution?" Midwest Workshop in Philosophy of Science, Technology, Engineering and Mathematics (PHILOSTEM 2), Fort Wayne, IN (USA). November 10-12, 2011 (contributed)
58. "On the Metaphysics of Classical Electrodynamics and its Time-Reversal Invariance." Northwest Philosophy Conference, Lewis and Clark College, Portland, OR (USA). November 3-5, 2011 (contributed)
59. "On the Metaphysics of Classical Electrodynamics and its Time-Reversal Invariance." 27<sup>th</sup> Philosophy and History of Science Conference, Boulder, CO (USA). September 22-25, 2011 (contributed)
60. "Is Quantum Mechanics a Kuhnian Revolution?" Quantum Theory without Observers Conference, Sexten, BZ (Italy). July 24 – August 8, 2011 (invited)
61. "What does Quantum Mechanics Tell us about Time?" 2010 Conference of the Italian Society of Logic and Philosophy of Science (Società Italiana di Logica e Filosofia della Scienza, SILFS), Bergamo (Italy). December 15-17, 2010 (contributed)
62. "Do Particles Have Free Will?" 2010 Joint Meeting of the Illinois and Indiana Philosophical Association, Eastern Illinois University, Charleston IL (USA). November 5-6, 2010 (contributed)
63. "Some Remark on Wave Function Monism." 26<sup>th</sup> Boulder Conference on the History and Philosophy of Science, Boulder, CO (USA). October 22-24, 2010 (contributed)
64. "Do Particles Have Free Will?" Central State Philosophical Association (CSPA) Meeting, Detroit, MI (USA). September 23-25, 2010 (contributed)
65. "Primitive Ontology and the Structure of Fundamental Physical Theories." What is Quantum Theory Conference, Sexten, BZ (Italy). August 2-11, 2010 (invited)
66. Comment on Alyssa Ney's paper: "Quantum Mechanics and Three-dimensional Space." Philosophical Issues in Cosmology, Quantum Theory, and Time Conference, Rutgers Center for Philosophy and the Sciences and the Philosophy Department, New Brunswick, NJ (USA). April 16-18, 2010 (invited)
67. "On Wave Function Monism in Spontaneous Collapse Theories." Philosophy of Physics Colloquium, Department of Philosophy, University of Illinois at Chicago, Chicago, IL (USA). March 31, 2010 (invited)
68. Comments on Christopher Pynes' paper: "The Mistake in Monty Fall." Illinois Philosophical Association Meeting, Urbana-Champaign, IL (USA). October 23-24, 2009 (invited)
69. Comments on Gregory Landini's paper: "Facts about the Slingshot." Central State Philosophical Association (CSPA) Meeting, Dekalb, IL (USA). October 9-10, 2009 (invited)
70. "What does Quantum Mechanics Tell us about Time?" Iowa Philosophical Society Annual Conference, Mount Vernon, IA (USA). October 18, 2008 (contributed)

71. "Galileo and the Scientific Method." Conference on New Ideas in History and Science, Northern Illinois University, Dekalb, IL (USA). February 6, 2009 (invited)
72. "On Wave Function Monism in Spontaneous Collapse Theories." Department of History and Philosophy of Science, Indiana University at Bloomington, Bloomington, IN (USA). January 30, 2009 (invited)
73. Comments on Gregory Landini's paper: "Yablo's Paradox and Russellian Propositions." Central States Philosophical Association (CSPA) Meeting, St. Paul, MN (USA). September 26-27, 2008 (invited)
74. Comment on Brad Skow's paper: "Why Does Time Pass?" Bellingham Summer Philosophy Conference, Bellingham, WA (USA). August 3-7, 2008 (invited)
75. "What Does Quantum Physics Say about Time?" Philosophy Department, University of Macerata, Macerata (Italy). May 28, 2008 (invited)
76. Comment on Jeffrey Dunn's paper: "Counterfactual Dependence, Thermodynamics, and the Special Sciences." American Philosophical Association (APA), Central Division Meeting. Chicago, IL (USA). April 17-20, 2008 (invited)
77. Comment on Cian Dorr's paper: "Quantum Mechanics and Space." Metaphysics and Physics Conference, Rutgers University, New Brunswick, NJ (USA). October 26-8, 2007 (invited)
78. "Primitive Ontology and the Structure of Fundamental Physical Theories." Quantum Reality: Ontology, Probability, Relativity, New Brunswick, NJ (USA). October 7-9, 2007 (invited)
79. "On the Common Structure of Quantum Theories without Observers." Department of Philosophy, University of Maryland, College Park, MD (USA). March 21, 2007 (invited)
80. "Pandora's Cat: On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." Philosophy Department, St. Olaf College, Northfield, MN (USA). February 28, 2007 (invited)
81. "Pandora's Cat: On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." Philosophy Department, Northern Illinois University, Dekalb, IL (USA). February 1, 2007 (invited)
82. "Pandora's Cat: On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." Philosophy Department, University of Rochester, Rochester, NY (USA). January 26, 2007 (invited)
83. "Pandora's Cat: On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." Philosophy Department, University of Iowa, Iowa City, IA (USA). January 22, 2007 (invited)
84. "Pandora's Cat: On the Common Structure of Bohmian Mechanics and the Ghirardi-Rimini-Weber Theory." Philosophy Department, Yeshiva College, New York, NY (USA). December 29, 2007 (invited)
85. "Pandora's Cat: On Bohmian Mechanics and the GRW Theory." XXXVI Conference of the Italian Society of History of Physics and Astronomy, Rome (Italy). June 15-17, 2006 (invited)
86. "On the Importance of the Notion of Primitive Ontology." Second School on the Foundations of Physical Theories, Urbino, PU (Italy). July 5-9, 2004 (invited)

87. "Seven Steps toward the Classical World." Mysteries, Puzzles and Paradoxes in Quantum Mechanics Conference, Gargnano, BS (Italy). August 27-September 1, 2001
88. "Decoherence and the Classical Limit of Quantum Mechanics." Quantum Structures V: International Quantum Structures Association Conference, Cesena and Cesenatico, FC (Italy). March 31-April 3, 2001 (invited)
89. "Heavy Ions Reactions at Low Energy." Centenary of the Italian Society of Physics Conference, Como (Italy). June 1997 (invited)

### **B-Grants, Fellowships, Recognitions and Leaves of Absence**

1. Spring 2022: Sabbatical Leave. Research program: "Primitive Ontology, Scientific Realism, Explanation, Laws, and Fundamentality"
2. 2020-2021: Sabbatical Leave. Research program: "Primitive Ontology, Scientific Realism, Explanation, Laws, and Fundamentality" – declined for personal reasons.
3. 2019-2025: Abilitazione Scientifica Nazionale Prima Fascia (Italian National Scientific Certification), Logic and Philosophy of Science, Full Professor Level  
[https://asn18.cineca.it/pubblico/miur/esito/11%252FC2/1/2?fbclid=IwAR340i13FU43pgOKGr3um20gmNnGO\\_uakv-xj1knjUH6\\_8r5Un3bASyzxY](https://asn18.cineca.it/pubblico/miur/esito/11%252FC2/1/2?fbclid=IwAR340i13FU43pgOKGr3um20gmNnGO_uakv-xj1knjUH6_8r5Un3bASyzxY)
4. 2018-2021: Fellow, The John Bell Institute for the Foundations of Physics.  
<https://www.johnbellinstitute.org/>
5. 2017-18: Carl and Lily Pforzheimer Foundation Fellowship at the NHC (National Humanities Center). <https://nationalhumanitiescenter.org/nhc-names-fellows-2017-18/>  
Research Project: "Quantum Mechanics and its Metaphysics: Primitive Ontology, Metaphysical Neutrality, and the Role of the Wave Function in Quantum Theories"
6. 2013- 2014: Sabbatical Leave. Research program: "Determinism, Statistical Explanation and Cosmology"
7. 2012: CLAS NIU Research & Engaged Learning Grant
8. 2009: NSF STS Grant, collaborator. Research program: "Philosophical Implications of the GRW Theory of Wave Function Collapse"
9. 2008: NIU Research and Artistry Award  
Research project: "The Many-Worlds Theory and Relativity: is this a Hoax?"
10. 2007: PRIN Grant, collaborator. Research program: "The Problem of Macro objectification in Quantum Mechanics"
11. 2005-07: 2-years Rutgers Graduate School Teaching Assistantship
12. 2004: Rutgers Travel Award
13. 2002-05: 3-year Rutgers Graduate School Fellowship
14. 1998-2001: 3-year Fellowship, University of Genova, Italy
15. 1998: 1-year Fellowship from Fondazione Fratelli Confalonieri
16. 1990-95: 5-year Fellowship for outstanding students from INPGI ("Istituto Nazionale Previdenza Giornalisti Italiani," National Support Institute for Italian Journalists' Families)

### **Teaching and Related Activities at NIU**

- AY: 2023-24:
  - Fall 2023: Philosophy of Science; Metaphysics of Quantum Mechanics

- AY: 2022-23:
  - Fall 2022: Phil 385: Philosophy and Science Fiction (in person); Phil 385H: Philosophy and Science Fiction Honors (in person); Phil 660A: Philosophy of Science (in person); Phil 695: Independent Study.
  - Spring 2023: Phil 101: Introduction to Philosophy, two sessions (in person)
- AY: 2021-22:
  - Fall 2021: Phil 101: Introduction to Philosophy (online); Phil 464/564: Philosophy of Physics (in person)
  - Spring 2022: sabbatical leave.
- AY 2020-21:
  - Fall 2020: Phil 101: Introduction to Philosophy (two sections, hybrid online)
  - Spring 2021: Phil 101: Introduction to Philosophy (online); Phil 360: Philosophy of Science (online)
- AY 2019-20
  - Fall 2019: Phil 101: Introduction to Philosophy; Phil 385: Philosophy and Science Fiction; Phil 385H: Philosophy and Science Fiction Honors
  - Spring 2020: Phil 101: Introduction to Philosophy; Phil 454: Philosophy of Physics; Phil 545: Philosophy of Physics
- AY 2018-19
  - Fall 2018 Phil 101: Introduction to Philosophy; Phil 360: Philosophy of Science
  - Spring 2019: Phil 101: Introduction to Philosophy; Phil 660A: Philosophy of Science
- AY 2017-18
  - Fall 2017 & Spring 2018: Research Fellowship
- AY 2016-17
  - Fall 2016: Phil 101: Introduction to Philosophy; Phil 385: Philosophy and Science Fiction
  - Spring 2017: Phil 101: Introduction to Philosophy; Phil 465/565: Philosophy of Physics; Phil 495: Senior Capstone
- AY 2015-16
  - Fall 2015: Phil 101: Introduction to Philosophy; Phil 660A: Philosophy of Science
  - Spring 2016: Phil 101: Introduction to Philosophy; Phil 360: Philosophy of Science
- AY 2014-15
  - Fall 2014: Phil 101: Introduction to Philosophy; Phil 385: Philosophy and Science Fiction
  - Spring 2015: Phil 101: Introduction to Philosophy; Phil 691: Special Topics: Paradoxes
- AY 2013-14
  - Fall 2013 & Spring 2014: Sabbatical leave
- AY 2012-13:
  - Fall 2012: Phil 101-2: Introduction to Philosophy; Phil 464/564: Philosophy of Physics
  - Spring 2013: Phil. 101: Introduction to Philosophy (two sections)
- AY 2011-12:
  - Fall 2011: Phil 101-4: Introduction to Philosophy (double section); Phil 205: Symbolic Logic

- o Spring 2012: Phil 390: Contemporary Topics in Philosophy, Philosophy and Science Fiction; Phil 691: Special Topics, Paradoxes
- AY 2010-11:
  - o Fall 2010: Phil 652: Philosophy of Science; Phil 101-2&3: Introduction to Philosophy
  - o Spring 2011: Phil 205: Symbolic Logic; Phil 352: Introduction to Philosophy of Science
- AY 2009-10:
  - o Fall 2009: Phil 352: Philosophy of Science
  - o Spring 2010: Phil 691: Special Topics, Paradoxes; Phil 101-1&2: Introduction to Philosophy
- AY 2008-09:
  - o Spring 2009: Phil 652: Philosophy of Science; Phil 101-3: Introduction to Philosophy
  - o Fall 2008: Phil 405/505: Intermediate Logic; Phil 101-3&4: Introduction to Philosophy
- AY 2007-08:
  - o Fall 2007: Phil 352: Philosophy of Science; Phil 101-5&6: Introduction to Philosophy
  - o Spring 2008: Phil 652: Philosophy of Science; Phil 101-1: Introduction to Philosophy

## **Professional Service**

### ***1-Invited Talks***

Invited talks are listed as 'invited' under "Papers read at Professional Meetings"

### ***2-Editorial Positions***

- *Philosophy Compass* - Philosophy of Science Section Editor  
<https://compass.onlinelibrary.wiley.com/hub/journal/17479991/homepage/editorialboard.html>
- *Philosophy of Physics* – Editor  
<https://philosophyofphysics.lse.ac.uk/about/editorialteam>

### ***3-Other***

#### **Blog Posts:**

1. Syllabus Showcase: "Philosophy of Physics". Blog of the APA  
<https://blog.apaonline.org/2019/03/20/syllabus-showcase-valia-allori-philosophy-of-physics/>
2. "Gravity and the Dark Side of Science" The Institute of Arts and Ideas, iai.tv  
<https://iainews.iai.tv/articles/gravity-and-the-dark-side-of-science-auid-901>
3. "Realismo Scientifico e Meccanica Quantistica: E' la Funzione d'Onda la Radice di Tutti i Mali?" Philosophy Department Blog, University of Urbino, PU (Italy)  
<http://filosofia.uniurb.it/realismo-scientifico-e-meccanica-quantistica-e-la-funzione-donda-la-radice-di-tutti-i-mali/>
4. "How do Gravitational Waves Confirm General Relativity?" The Philosopher's Eye, the Wiley Blackwell philosophy blog  
<https://philosophycompass.wordpress.com/tag/general-relativity/>

#### **Interviews:**

1. Podcast Guest for Daniel and Jorge Explain the Universe, Can Quantum Mechanics Be Deterministic?

[https://open.spotify.com/episode/4Rtqibn1RiWMWo7T5fhBwE?si=\\_x4S4\\_IRQSKeDPaM3\\_n dpA&nd=1](https://open.spotify.com/episode/4Rtqibn1RiWMWo7T5fhBwE?si=_x4S4_IRQSKeDPaM3_n dpA&nd=1)

Also here:

<https://www.iheart.com/podcast/105-daniel-and-jorge-explain-t-29862087/episode/could-quantum-mechanics-be-deterministic-90812934/?embed=true>

2. Interview for “Richard Marshall's Philosophy Interviews after 3:AM”: “Quantum Physics, the Wavefunction and Realism”  
<https://316am.site123.me/articles/quantum-physics-the-wavefunction-and-realism?c=end-times-series>
3. Interview for the article “The return of the aether” Brendan Foster, *New Scientist* 244 (3254) November 2019: 32-35
4. “Rolling Stone Magazine - Italia” (in Italian)
5. “La Soglia Oscura” (in Italian)  
Part 1:  
<http://www.sogliaoscura.org/la-fisica-e-il-paranormale-1-parte-a-confronto-con-un-fisico/http://www.sogliaoscura.org/int-fisica1.html>, and  
Part 2:  
<http://www.sogliaoscura.org/la-fisica-e-il-paranormale-2-parte-a-confronto-con-un-fisico/http://www.sogliaoscura.org/int-fisica1.html>

Discussant at the following conferences:

1. Foundations of Quantum Mechanics Seminar. Northeastern University, Boston MA (USA). March 27, 2020 – cancelled due to COVID-19. Rescheduled for May 13<sup>th</sup>, 2022.
2. New Directions in the Foundations of Physics Conference. Viterbo (Italy). June 8 - 10, 2018
3. Rutgers-Columbia Workshop on Metaphysics of Science: Quantum Field Theories. Rutgers, New Brunswick, NJ (USA). May 17-18, 2018
4. 2017 Society for the Metaphysics of Science Conference. Fordham University, New York, NY (USA). Oct 5-7, 2017
5. 14<sup>th</sup> New Direction in the Foundations of Physics Conference, Washington DC (USA). April 24-26, 2015
6. “Metaphysics Meets Philosophy of Physics in Rochester.” University of Rochester, Rochester, NY (USA). September 12-13, 2014
7. 9<sup>th</sup> New Direction in the Foundations of Physics Conference, Washington DC (USA). April 30-May 2, 2010
8. Quantum Mechanics and the Nature of Physical Reality Conference, Sexten, BZ (Italy). July 22-25, 2009
9. Philosophical Foundations of Statistical Mechanics Workshop, Rutgers University, New Brunswick, NJ (USA). May 13-15, 2009
10. 8<sup>th</sup> New Direction in the Foundations of Physics Conference, Washington DC (USA). May 1-3, 2009
11. Philosophy of Gauge Theory Workshop. University of Pittsburgh, Pittsburgh, PA (USA). April 18-19, 2009
12. Illinois Philosophical Association Meeting, Dekalb, IL (USA). November 7-8, 2008

13. 7<sup>th</sup> New Direction in the Foundations of Physics Conference, College Park, MD (USA). April 25-27, 2008
14. 6<sup>th</sup> New Direction in the Foundations of Physics Conference, College Park, MD (USA). April 25-27, 2007
15. Philosophy of Physics: Descrying the World in Physics Summer School, Central European University, Budapest (Hungary). July 3- 14, 2006
16. 4<sup>th</sup> New Direction in the Foundations of Physics Conference, College Park, MD (USA), April 29-May 1, 2005
17. Descrying the World in Physics Conference, Rutgers University and Columbia University, New Brunswick, NJ and New York, NY (USA). April 21-23, 2005
18. Quantum Theories without Observers II Conference, Bielefeld (Germany). February 2-6, 2004
19. ISI Foundation's Quantum Computing Euro-Workshop, Turin (Italy). February 2000
20. Chance in Physics: Foundations and Perspectives Conference, Ischia, NA (Italy). November 29-December 3, 1999
21. VIII National Seminar in Theoretical Physics, Parma (Italy). August 30-September 10, 1999
22. 8<sup>th</sup> International Conference on Nuclear reaction Mechanism, Varenna, CO (Italy). June 4-9, 1997