

Sebastián Murgueitio Ramírez

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Curriculum Vitae

Specialization

AOS Philosophy of Physics, Metaphysics of Science, Philosophy of Science
AOC Metaphysics, HOPOS

Academic Appointments

2025 (June) – PRESENT **Assistant Professor**, Princeton University, Philosophy Department
2022-2025 (June) **Assistant Professor (tenured approved April 2025)**, Purdue University, Philosophy Department.
2021-2022 **Postdoctoral Research Fellow**, University of Oxford, Faculty of Philosophy.

Education

2015-2021 **Ph.D. in History and Philosophy of Science**, University of Notre Dame.
Dissertation **On the Empirical Significance of Physical Symmetries.**
Committee: Anjan Chakravartty (advisor), Nicholas J. Teh (advisor), Don Howard, Daniel Nolan, David Wallace (external).
2017-2020 **Masters in Physics**, University of Notre Dame.
2009-2014 **BS in Physics**, Universidad de los Andes, Thesis: Weak Measurements and Backward Causation.
Supervisor: Alonso Botero.
2009-2014 **BA in Philosophy**, Universidad de los Andes, Thesis: Phil Dowe's Causation Theory and the problem of negative causation.
Supervisor: Andrés Páez

Publications

Note: An asterisk (*) next to a name indicates the first author. If no asterisk is present and there are multiple authors, equal contribution should be assumed.

Peer-Reviewed Journal Articles

1. Himelright, J., & Murgueitio Ramírez, S. (forthcoming). What in the world are 4D shapes? *Noûs*.
2. Murgueitio Ramírez, S. (forthcoming). Symmetry without empirical equivalence: the case of a falling apple. *Philosophy of Science*. Preprint: <https://philsci-archive.pitt.edu/id/eprint/30331>
3. Murgueitio Ramírez, S. (2026, online first). Implicit and formal symmetries. *Philosophy of Science*, 1-10. <https://doi.org/10.1017/psa.2026.10239>
4. Murgueitio Ramírez, S. (2025). Galileo's ship and the relativity principle. *Noûs*, 59, 585-611. <https://doi.org/10.1111/nous.12524>
5. Himelright, J., & Murgueitio Ramírez, S. (2025). Getting back into shape: persistence, shape, and relativity. *Philosophy and Phenomenological Research*, 110, 75-96. <https://doi.org/10.1111/phpr.13092>
6. Murgueitio Ramírez, S., & Teh, N. (2025). Abandoning Galileo's ship: the quest for non-relational empirical significance. *The British Journal for the Philosophy of Science*, 76:2, 397-420 <https://doi.org/10.1086/718494>
7. Murgueitio Ramírez, S. (2024). Symmetries and measurement. *Philosophy Compass*, e13006. <https://doi.org/10.1111/phc3.13006>
8. Murgueitio Ramírez, S. (2024). On symmetries and springs. *Philosophy of Science*, 91(4):831-850. <https://doi.org/10.1017/psa.2023.170>
9. Hall, G., & Murgueitio Ramírez*, S. (2024). Symmetries and representation. *Philosophy Compass*, e12971. <https://doi.org/10.1111/phc3.12971>
10. Murgueitio Ramírez*, S., Read*, J.A.M., & Páez, A. (2023, online first). Causation and the conservation of energy in general relativity. *The British Journal for the Philosophy of Science*. <https://doi.org/10.1086/727030>
11. Galison*, P., Doboszewski, J., Elder, J., Martens, N.C.M., Ashtekar, A., Enander, J., Gueguen, M., Kessler, E.A., Lalli, R., Lesourd, M., Marcoci, A., **Murgueitio Ramírez, S.**, Natarajan, P., Nguyen, J., Reyes-Galindo, L., Ritson, S., Schneider, M.D., Skulberg, E., Sorgner, H., Stanley, M., Thresher, A.C., Van Dongen, J., Weatherall, J.O., Wu, J., & Wüthrich, A. (2023, online first). The Next Generation Event Horizon Telescope Collaboration: History, Philosophy, and Culture. *Galaxies*, 11. <https://doi.org/10.3390/galaxies11010032>
12. Murgueitio Ramírez, S. (2022). A puzzle concerning local symmetries and their empirical significance. *The British Journal for the Philosophy of Science*, 73(4), 1021-1044. <https://doi.org/10.1086/714794>

13. Middleton, B., & Murgueitio Ramírez, S. (2020). Measuring Absolute Velocity. *Australasian Journal of Philosophy*, 99(4), 806–816.
<https://doi.org/10.1080/00048402.2020.1803938>
14. Murgueitio Ramírez, S. (2020). Separating Einstein's Separability. *Studies in the History and Philosophy of Modern Physics*, 72, 138–149.
<https://doi.org/10.1016/j.shpsb.2020.10.001>
15. Calderón-Losada*, O., Moctezuma Quistian, T.T., Cruz-Ramirez, H., **Murgueitio Ramírez**, S., U'Ren, A.B., Botero, A., & Valencia, A. (2020). A weak values approach for testing simultaneous Einstein-Podolsky-Rosen elements of reality for non-commuting observables. *Communications Physics*, 3(1), 117-124. <https://doi.org/10.1038/s42005-020-0378-3>

Invited Articles and Chapters

16. Murgueitio Ramírez, S. (2024). Sobre barcos, pelotas de tenis y relatividad [On ships, tennis balls and relativity]. In A. F. López López & C. A. Guerra Villa (Comps.), *Materiales y ensayos de filosofía de la ciencia y del conocimiento* [Works and essays in the philosophy of science and epistemology]. Universidad de San Buenaventura Press.
<https://hdl.handle.net/10819/29881>
17. Murgueitio Ramírez, S. (2022). On how *Epistemological Letters* changed the foundations of quantum mechanics. In O. Freire (Ed.), *Oxford handbook of the history of interpretations and foundations of quantum mechanics* (Chap. 30, pp. 755–775).
<https://academic.oup.com/edited-volume/43513/chapter-abstract/364217482>

Books

18. Murgueitio Ramírez, S. (2019). *Física Paso a Paso*, Universidad de los Andes press, 735 pages. ISBN: 9587747003.
<https://ediciones.uniandes.edu.co/library/publication/fisica-paso-a-paso-mas-de-100-problemas-resueltos-1659479318>

Book Reviews

19. Brading, K., Murgueitio Ramírez, S., & Wells, L. (2017). One hundred years of general relativity. *Metascience*, 26(1), 49–57.
<https://doi.org/10.1007/s11016-016-0153-y>

Public Pieces

Murgueitio Ramírez, S. (2025, March 20). Galileo, Einstein, and the unexpected origins of relativity. IAI News. <https://iai.tv/articles/galileo-einstein-and-the-unexpected-origins-of-relativity-auid-3117>

Presentations

Peer Reviewed

- 2026 (July) Asian Philosophy of Science Association, Nanyang Technological University, School of Humanities, Singapore
Seeing from Somewhere (with Eugene S. Chua)
- 2026 (May) Society for the Metaphysics of Science Conference, Toronto, CA
Seeing from Somewhere
- 2025 (Aug.) European Philosophy of Science Association, Groningen, the Netherlands
Seeing from Somewhere: On Variance and Reality (with Eugene S. Chua)
- 2025 (July.) Society for the Metaphysics of Science Conference, Lugano, Switzerland
Rethinking Symmetries: A Basic Counterexample to Two Key Theses
- 2025 (July) British Society for the Philosophy of Science, University of Glasgow, UK
Revisiting the Kepler Problem
- 2024 (Nov.) Philosophy of Science Association Biennial Meeting, New Orleans, USA
A defense of formal definitions of symmetries.
- 2024 (Aug.) Society for the Metaphysics of Science Conference, Held Online
On the Galilean Relativity Principle
- 2024 (May.) Space, Time, and Location, Part II, University of California, Davis, USA
Getting Back in Shape: Persistence, Shape and Relativity (with Jack Himelright).
- 2024 (Mar.) American Philosophical Association (Pacific Division), Portland, USA
Galilean Relativity, Symmetries, and Harmonic Motion.
- 2023 (Aug.) Society for the Metaphysics of Science Conference, Halifax, CA
Dynamical Structures and Geometrical Dispositions.
- 2022 (Nov.) Philosophy of Science Association Biennial Meeting, Pittsburgh, USA
Three Puzzles about symmetries.
- 2022 (Nov.) Society for the Metaphysics of Science Conference, Bristol, UK
Two Notions of Symmetries (presented over Zoom).
- 2021 (Nov.) Philosophy of Science Association Biennial Meeting, Baltimore, USA
Symmetry and Detectability as Physical Concepts (with A. Holmes, Q. Wu, N. Teh, O. Traldi).

- 2021 (July) British Society for the Philosophy of Science, University of Kent, UK
On Symmetries, Models, and Representation.
- 2019 (June) Philosophy of Logic, Mathematics, and Physics Graduate Conference, Western University, Canada.
What is separability ... and what is not?
- 2018 (Nov.) Philosophy of Science Association Biennial Meeting, Seattle, USA
Separating Separability
- 2018 (Aug.) 4th Society for the Metaphysics of Science Conference, Milan, Italy
Defending Nomologically Impossible Dispositions.
- 2018 (May) Fifth Colombian conference on Logic, Epistemology and Philosophy of Science (ALFAn V - PHILOGICA V), Villa de Leyva, Colombia
What is “separability” in quantum mechanics and how was it used by Einstein?
- 2017 (March) Pitt-CMU Graduate Student Philosophy Conference, Pittsburgh, USA
Problems for a counterfactual theory of causation by omission
- 2014 (Feb.) Third Colombian Conference on Logic, Epistemology, and Philosophy of Science, Bogotá, Colombia
Beebe and Dowe on the Problem of Negative Causation
- 2014 (Aug.) International Workshop on Quantum Coherence and decoherence II (IWQCDII), Medellín, Colombia
Coupling the continuous and discrete variables of photons: Applications to weak measurements and decoherence (presented by Juan Rafael Alvarez)

Invited

- 2026 (July) Coloquio Permanente de Investigación (Conocimiento, Filosofía, Ciencia, Historia y Sociedad), Instituto de Filosofía, Universidad de Antioquia, Colombia
Una introducción a la filosofía de la física desde las simetrías (concluding lecture of the course “Filosofía de la Física”, organized by the Institutes of Physics and Philosophy; presented online in Spanish)
- 2025 (May) 100 años de la cuántica. Un Legado que construye futuro. Universidad de los Andes, Colombia
Reflexiones Históricas y Filosóficas sobre la Mecánica Cuántica.
- 2025 (May) Physics Seminar, Universidad de los Andes, Colombia.
Aspectos Filosóficos y Físicos del Principio de Relatividad.
- 2025 (April) Quantum Science Center Summer School. Purdue University, US
Quantum Puzzles: Historical Insights and Philosophical Reflections.

- 2025 (Feb.) Philosophy Colloquium, Princeton University, US
On Symmetries and Observations
- 2025 (Jan.) Philosophy Colloquium, University of Southern California, US
On Symmetries and Observations
- 2024 (Sep.) Repensando la Física desde la Filosofía y la Enseñanza (rethinking physics through philosophy and pedagogy), UNAM, Ciudad de México, México
On the physics, philosophy, and history of the principle of relativity.
- 2024 (Sep.) Seminar, UNAM, Ciudad de México, México
Causation and the Conservation of Energy in General Relativity
- 2023 (Nov.) Seminar, University of Notre Dame, South Bend, US
Some Reflections on the principle of relativity
- 2023 (Nov.) Seminar, Pembroke College, University of Oxford, UK
Symmetries and Measurements
- 2023 (April) Philosophy Colloquium, University of Missouri, St Louis, US
Dynamical Structures and Geometrical Dispositions
- 2023 (April) Fourteenth Meeting of the Saint Louis Area Philosophy of Science Association, Southern Illinois University, Edwardsville, US
Dynamical Symmetries Do not Explain That Much
- 2023 (April) Two Days of History and Epistemology of the Foundations of Quantum Mechanics, Paris, France
On how Epistemological Letters changed the foundations of quantum mechanics
- 2022 (Oct.) Black Hole Initiative Foundations Seminar, Harvard University, USA
Causation and the Conservation of Energy in General Relativity
(presented over Zoom)
- 2021 (Nov.) Physics Colloquium, Universidad de los Andes, Colombia
On how Epistemological Letters changed the foundations of quantum mechanics
(presented online and in Spanish)
- 2021 (Oct.) Philosophy of Physics Seminar, University of Oxford, UK
On Symmetry and Representation
- 2020 (Nov.) Max Planck Institute for the History of Science, Berlin, Germany
(presented online)
On how Epistemological Letters changed the foundations of quantum mechanics

Teaching

2026 (Fall) Graduate Seminar: Philosophy of Symmetries, Philosophy Department, Princeton University

2025 (Fall) Junior Seminar (Topic: Laws of Nature), Philosophy Department, Princeton University

2025 (Spring) Philosophy of Science, College of Liberal Arts, Purdue University

2025 (Spring) Introduction to Philosophy of Science, College of Liberal Arts, Purdue University

2024 (Fall) SCLA 101, Cornerstone Integrated Liberal Arts, Purdue University

2024 (Fall) SCLA 101 (Honors), Cornerstone Integrated Liberal Arts, Purdue University

2024 (Spring) Graduate Seminar: Philosophy of Space from Aquinas to Einstein (with Jeff Brower), College of Liberal Arts, Purdue University

2024 (Spring) Introduction to Philosophy of Science, College of Liberal Arts, Purdue University

2023 (Spring) Philosophy of Science, College of Liberal Arts, Purdue University

2023 (Spring) Introduction to Philosophy of Science, College of Liberal Arts, Purdue University

2022 (Fall) SCLA 101, Cornerstone Integrated Liberal Arts, Purdue University - Two Sections

2022 (Spring) Graduate Supervisor, Faculty of Philosophy, University of Oxford

2021 (Fall) Retained Lecturer, Philosophy of Science, Pembroke College, University of Oxford

2021 (Fall) Graduate Supervisor, Faculty of Philosophy, University of Oxford

2021 (Spring) TA, Introduction to Metaphysics and Epistemology (Jeff Speaks), University of Notre Dame

2018 (Spring) Primary Instructor, The Ethics of Emerging Weapons and Technologies, University of Notre Dame (I taught 21 of the 29 classes, Maj. Gen. Robert H. Latiff taught the remaining 8)

2017 (Summer) TA, Leadership Seminar, Science Ethics and Responsibility (Pre-college program), University of Notre Dame

2017 (Spring) TA, The Ethics of Emerging Weapons and Technologies (Fritz Allhoff), University of Notre Dame

2015 (Spring) Primary Instructor, Physics 1 Problems Session, Universidad de los Andes

2014 (Fall) Primary Instructor, Supplementary Session for Physics 1, Universidad de los Andes

2014 (Fall) Primary Instructor, Supplementary Session for Physics 2, Universidad de los Andes

2012 (Spring) TA, Logic 1 (Tomás Barrero), Universidad de los Andes

Public Work

2020-2022 Main founder of the startup Studia.app (www.studia.app), an open-access platform for students to learn introductory college physics (mechanics, fluids, thermodynamics and circuits). My role involved: creating hundreds of physics problems, writing detailed solutions, making illustrations, developing the website, and raising funding (\$30,000 in total). Thousands of students have used the platform since its creation (it is still being used and it is of free access). The team consisted of Sebastián Murgueitio Ramírez, Stacy Sivinski, and Leonardo Uribe Castaño (I was the CEO).

Awards and Scholarships

2023 Purdue ASPIRE Research Enhancement Grant, (\$2706)

2023 Purdue ASPIRE Research Enhancement Grant, (\$1580)

2022 Purdue ASPIRE Research Enhancement Grant, (\$1500)

2021 Eli J. and Helen Shaheen Graduate School Award in the Humanities, University of Notre Dame. Note: awarded to the best graduate student in the humanities graduating on the corresponding year.

2021 Sloan Prize, HPS Program, University of Notre Dame. Note: awarded to the best graduate student in the History and Philosophy of Science program that year.

2019 Luksic Family Collaboration Grant (\$8494) for the project “Aid Digital Transformation at Bibliotecas UC Pontificia Universidad Católica de Chile through complementary on-site Training and Consultation work” (project in collaboration with a team led by Natalie Meyers)

2018 Graduate Student Union Conference Presentation Grant (\$250), University of Notre Dame

2018 Notebaert Professional Development Award (\$1, 809.00), University of Notre Dame

2018 Notebaert Professional Development Award (\$1, 315.00) (Declined), University of Notre Dame

2014 Best Score in the Colombian National Higher Education Exam (“Saber Pro”) for physics

2013 Semestral Excellence Distinction, Universidad de los Andes

2009 Alberto Magno Scholarship (80% of the tuition of the first semester), Universidad de los Andes

Professional Development

2024 (Spring) Participant of the Faculty Success Program organized by the National Center for Faculty Development and Diversity (sponsored by the College of Liberal Arts at Purdue University). This is a 10-week program, requiring an average of 4 hours per week.

- 2018 Pedagogy Workshop (one-credit course), University of Notre Dame
- 2018 (June) Participant of the XXI International Summer School in Philosophy of Physics (on the philosophy of Quantum Field Theory), Urbino, Italy
- 2018 (July) Participant of the First Biennial Midwest Summer School in Philosophy of Physics, Chicago, USA
- 2017-2018 Ethical Leaders in STEM, National Science Foundation (\$1400), University of Notre Dame
- 2017 (June) Participant and presenter of a poster at the Solstice of Foundations, Quantum Foundations Summer School, ETH, Zurich. Poster: On the preparation independence assumption in the PBR theorem.
- 2016 Participant and presenter of a poster at the International Summer Institute in Philosophy of Physics on the Philosophy of Quantum Gravity, Williams Bay, Wisconsin, USA. Poster: On the PBR theorem

Professional Service

Service to Princeton University

- Round 1 Reviewer for Grad Student Applicants
- I participated in the Department's Climate Meeting (Dec 2nd).
- I participated as a panelist in "How to Get the Most Out of Graduate School" for one of the professionalization meetings organized by Liz Harman (October).

Service to Purdue University

- 2024 - 2025 University Senator.
- 2023 - 2024 Colloquium Organizer for the Philosophy Department.
- 2023 (Fall) Gave a talk at Purdue's Philosophy Club.
- 2023 (Spring) Mentor to a Colombian student in the Big Siblings Program (this is a program in which a graduate student, staff, or faculty member from Purdue will act as a mentor to Colombian students coming to Purdue as visitor scholars). Around one meeting per month with the student.
- 2022 - 2023 Senator for CLA for the academic year.

Service to the profession

- Referee *American Journal of Physics, Analysis, Ergo, Erkenntnis, European Journal for the Philosophy of Science, Foundations of Physics, Pacific Philosophical Quarterly, Philosophical Quarterly, Philosophical Review, Philosophical Studies, Studies in History and Philosophy of Modern Physics, Studies in History and Philosophy of Science, Studies in the*

History and Philosophy of Modern Science, Synthese, The British Journal for the Philosophy of Science, and Theoria.

- 2024 (May.) External Reviewer and Chair of Fathima Afra M. Akram's Master's dissertation "Philosophical Perspectives on the Principle of Least Action", Bilkent University (through Zoom).
- 2023 (Aug.) Paper commentator in the 2023 Society for the Metaphysics of Science Conference, Halifax. Comments on Marissa Bennet and Michael Miller's paper "The Conventionality of Real Valued Quantities"
- 2022 - 2023 Co-organizer of a Philosophy of Physics reading group through Zoom (with scholars from the University of Nebraska).
- 2020 (Dec.) Translator for "Ruby's Laboratory Manual" (English to Spanish). *This is a science lab manual for children ages 5-10 old, designed by anthropology professor Cara Ocobock, with the goal of helping parents and children during the COVID-19 pandemic* (<https://sites.nd.edu/cara-ocobock/outreach/rubys-laboratory-manual/>).
- 2020 (July) Discussion Section Leader in the (virtual) Second Biennial Midwest Summer School in Philosophy of Physics
- 2019 (Nov.) Paper commentator in the 5th Society for the Metaphysics of Science Conference, Toronto. Comments on Michael Miller's paper "Wordly imprecision"
- 2018-2020 Digitized and edited all 36 issues of the journal *Epistemological Letters* (www.curate.nd.edu/show/ks65h992w12).
- 2018 (Fall) Co-organizer of *The Philosophy and Physics of Noether's Theorems* (a Centenary Conference on the 1918 work of Emmy Noether), University of Notre Dame at London.
- 2017 (Aug.) Paper commentator at the 3rd Society for the Metaphysics of Science Conference, New York
- Comments on Baptiste Le Bihan's paper "All the way down into the non-spatial"

Service to the University of Notre Dame

- 2018-2019 Member of the *Departmental Climate Committee, University of Notre Dame*.
- 2017-2019 Mentor in the Undergraduate Mentorship in the Philosophy and Minorities Program, University of Notre Dame.
- 2018 (Spring) Organizer of the *First Graduate Student Conference on Philosophy of Physics*, University of Notre Dame.

Languages

Spanish	Native
English	Fluent
French	Reading (intermediate)

References

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