BRENO ARSIOLI MOURA

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RESEARCH INTERESTS

History of Optics
History of Electricity
Eighteenth-Century Natural Philosophy
Iconography
Translation Studies

EDUCATION

University of São Paulo, Brazil
PhD in Sciences (2009-2012)
Dissertation: *Critical and Transformative Education of Physics Teachers: A Proposal from the History of Science*
Master of Science (2006-2008)
Thesis: *The Acceptance of Newtonian Optics in the Eighteenth Century: Elements to Introduce NOS in Science Teaching*

State University of Campinas, Brazil
Bachelor of Science (2002-2005), Major: Physics

PROFESSIONAL EXPERIENCE

Federal University of ABC (UFABC), Brazil (2013-present)
Assistant Professor of History of Science, Level III (tenured)
Coordinator of the Physics Undergraduate Program (2016-2018)
Member of the Council of the Graduate Program in Teaching and History of Sciences and Mathematics (2015-2018; present)
Member of UFABC's Undergraduate Council (2016-2018)

Revista Brasileira de História da Ciência (Brazilian Journal of History of Science) (2020-present)
Editor-in-Chief

A Física na Escola (Physics in School), Brazil (2016-2020)
Adjunct Editor of *History of Science*

Laboratoire SPHere, Université Paris 7/CNRS, France (2020)
Visiting Scholar

Department of History, University of California (Berkeley), USA (2014-2015)
Visiting Scholar

Federal University of the Minas Gerais Triangle (UFTM), Brazil (2010-2013)
Assistant Professor of Physics Teaching, Level I

Coordinator of the Physics Undergraduate Program (2011-2012)
Member of UFTM's Undergraduate Council (2011-2012)

Federal University of Alfenas (UNIFAL), Brazil (2009-2010)
Assistant Professor of Physics Teaching, Level I

TEACHING EXPERIENCE

Federal University of ABC, Brazil	**Graduate courses:** *Historiography and Philosophy of Science and Mathematics* *Topics in History and Philosophy of Science and Mathematics* **Undergraduate courses:** *Evolution of Physics* *Birth and Development of Modern Science* *Scientific Education, Society and Culture* *History and Philosophy of Science and Science Teaching* **Public courses:** *Alternative perspectives on Isaac Newton's works* *Historical Texts to Teach Scientific Concepts* *Nature of Science for Science Education* *Introduction to Isaac Newton's Studies on Light and Colors*
Federal University of Minas Gerais Triangle, Brazil	**Undergraduate courses:** *Foundations of Physics* *Introduction to Science* *Study and Development of Projects IV* *Study and Development of Projects V*
Federal University of Alfenas, Brazil	**Undergraduate courses:** *History of Physics* *Laboratory of Physics Teaching I* *Laboratory of Physics Teaching II*

RECENT ADVISING EXPERIENCE

R. Siqueira (2019-present), *PhD student – Graduate Program in Teaching and History of Science and Mathematics.*

F. M. Damasceno (2018-present), *Master's degree student – Graduate Program in Teaching and History of Science and Mathematics.*

Former advisor of six graduate students, all of whom successfully completed their theses and obtained a Master's Degree in Teaching and History of Science and Mathematics or in Physics Teaching.

Conferences (chaired)

2018	Fourth Latin-American Regional Conference of the International History, Philosophy and Science Teaching Group (IHPST), Santo André, Brazil. Accessible at: http://ihpst.net/content.aspx?page_id=22&club_id=360747&module_id=187166

Papers and Book Chapters in English

Forthcoming	"The Problem of Reflection in Eighteenth-Century Projectile Optics." *Physics in Perspective.*
2020	"The First French Translation of Book II of Newton's Opticks: Omissions, Abridgements and Quest for Authorship." *Notes and Records of the Royal Society.* https://doi.org/10.1098/rsnr.2020.0029. Print forthcoming.
2018	"Newtonian Optics and the Historiography of Light in the 18th Century: A Critical Analysis of Joseph Priestley's The History of Optics." *Transversal – International Journal for the Historiography of Science* 5: 157-170. http://dx.doi.org/10.24117/10.24117/2526-2270.2018.i5.12.
2018	"Critical and Transformative Education of Teachers: A Rationale for History and Philosophy of Science in Teacher Education." In M.E.B. Prestes & C.C. Silva (eds.). *Teaching Science in Context: Historical, Philosophical, and Sociological Approaches.* Springer: Dordrecht. https://doi.org/10.1007/978-3-319-74036-2_1. Co-author: C.C. Silva.
2012	"Science and Society: The Case of Acceptance of Newtonian Optics in the Eighteenth Century." *Science & Education* 21: 1317-35. https://doi.org/10.1007/s11191-011-9380-1. Co-author: C.C. Silva.

Opinion Piece in English

2020	"Franklin and the Kite: What Can We Learn From This Episode?" *HPS&ST Newsletter*, September Issue. Accessible at: https://www.hpsst.com/uploads/6/2/9/3/62931075/2020septoped.pdf.

Books in Portuguese (titles in English)

In progress	*Finding the Nature of Light: A Singular History of Optics from the Seventeenth to the Nineteenth Century.* Due to be published in 2022.
2019	*Benjamin Franklin's Natural Philosophy: Translations of Essays and Papers on Electricity and Light.* São Bernardo do Campo: EdUFABC. Honorable Mention in the Brazilian Association of University Publishers (ABEU) 2020 Prize, category "Translation".
2019	*Humanistic Objectives, Scientific Contents: Contributions to History and Philosophy of Science to Science Teaching.* Campina Grande: EDUEPB. Co-edited with A.P.B. Silva.
2017	*History of Science, Epistemology, Gender and Art: Essays for Teacher Education.* São Bernardo do Campo: EdUFABC. Co-edited with T.C.M. Forato.

PAPERS IN PORTUGUESE (titles in English)

Forthcoming	"Thomas Melvill's 'Observations on Light and Colours': An Annotated Translation." *Caderno Brasileiro de Ensino de Física.*
Forthcoming	"Stars, Light and Black Bodies in the Eighteenth Century: An Annotated Translation of John Michell's (1724-1793) Paper." *Revista Brasileira de História da Ciência.* Co-authors: A.P.B. Silva and T.R.M. Medeiros.
2020	"Estevão Cabral (1734-1811) against Newton: Notes on his Unpublished Memoir on the Nature of Light." *Khronos – Revista de História da Ciência* 9: 204-215. http://dx.doi.org/10.11606/khronos.v0i9.170754.
2018	"Benjamin Franklin's Contributions to the Eighteenth-Century Electricity." *A Física na Escola*, 16, no. 2: 27-35.
2016	"Vibration Theories of Light in Eighteenth-Century Great Britain." *Scientiae Studia*, 14, no. 2: 333-56. http://dx.doi.org/10.11606/S1678-31662016000200003.
2016	"Newton vs. Huygens: How the Dispute Between their Theories of Light (have not) Occurred." *Caderno Brasileiro de Ensino de Fïsica*, 33, no. 1: 111-41. http://dx.doi.org/10.5007/2175-7941.2016v33n1p111.
2015	"Thomas Young and The Recovering of the Wave Theory of Light: An Annotated Translation of his 'On the theory of light and colours'." *Revista Brasileira de Ensino de Física*, 37, no. 4: paper n° 4203. http://dx.doi.org/10.1590/S1806-11173731818. Co-author: S.L.B. Boss.
2015	"Voltaire and Algarotti: Diffusers of Newtonian Optics in Eighteenth-Century Europe." *Scientiae Studia*, 13, no. 2: 397-423. http://dx.doi.org/10.1590/S1678-3166201500020000707. Co-author: C.C. Silva.
2014	"Isaac Newton and the Double Refraction of Light." *Revista Brasileira de Ensino de Física*, 36, no. 4: paper n° 4602. https://doi.org/10.1590/S1806-11172014000400021.
2014	"What is the Nature of Science and What is its Relation with History and Philosophy of Science?" *Revista Brasileira de História da Ciencia*, 7, no. 1: 32-46.
2008	"Did Newton Anticipate the Concept of Wave-Particle Duality of Light?" *Latin American Journal of Physics Education*, 2, no. 3: 218-227.

SELECTION OF PAPERS PRESENTED AT INTERNATIONAL CONFERENCES

2019	"The problem with reflection in eighteenth-century projectile optics." *European Society for the History of Science First Young Scholars Conference*, Paris, France.
2018	"Contextual reading of primary sources: a proposal for university classes of history of science." *XI International Conference on History of Science and Science Education*, Campina Grande, Brazil.
2017	"Thomas Melvill and the hanging drop: a study of his short career on optics." *25th International Congress of History of Science and Technology*, Rio de Janeiro, Brazil.

2016	"The resistance to Newtonian Optics in eighteenth century: what did the opponents say?" *3rd Biennial Early Career Conference for Historians of the Physical Sciences*, Annapolis, USA.
2016	"The changing role of Newton's fits in the eighteenth century: social and cultural factors for the rejection of a theory." *1st European Regional History, Philosophy and Science Teaching Group (IHPST) Conference*, Flensburg, Germany.
2015	"The concept of repulsion in eighteenth-century projectile theories of light: a critical analysis." *Évora 6th Symposium in Philosophy and History of Science and Technology*, Évora, Portugal.
2015	"Joseph Priestley and *The History of Optics*: historiography for Science Education." *13th International History, Philosophy and Science Teaching Group (IHPST) Conference*, Rio de Janeiro, Brazil.
2009	"Mechanical models for light in the eighteenth century: enhancing physics teachers' views of Nature of Science." *GIREP-EPEC 2009 International Conference*, Leicester, UK.

RECENT INVITED TALKS IN PORTUGUESE (titles in English)

"Experimental Practices in Science: Glimpses from History" (online), **Lecture Cycle "Why Trust in Science?,"** University of São Paulo, 2020.
Accessible at: https://youtu.be/DzoVBxrS_6E.

"Isaac Newton's Quarantine: Truths and Lies" (online), **National Physics Day**, Federal University of Minas Gerais Triangle, 2020.
Accessible at: https://youtu.be/zIH5iFlHBQQ.

"Is the Historiography of Science Also Mutable?" (online), **Filosofísica,** University of São Paulo, 2018.
Accessible at: https://youtu.be/2i36oJQ7kKY.

"Benjamin Franklin's Conceptions of Electricity", **Third Physics Week,** Federal Institute of Education, Science and Technology of Goiás, 2018.

"Did Newton propose a corpuscular theory of light?", **Colloquium of Physics**, Federal University of ABC, 2016.

GRANTS AND FELLOWSHIPS

São Paulo Research Foundation (Fellowship), to conduct research on the history of optics in France and Portugal at the Université Paris 7/CNRS (Paris) from January to March 2020. Fellowship #2018/21711-6.

São Paulo Research Foundation (Travel Grant), to conduct research in the archives of the Library of the Royal Society of London in September 2018. Grant #2018/12578-0.

Brazilian National Council for Scientific and Technological Development (Grant), to conduct the research project "The Nature of Light from Newton to Young: A Study of Optics between the Seventeenth and Nineteenth Centuries" from June 2017 to May 2020. Grant #400118/2016-5.

American Institute of Physics (Travel Grant), to attend the Early-Career Historians of the Physical Sciences Conference, hosted by the Center for History of Physics of the American Institute of Physics (AIP) in Annapolis, Maryland, in April 2016.

São Paulo Research Foundation (Fellowship), to conduct research on the history of optics in Great Britain and the United States of America at the University of California (Berkeley) from September 2014 to January 2015. Fellowship #2014/04366-2.

São Paulo Research Foundation (Scholarship), to conduct research on the history of optics in Great Britain during my Master's degree in Sciences from September 2006 to August 2008. Scholarship # 2006/02410-8.

São Paulo Research Foundation (Scholarship), to conduct research on Isaac Newton's *Opticks* from July 2004 to December 2005. Scholarship # 2004/03131-0.

PROFESSIONAL MEMBERSHIPS

History of Science Society (HSS)
Brazilian Society for the History of Science (SBHC)
International History, Philosophy and Science Teaching Group (IHPST)

LANGUAGES

Portuguese – Native speaker
English – Advanced (Reading, Writing, Speaking, Listening)
French – Intermediate (Reading, Writing, Speaking, Listening)
Spanish – Intermediate (Reading); Beginner (Writing and Speaking)
Italian – Beginner (Reading)