### **Curriculum Vitae**

# Jaume Navarro, PhD

Ikerbasque Research Professor

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### **Education:**

- **PhD in History of Physics** (1998) Summa cum Laude at the *Universitat Autònoma de Barcelona*. Dissertation title: "Cap al naixement d'una nova disciplina: el descobriment de noves partícules elementals i la seva contextualització abans de la segona Guerra Mundial, 1932-1939"; ['Towards a new discipline: the discovery of new elementary particles and their context before World War II (1932-1939)'].
- **MPhil in Theoretical Philosophy** (2002) at the *Universitat de Barcelona*.
- **Licentiate in Philosophy** (2000) at the *Universidad de Navarra*.
- **BA in Philosophy** (1998) at the *Universidad de Navarra*.
- **MPhil in History of Science** (1996) at the *Universitat Autònoma de Barcelona*.
- **BS in Physics** (1993) at the *Universitat Autònoma de Barcelona*.
- International Baccalaureate (1988).
- Primary School at the English School in Barcelona.

# **Academic / Teaching Experience:**

**2012-** Ikerbasque Research Professor at the University of the Basque Country (Spain)

**2011-2012.** Teaching Fellow (fixed-term) at the University of Exeter (United Kingdom).

Courses Taught: Science in Society, Philosophy of Nature, Theories of Scientific Change. MA in Philosophy of Biology.

**2011.** <u>Research Fellow</u> at the Max Planck Institute for the History of Science, Berlin (Germany).

Research Project: "Research and Pedagogy. A History of Quantum Physics through its Textbooks".

**2008-2010**. *Humboldt Researcher* at the Max Planck Institute for the History of Science, Berlin (Germany).

Research Project: "History of the Foundations of Quantum Physics".

**2007-2008**. <u>Assistant Professor</u> (fixed term) at the Centre for the History of Science, Technology and Medicine, Imperial College (London, UK).

Courses taught: "Introduction to Philosophy" and "History of Science" to undergraduates, and several lectures in the "Core Course", "Science in the age of Empire", and "Science, Technology and Medicine in the Twentieth Century" of the MSc programme.

**2004-** . *Affiliate Researcher* at the Department for the History and Philosophy of Science, University of Cambridge (Cambridge, UK)

Research Project: "The electron and the Thomsons".

*'Supervisor'* in the courses: "Science and Technology, 1914-1945", and "Workshop of the World. British Physics in the XIX century".

**2004-2006**. *Lecturer* at the Centre for the History of Science, Technology and Medicine, Imperial College, University of London (London, UK)

Courses taught: "Introduction to Philosophy", and "Ethical Dilemmas in Science and Technology".

**2002-2004.** *Visiting Scholar* at the Department for the History and Philosophy of Science, University of Cambridge (Cambridge, UK)

Research Project: "Atomism in the physical sciences, 1850-1920"

*'Supervisor'* in the courses: "Classical Physics and its Contexts", and "Sociology and Historiography of Technology".

**2000-2002.** *Lecturer* at the Universitat Internacional de Catalunya (Barcelona, Spain)

Courses taught: "History of Science", "Philosophy of Science", and "Physics for Architecture".

### **Publications:**

#### **Books:**

- *A History of the Electron. J.J. and G.P. Thomson.* Cambridge University Press, Cambridge 2012. [Translation into Turkish, 2015]
- *Niels Bohr. El átomo cuántico*. RBA editores. Grandes Ideas de la Ciencia, Rodesa 2012. [Translation into Italian, 2014, French, 2015, Russian, 2015]
- El padre del electrón. Nivola, Madrid 2006.
- Arquitectos de la materia. Fundación Iberdrola, Madrid 2006.
- En contacto con la realidad. El realismo crítico en la filosofía de Karl Popper. Cuadernos de Anuario Filosófico, Serie Universitaria 117, Pamplona 2000.
- Cap al naixement d'una nova disciplina. El descobriment de noves partícules elementals i la seva contextualització abans de la II Guerra Mundial (1932-1939), Publicacions de la Universitat Autònoma de Barcelona, Bellaterra 1998.

#### **Edited books:**

- Ether and Modernity. The Recalcitrance of an Epistemic Object in the early twentieth century. Oxford: Oxford University Press, 2018.
- (with Massimiliano Badino), Research and Pedagogy. A History of Quantum Physics and its early Textbooks. Open-acces-editions: Berlin, 2013. http://www.edition-open-access.de/studies/2/index.html
- Science and Faith within Reason. Reality, Creation, Life and Design. Ashgate, Farnham, 2011.
- Synergia. Primer Encuentro de Jóvenes Investigadores en Historia de la Ciencia, CSIC, Madrid 2007.

### **Special Issues:**

- Jaume Navarro ed. *The Promises of Science. Historical Perspectives*, Centaurus 59(3), 2017, pp. 167-250.
- Jaume Navarro, Alexander Blum and Christoph Lehner, eds., On the History of the Quantum, HQ4 in *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics* Volume 60, Pages 1-148 (November 2017)

### **Refereed Papers:**

- (with Massimilano Badino), "Introduction: Ether. The Multiple Lives of a Resilient Concept", in Jaume Navarro, ed., *Ether and Modernity. The Recalcitrance of an Epistemic Object in the early twentieth century.* Oxford: Oxford University Press, 2018, 1-13.
- "How to use a fundamental discovery in physics. The early days of electron diffraction", *Science in Context* 31 (3), 2018, 351-79.
- "Science contra Science. The battle for legitimate knowledge in the Spanish Catholic journals in the early twentieth century" in Rajesh Heynickx and Stéphane Symons, eds., So What's New About Scholasticism? How Neo-Thomism Helped Shape the Twentieth Century, (Berlin: De Gruyer 2018), 205-226.
- (with Gustavo Schwartz), "Imaging by touching: Atomic force microscopy", *Philosophy of Photography* 9 (1), 2018, 41-52.
- "Promising redemption. Science at the service of secular and religious agendas", in Jaume Navarro ed. *The Promises of Science. Historical Perspectives*, Centaurus 59(3), 173-188.
- (with Annette Mülberger), "The Promises of Science. Historical perspectives", Introduction to special issue Jaume Navarro ed. *The Promises of Science. Historical Perspectives*, Centaurus 59(3), 167-172.
- "Oracles, Prophets and the Exoteric Circles of Science and Religion", *Scientia et Fides* 4 (2), 2016, 285-301.
- "Ether and Wireless. An old medium into new media", *Historical Studies in the Natural Sciences* 46 (4), 2016, 460-489. (Partly reprinted in Jaume Navarro, ed., *Ether and Modernity. The Recalcitrance of an Epistemic Object in the early twentieth century*. Oxford: Oxford University Press, 2018).
- "Boundaries between territories of knowledge. Colonisation or Independence?" In Bettina-Johanna Krings, Hannot Rodríguez and Anna Schleisiek, eds. *Scientific Knowledge and the Transgression of Boundaries*, (Dordrecht: Springer 2016, pp. 201-228).
- "A Peripheral Centre. Early Quantum Physics at Cambridge". In Ana Simoes, Maria Paula Diogo and Kostas Gavroglu eds. *Sciences in the Universities of Europe, 19th and 20th Century. Academic Landscapes*, (Dordrecht: Springer 2015, pp. 327-344).
- "Plum puddings and Bohr's atom". In Finn Aaserud and Helge Kragh, eds. *One hundred years of the Bohr atom: Proceedings from a conference.* (Copenhagen: Royal Danish Academy of Sciences and Letters, 2015, pp. 73-92).
- (with Massimiliano Badino), "Pedagogy and Research. Notes for a Historical Epistemology of Science Education", Introduction to Badino and Navarro (eds.) Research and Pedagogy. A History of Quantum Physics and its early Textbooks (pp. 7-26).

- "Teaching Quantum Physics in Cambridge: George Birtwistle and His Two Textbooks", in to Badino and Navarro (eds.) *Research and Pedagogy. A History of Quantum Physics and its early Textbooks* (pp. 231-248).
- 'A Victorian theory of the Multiverse: 'The Unseen Universe' and the notion of Creation'. In J. Navarro (ed.) *Science and Faith within Reason. Reality, Creation, Life and Design.* (Ashgate: Farnham, 2011, 83-102).
- 'Electron diffraction *chez* Thomson. Early responses to quantum physics in Britain', *British Journal for the History of Science*, 43, 2010, 245-275.
- 'Religious truth and scientific relativism', in Evers, D., Jackelén, A., and Smedes, T.A., eds., *Studies in Science and Theology*, 12, (ESSSAT: Bamberg, 2010, 169-178).
- "A dedicated missionary". Charles Galton Darwin and the new quantum mechanics in Britain', *Studies in the History and Philosophy of Modern Physics*, 40, 2009, 316-326.
- 'Imperial incursions in late-Victorian Cambridge: J.J. Thomson and the domains of the Physical Sciences', *History of Science*, 44, 2006, 469-495.
- 'The uses of neutrinos: a historical perspective', *European Journal of Physics*, 27, 2006, 1257-1264.
- 'Early Attempts to Detect the Neutrino at the Cavendish Laboratory', *Physics in Perspective*, 8, 2006, 64-82.
- 'J.J. Thomson on the nature of matter: corpuscles and the continuum', *Centaurus*, 47, 2005, 259-282.
- 'More than two faces of common sense', *Acta Philosophica*, 14 (2), 2005, 287-297.
- 'New entities, old paradigms: elementary particles in the 1930s', *Llull*, 27, 2004, 435-464.
- 'Una interpretación milenarista de Karl Popper', *Thematha*, 28, 2002, 141-160.
- 'El neutrón de Chadwick y su interpretación', *Cronos*, 3 (2), 2000, 273-295.

#### **Book Reviews:**

- Book Review: 'Lynda Walsh, Scientists as Prophets: A Rhetorical Genealogy', British Journal for the History of Science, 48 (3), 2015, 529-530.
- Book Review: 'Wazeck, Milena, Einstein's Opponents: The Public Controversy about the Theory of Relativity in the 1920s', British Journal for the History of Science, 48 (2), 2015, 375-377.
- *Book Review*: 'Jed D. Buchwald; Robert Fox (Editors). The Oxford Handbook of the History of Physics', *ISIS*, 106 (1), 2015, 156-157.

- Book Review: 'Schweber, Silvian S., Nuclear Forces: The Making of the Physicist Hans Bethe', British Journal for the History of Science, 47 (3), 2014, 579-580.
- *Book Review*: 'Herrán, Néstor and Xavier Roqué (eds.) La física de la dictadura. Físicos, cultura y poder en España 1939-1975', *Dynamis*, 34 (2), 2014, 526-528.
- *Book Review*: 'Agustí Nieto-Galán. Los Públicos de la Ciencia. Expertos y Profanos a través de la Historia', *ISIS*, 103 (4), 2012, 772-773.
- Book review: 'Joao Magueijo. A Brilliant Darkness: The Extraordinay Life and Mysterious Disappearance of Ettore Majorana, the Troubled Genius of the Nuclear Age', ISIS, 102, (2), 2011, 373-374.
- Book review: 'Pedro Ruiz-Castell. Astronomy and Astrophysics in Spain (1850-1914)', ISIS, 101 (4), 2010, 906-907.
- Book review: 'David Lindley. Degrees Kelvin. A Tale of Genius, Invention, and Tragedy', ISIS, 98 (4), 2007, 851-852.
- Book review: 'Theodore Arabatzis. Representing Electrons. A Biographical Approach to Theoretical Entities', Nuncius, 21 (2), 2006, 415-416.
- Book review: 'Andrew Warwick. Masters of Theory. Cambridge and the Rise of Mathematical Physics', Cronos, 7(1), 2004, 188-191.

### **Unrefereed Papers:**

- 'Electrones en Casa. J.J. y G.P. Thomson', Revista Española de Física, 32 (4), 43-49.
- (Jaume Navarro, Alexander Blum and Christoph Lehner) 'On the history of the quantum. Introduction to the HQ4 special issue', *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics*, 60, 2017, 1-2.
- 'Ondas, partículas y todo lo contrario', in Gustavo A. Schwartz y Victor E. Bermudez (eds), #Nodos (Pamplona: Next Door Publishers, 2017).
- (with Gustavo Ariel Schwartz) 'Imágenes del nano-mundo', in Ibarra, A. and Txapartegi, E. Hacer Mundo(s) con Representaciones, (Bilbao: Sevicio editorial de la Universidad del País Vasco, 2016), 105-126.
- 'El electrón y su familia. J.J. Thomson, G.P. Thomson y el paso de la física clásica a la cuántica', *Investigación y Ciencia*, febrero 2013, 46-47.
- 'Joseph John Thomson. Una vida entre electrones, átomos y espíritus', en Romero Moñovas, J., De las Ciencias a la Teología. Ensayos interdisciplinares en homenaje a Manuel García Doncel, (Editorial Verbo Divino: Pamplona 2011), 83-93.
- 'La comprensió del fenomen científic. Una perspectiva històrica', in Escribano, X. ed., *Territoris Humans de la Salut*, (Duxelm: Barcelona, 2008), 14-30.

- 'Planck and de Broglie in the Thomson family', in Joas, C., et al. eds., *HQ-1:* Conference on the History of Quantum Physics, (Preprints of the Max Planck Institute for the History of Science, n. 350: Berlin, 2008), 233-251.
- 'Les fronteres entre disciplines al Cambridge del segle XIX', in Batlló, J., et al., eds., *Actes de la VIII Trobada d'Història de la Ciència i de la Tècnica*, (SCHCT: Barcelona, 2006), 441-445.
- 'Karl Popper, un filósofo 'con los pies en el suelo'', *Anuario Filosófico*, 34 (1), 2001, pp. 157-177.
- 'Las partículas elementales entre-guerras', *Actas del II Congreso de la Sociedad de Lógica, Metodología y Filosofia de la Ciencia en España*. Publicacions de la Universitat Autònoma de Barcelona, Bellaterra 1997, 419-422.

### **Conferences and Seminars:**

### Organizer:

- "How scientific objects end. A workshop". 2-day international workshop organized at the University of Cambridge, 3-4 December 2018. 11 speakers. Sponseored by Ikercambridge.
- Joint 3rd International Conference on the History of Physics of the EPS and the 4th Early-Career Conference for Historians in the Physical Sciences of the AIP. 17-20 October 2018, Donostia-San Sebastian (Spain).

http://www.ehu.eus/ehusfera/hopdss2018/

- Ether and Modernity. The Recalcitrance of an Agonising Object in Physics and in Culture. 2-day international workshop in San Sebastian, 30-31 March 2017.
  http://www.ehu.eus/en/web/etherandmodernity/home
- Fourth Conference on the History of Quantum Physics (HQ-4). 4-day international workshop in San Sebastian, 15-18 July 2015.
  <a href="http://www.ehu.eus/en/web/hq-4/home">http://www.ehu.eus/en/web/hq-4/home</a>
- The Promises of Science. Historical Perspectives. 3-days international workshop in San Sebastian, 7-9 April 2014. Invited speakers: Jonathan Agar, Peter Bowler, Robert Bud, Shaul Katzir, Harro van Lente, Thomas Mormann, Annette Mülberger, Javier Ordóñez, Katy Price, Maria Rentetzi, María Jesús Santesmases, Jon Umérez.

http://www.ehu.es/en/web/promises-of-science/home

- *The Lure of the Ether. Physics and Modernity.* Workshop at the History Department and Bodleian Library of Oxford University. 21 February 2014. Speakers: Richard Staley, Imogen Clarke, Richard Noakes, Michel Whitworth.

 Metaphysics, Ontology and the Science-Religion Debates. London, 5-7 May, 2009. Main Speakers: Karl Giberson, William Carroll, Steve Fuller, Roger Trigg, Rafael Martínez, Marty J. Hewlett, Marie George, Jitse van der Meer, Thomas Glick.

http://www.thomasmoreinstitute.org.uk/artigas

I Encuentro Jóvenes Investigadores, Valencia, 18-20 November, 2005.
 <a href="http://www.uv.es/jihc/">http://www.uv.es/jihc/</a>

### Invited Speaker:

- Invited Lecturer at the Lille Summer School, 3-6 June 2019: "Talking about Dead Scientific Objects. Ether, Phlogiston and other Scientific Corpses".
- Invited seminar at the MPIWG, Berlin: "How did the ether disappear?", 20 May 2019
- Invited paper at the workshop "Biographies in the History of Physics", Bad Honnef (Germany), 22-25 May, 2018. Paper: "A biographical sketch of the last days of the ether".
- Invited Seminar at the University of Athens: "Ether: the multiple lives of a resilient concept in the early twentieth century", 17 April 2018.
- Invited Seminar at the Universidad de Navarra, 16 January 2018. Talk: "Ciencia y Religión. Una tradición Inventada?".
- Guest Professor at the Universidad Autonoma del Estado de Puebla (Mexico), 13-18 November 2017.
- Invited Speaker at the fortnightly seminar "Twentieth Century Think Tank", Department for the History and Philosophy of Science, Cambridge, 2 November 2017. Talk: "Ether: the multiple lives of a resilient concept in the early twentieth century"
- Invited speaker at the weekly seminar in the Cohn Institute for the History and Philosophy of Science and Ideas, University of Tel Aviv, May 8<sup>th</sup>, 2017. Talk: "Connecting matter and spirits. The many faces of the ether in early twentieth-century physics".
- Invited Seminar at the Universidad Autónoma de Madrid, 17 February 2017. Talk: "Ciencia y Religión. Una tradición Inventada?".
- Invited speaker at the 2<sup>nd</sup> Workshop "Interactions of Interwar Physics: Technology, Instruments and Other Sciences", Budapest, 9-10 December 2016. Talk: "One phenomenon, three settings. The early days of electron diffraction".
- Invited speaker at the Department of History and Philosophy of Science, University of Cambridge, at the workshop: Phases of Physics, 22 July 2016.

- Talk: "Physics, Chemistry and the Remnants of the Physical Sciences in Late-Nineteenth Century Cambridge".
- Invited Seminar at the Universidad Autónoma de Madrid, 11 May 2016. Talk: "Eter y Modernidad. La permanencia de un objeto epistémico tras su falsación".
- Invited speaker at the workshop "Interactions of Interwar Physics: Technology, Instruments and Other Sciences", Cohn Institute, Tel Aviv University, 11-12 October, 2015. Talk: "One phenomenon, three settings. The early days of electron diffraction".
- Invited speaker at the workshop "Reasessing a Thought System. Neo-thomism in the twentieth century", at KADOC, University of Leuven, 29-30 June, 2015. Talk: "Science contra Science. The battle for legitimate knowledge in the Spanish Catholic Journals in the early twentieth century".
- Invited speaker at the seminar "Religiöse Kulturen im Europa des 19. Und 20. Jahrhunderts", at the Ludwig Maximilian Universität, München, 11 June 2014. Talk: "The Conflict between Science and Religion. An Invented Tradition?"
- Invited Speaker at the Càtedra Cultura Ciència i Religió, Universitat Internacional de Catalunya, Barcelona, 17 March 2014. Talk: "Las Promesas de la Ciencia".
- Marconi Lecture at the University of Oxford: "Ether and Wireless. An old medium into new media". 21 February 2014.
- Invited speaker at the International Brandt Ritchie Workshop of Physics, 1—4 October, 2013, Donostia-San Sebastian. Talk: "Niels Bohr in Manchester. A hundred years of the quantum atom".
- Keynote speaker at the Summer School 'Las dos culturas y más allá. Ciencia, sociedad y desarrollo', 2—4 September, 2013, Donostia-San Sebastian. Talk: "Las promesas de la ciencia. Una perspectiva histórica".
- Invited Seminar at the ICMAB, Institut de Ciències Materials de Barcelona: "Electrons in the family. From wave to particle and back again", 11 March 2013.
- Invited Seminar at the Donostia International Physics Centre: "Electrons in the family. From wave to particle and back again", 15 Feb 2013.
- Guest lecturer in the 'Study Abroad' program of the Johns Hopkins University in Munich, 21 Jan 2013.
- Keynote speaker at the Summer School 'Scientific Knowledge and the Transgression of Boundaries', of the Karlsruhe Institute of Technology and Universidad del País Vasco, 27—31 August, 2012, Donostia-San Sebastian. Paper: "Boundaries in the Physical Sciences".
- Keynote speaker at the American Institute of Physics, College Park, MD, on 28-31 July, 2011, at the conference 'Continuity and Discontinuity in the Physical Sciences since the Enlightenment'. Paper: 'William Whewell in action. Continuity and Discontinuity in the British Physical Sciences'.

- Invited speaker at the Helmholtz Zentrum Berlin, Germany, on 5<sup>th</sup> April, 2011. Seminar: "Electrons in the Thomson family".
- Invited speaker at the Universitat Pompeu Fabra, Barcelona, on 10<sup>th</sup> March, 2011. Seminar: "Research and Pedagogy, a Synchronic Approach".
- Invited speaker at the Deutsches Elektronen-Synchrotron (DESY) on December 6<sup>th</sup>, 2010, on occasion of the 80<sup>th</sup> anniversary of neutrinos: "A Nursery of Neutrinos. The Infancy of an Elusive Entity".
- Invited speaker at the Technische Universität Berlin, Forschungskolloquium zur Wissenschaftsgeschichte: "Electrons in the Thomson family: from waves to particles, and back again", 26<sup>th</sup> May, 2010.
- Invited speaker at the Universidad Autonoma de Madrid and CSIC, 9-11 March 2010. Papers: "El Imperialismo de la Fisica" and "El electron en casa de los Thomson".
- Seminar of the Institute for the Study of Nature at MIT, Cambridge, MA. Invited lecturer on the Scientific Revolution, and on the Philosophy of Alfred North Whitehead. 15-19 June 2009.
- Seminar at the University of Leeds, May 2006. Paper: 'J.J. Thomson and the failed quest for continuity'.
- Jornadas de Historia de la Física, UNAM (Mexico), 19-20 September 2005. Paper: 'Neutrinos en Cambridge. Historia de una dispersión'.
- Seminar in UNAM (Mexico), September 2005. Paper: 'Whewell, Thomson y la organización de las ciencias en Cambridge'.

### Participant and Contributed Papers:

- First annual conference of the International Research Network for the Study of Science and Belief in Society, Birmingham, 4-6 July, 2019. Paper: "Nationalisms at the root of the science-and-religion disputes. The Spanish case."
- "How scientific objects end. A workshop", Department of History and Philosophy of Science, University of Cambridge, December 3rd and 4th, 2018. Organizer and Presenter: "The historiographical relevance of the early obituaries of the ether."
- ESHS2018, European Society for the History of Science Biennial Conference 2018 in conjunction with the British Society for the History of Science London, 14-17 September. Organizer of sessions (9 papers) "The Historiography of Science and Religion in the Construction of Modern Europe". Talk: "Draper in Spain. The conflicting circulation of the conflict thesis."
- &HPS, Integrated History and Philosophy of Science, London 20-21 June 2018. Paper: "Biography or obituary? The historiographical value of the death of the ether".

- Annual HSS Meeting, Toronto, 9 to 12 November, 2017. Paper: 'The circulation of the conflict thesis as a political tool in fin-de-siècle Spain'.
- 25<sup>th</sup> International Congress of History of Science and Technology, Rio de Janeiro, 23 to 29 July 2017. Paper: 'The ether in the 1920s: a case for pluralism in the sciences'.
- New Perspectives on Science and Religion in Society, Manchester 29 June 1 July 2017. Paper: "True Science" in Catholic journals in fin-de-siècle Spain: A matter of faith, reason and legitimacies.
- 2<sup>nd</sup> International Conference of the History of Physics, Pollau (Austria), 5-7 September 2016. Paper: "The ether in physics after the death of the ether".
- Annual HSS Meeting, San Francisco, 19-22 November 2015. Paper: "The many faces of the ether in early twentieth-century physics".
- XII Congreso de la Sociedad Epañola de Historia de la Ciencia, Madrid, 10-12 September 2014. Session organizer (with Javier Ordóñez): "Ciencia y Creencia en la Gran Guerra: estándares y propaganda". Talk: "Ciencia, Guerra y Religión en España durante la Guran Guerra".
- 6<sup>th</sup> International Conference of the European Society for the History of Science, Lisboa 4-6 September, 2014. Session organizer: "Communicating Conceptual Changes in the Physical Sciences". Talk: "Explaining the demise of the ether".
- 9<sup>th</sup> STEP Meeting, Lisboa, 1-3 September 2014. Session organizer: "Science and Religion in the Periphery. A missing historiography?". Talk: "After the Syllabus Errorum. Revisiting Science and Religion in the late Nineteenth Century".
- Annual HSS Meeting, Boston, 20-24 November 2013. Paper: "Explaining the Demise of the Ether"
- 24<sup>th</sup> International Congress of History of Science, Technology and Medicine, Manchester 21-28 July 2013. Paper: "From electron diffraction to electron cameras. George Paget Thomson at Imperial College in the early 1930s".
- Conference: 100 Years of Bohr's Atom, Copenhagen, 11-14 June, 2013. Paper: "Plum-puddings and Bohr's atom".
- 5<sup>th</sup> International Conference of the European Society for the History of Science, Athens, 1—3 November 2012. Paper: "A British physical 'corpuscle' travels to American Chemistry. J.J. Thomson's 1923 trip to Philadelphia"
- 7<sup>th</sup> British-Northamerican Joint Meeting of the BSHS, CSHPS and HSS, Philadelphia, USA, 11-14 July 2012. Paper: "A father of physical chemistry: J.J. Thomson in Philadelphia".
- 8<sup>th</sup> STEP Meeting, Corfu, Greece, 21-24 June 2012. Paper: "When the Centre becomes Periphery: Early Quantum Physics in Cambridge".
- Workshop on Physics and Metaphysics in Nineteenth-century Physics, Ghent, Belgium 10-11 August, 2011. Paper: "What *is* matter? J.J. Thomson on creeds and policies".

- International Symposium on the History of Science Textbooks, within the Eleventh International IHPST Conference, Tessaloniki, Greece, 1-5 July 2011. Paper: "Research and Pedagogy. A synchronic approach" (with Massimiliano Badino).
- Workshop on Heuristics in Physics at Bad Honnef, Germany, 10-12 December 2010. Paper: "On Creeds and Policies. The Philosophy of Science of J.J. Thomson"
- Fourth International Conference of the European Society for the History of Science, Barcelona, 17-21 November 2010. Paper: "None of them know what is worth doing". Early Quantum Physics in Cambridge'.
- The Ian Ramsey Centre 2010 Coference, "God and Physics", Oxford, 7<sup>th</sup> 10<sup>th</sup> July, 2010. Paper: "A Victorian theory of the Multiverse. The Unseen Universe and the notion of Creation".
- Conference HQ-3: "Third International Conference on the History of the Foundations of Quantum Physics", Berlin, 28<sup>th</sup> June 2<sup>nd</sup> July, 2010. Paper: "Research and Pedagogy. An Introduction to Quantum Textbooks" (with Massimiliano Badino).
- HSS Annual Meeting, Phoenix, Arizona. Organizer of sessions "Research and Pedagogy. A history of quantum physics through its textbooks". Contributed paper: "Teaching Quantum Physics in Cambridge". 19-21 November 2009.
- Workshop: History of the Foundations of Quantum Physics / 2, Utrecht University, 14-17 July 2008. Paper: 'Early responses to the new quantum physics in Britain: the case of Charles Galton Darwin'.
- "Connecting Disciplines". 6<sup>th</sup> British-Northamerican Joint Meeting of the BSHS, CSHPS and HSS, 4-6 July 2008, Oxford, UK. Paper: 'From neutrons to neutron stars. Zwicky and the transfer of a nuclear particle into astrophysics'.
- ESSSAT (European Society for the Study of Science and Theology) conference, Stockholm, 30 April 5 May 2008. Paper: 'Religious Belief, Scientific Relativism'.
- Workshop: History of the Foundations of Quantum Physics / 1, Max Planck Institute, Berlin, 2-6 July 2007. Paper: 'Planck and de Broglie in the Thomson family'.
- History of Science Society Meeting, Vancouver, 2-5 November 2006. Paper: 'The electron and the Thomsons'.
- Second International Conference of the European Society for the History of Science, The Global and the Local: History of Science and Cultural Integration of Europe, Krakow, September 2006. Paper: 'The reception of the De Broglie principle in England'.
- BSHS Annual Conference, Canterbury, July 2006. Paper: 'From father to son. The electron and the Thomsons'.

- Sixth Congress of HOPOS, the International Society for the History of Philosophy of Science, Paris, June 2006. Paper: 'Corpuscles and the Continuum in late-Victorian Physics' and organizer of the session 'Continuous or discontinuous? The ontology of matter in the history of science'.
- 22<sup>nd</sup> International Conference of the History of Science, Beijing, 25-30 July, 2005. Paper: 'The Cavendish Laboratory in the inter-war period.'
- Workshop: Eisntein Annus Mirabilis. British Academy, London, 5-6 March, 2005.
- VIII Trobades de la Societat Catalana d'Història de la Ciència i de la Tècnica.
  Mallorca, 17-21 November, 2004. Paper: 'Les fronteres entre disciplines al Cambridge del segle XIX.'
- "Circulating Knowledge". 5<sup>th</sup> British-Northamerican Joint Meeting of the BSHS, CSHPS and HSS, 5-7 August, 2004, Halifax, Nova Scotia. Paper: 'Neutrinos and the scattering of a team group. Theory and Experiment in the Cavendish laboratory in the 1930s.'
- The Impact of the Humanities on the Development of European Science. Summer School in Venice, 10-15 June 2004.
- 4<sup>th</sup> STEP meeting. Traditions and Realities of National Historiographies of Science. June 2-6 2004, Aahrus, Denmark. Paper: 'Pedagogical traditions: a valid historiography for the scientific periphery?'
- Workshop: Arthur Stanley Eddington, Interdisciplinary Perspectives. Cambridge, March 2004.
- Seminar at the Centre for the History of Science, Technology and Medicine, Imperial College, London, February 2004. Paper: 'J.J. Thomson and the definition of discipline boundaries'.
- Workshop at the Department of History and Philosophy of Science, University of Cambridge, February 2003. Paper: 'Atomism in late Victorian Cambridge'.
- Universidad Internacional Menéndez Pelayo. Summer course by José M. Sanchez Ron, 'Albert Einstein: ayer y hoy. Ciencia, política y filosofía', July 2002.
- International Conference on Karl Popper, Vienna, July 2002. Paper: 'More than two faces of common sense'.
- International Conference on Karl Popper, Madrid, April 2002. Paper: 'Realismo y la 'actitud racional' en el planteamiento de Popper'.
- II Spring School on Museums of Science. Menorca, May, 2001.
- I Congress in Philosophy of Science. Valladolid, November, 1999. Paper: 'El proceso de descubrimiento. El neutron como caso paradigmático'.
- II Congress of the Spanish Society of Logics, Epistemology and Methodology of Sciences. Barcelona, 1995. Paper: 'Las partículas elementales en el periodo de entre-guerras'.



## **Research Grants and Fellowships:**

- 2017-2018: 12 months research fellowship, Ikercambridge, at Clare Hall College, Cambridge.
- 2017: 2 months Invited Professor at the Cohn Institute for the History and Philosophy of Science and Ideas, Tel Aviv University. Course given: "Science and Religion: the historiography of a conflict".
- 2016-2019: IP of the project HAR2015- 67831-P: "Epistemic Technologies, Knowledge Production and Legitimacy in the Sciences". Ministerio de Economía y Competitividad.
- 2014. 2 months "Return Fellowship" by the Humboldt Stiftung to work at the MPIWG in Berlin.
- 2013. 4 months Marconi Fellowship, Bodleian Library, University of Oxford.
- 2011. Research fellowship by the Max Planck Society.
- 2009-2010. 24 months Humboldt Experienced Research Fellowship to work at the Max Planck Institute for the History of Science.
- 2005-2006. Grant by the Fundación Iberdrola for the project "Architects of Matter".
- 2004-2005. 16 months 'Batista i Roca' research fellowship, by the Generalitat de Catalunya, to work at Imperial College, London.
- 2002-2004. Two-year postdoctoral fellowship, by the Spanish Government, to work at the University of Cambridge.
- March 2002 and May 2007. Grant-in-aid from the Center for the History of Science at the American Institute of Physics, Washington.

### Service to the Profession:

- Referee for British Journal for the History of Science, Studies in the History and Philosophy of Modern Physics, Revista de Filosofía, Routledge, European Journal of Physics, Archive for the History of Exact Sciences, Physics in Perspective, Ministerio de Ciencia y Competitividad (Gobierno de España).
- President of the Comission for the History of Physics within the International Union of History of Science (Tenure 2017-)

# Languages:

- Catalan and Spanish as mother tongues. Totally fluent in English.
- 'Mittelstufe' level in German (Goethe Institut, Berlin)
- French, Italian and Latin (read)

## **Professional Affiliations:**

- Member of the History of Science Society, <a href="http://www.hssonline.org/">http://www.hssonline.org/</a>
- Member of the British Society for the History of Science, <a href="http://www.bshs.org.uk/">http://www.bshs.org.uk/</a>
- Member of the European Society for the History of Science, http://www.eshs.org
- Member of the Catalan Society for the History of Science and Technology, <a href="http://schct.iec.cat/">http://schct.iec.cat/</a>