

SOAZIG LE BIHAN

OVERVIEW

Contact

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AOS

- **Philosophy of Science**, in particular: models, causation, scientific understanding
 - **Philosophy of the Science of Ecology**
 - **Philosophy of Physics**, in particular: quantum mechanics
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AOC

- **History of Philosophy**: Ancient Philosophy, Hellenistic Philosophy, Modern Philosophy, with a special competence in Plato, Aristotle, Lucretius, Plotinus, Descartes, Kant, Fichte, and Nietzsche.
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Higher Education

- **Double Ph. D.**, from the University of Nancy, France, and the University of Bielefeld, Germany, successfully defended on February 13th, 2008, obtained with high distinction
 - Title: *Understanding Quantum Phenomena*
 - Defense Jury:
 - Chair: Dr. Guido Bacciagaluppi, University of Sydney
 - Prof. Harvey Brown, Oxford University
 - Prof. Michel Bitbol, University of Paris 1 – Sorbonne
 - Prof. Martin Carrier, University of Bielefeld
 - Prof. Michael Detlefsen, University of Notre Dame
 - Prof. Gerhard Heinzmann, University of Nancy 2 – Henri Poincaré
 - (2004) **B.S. in Fundamental Physics**, University of Paris VI – Jussieu
 - (2001-2002) Visiting graduate student in the Philosophy Department at Princeton University, research supervised by Prof. Bas van Fraassen
 - (2001) **DEA in philosophy**, University of Paris IV – Sorbonne, obtained with high distinction (equivalent: two years of graduate school)
 - Supervision: Prof. Daniel Andler
 - Thesis Topic : *From EPR to Bell's Theorem : what makes quantum behavior specific ?*
 - (2000) **Agrégation** in philosophy, ranked 14 in a class of 80 (2000 applicants)
 - (1999) **Maîtrise in philosophy**, University of Paris X - Nanterre, obtained with high distinction (equivalent: one year of graduate school)
 - Supervision: Prof. Ali Benmakhlouf
 - Thesis Topic : *World-language and logic of possibilities: the conditions for the world to be word in the Tractatus logico-philosophicus of L. Wittgenstein*
 - (1998) **B.A. Philosophy**, University of Paris I - Sorbonne
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References

- Prof. Guido Bacciagaluppi (University of Aberdeen)
- Prof. Anouk Barberousse (University of Lille I)
- Prof. Jos Uffink (University of Minnesota)
- Prof. Bas van Fraassen (Princeton University)

UNIVERSITY POSITIONS AND SERVICE

- University Positions**
- (2008-present) Assistant Professor at the University of Montana, Missoula, MT
Coordinator of the Prelaw Advising Committee
 - (2006-2008) Sawyer Fellow, Illinois Institute of Technology, Chicago
 - (2005-2006) Graduate Fellow, Bielefeld University
 - (2002-2005) Allocation Couplée, Ministère de l'éducation et de la recherche, including :
 - Graduate Fellow, University of Nancy 2
 - Teaching Instructor, University of Paris VII – Jussieu
 - (1997-2001) Ecole Normale Supérieure
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- University Service**
- 2010-11: Mentor for two honors research theses.
 - Since January 2009: Coordinator of the Prelaw Advising Committee
 - 2008-2009 Representative of the philosophy department for the University Faculty Association
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- Professional Service**
- (Since 2010) Referee for *Philosophy of Science*
 - (Since 2003) Referee for *Philosophia Scientiae*
 - (Jan 2005) Co-organizer of the SPS First Congress (Société de Philosophie des Sciences: French Philosophy of Science Society), Paris
 - (Sept 2004) Member of the Organization Committee of the SPS Summer School, Saint-Aygulf
 - (June 2004) Member of the Organization Committee for the International Conference in Nancy - Archives Poincaré: *Rethinking the comparative evaluation of scientific theories: stabilities, ruptures, incommensurabilities?*
 - (2004-2005) Philosophy of Physics Graduate Seminar, Organizer, Ecole Normale Supérieure, Paris
 - (2004-2005) Philosophy of science graduate seminar, Co-organizer with Cyrille Imbert, Ecole Normale Supérieure, Paris
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- Scholarships and Grants**
- (Fall 2011) Research Fellow at the Center for Philosophy of Science in Pittsburgh
 - (Fall 2011) Faculty professional enhancement grant, University of Montana (Mini-Sabbatical)
 - (2006-2008) Sawyer Predoctoral Fellowship, I.I.T, Chicago
 - (April 2007) DAAD Fellowship
 - (Feb. 2007) Fellowship Université Franco-Allemande
 - (Sept. 2006) Graduate Fellowship – Bielefeld University
 - (July 2005) Huguette Delavault Fellowship from the Association des Femmes Françaises Diplômées de l'Université (AFFDU) (Association of the French Graduate Women)
 - (Sept. 2004) Conference Expenses Graduate Fellowship 13th UK Meeting on the Foundations of Physics, York
 - (Sept. 2003) Conference Expenses Graduate Fellowship, Colloque SOPHA, Montréal
 - (August 2003) Travel Grant, Comité National de Philosophie et d'Histoire des Sciences, LMPS Congress, Oviedo
 - (2002-2005) Mobility Graduate Fellowship, European Union
 - (2001-2002) Jane Eliza Procter Visiting Fellowship, full tuition, required student health plan fees, and stipend for the year as graduate student at Princeton University.
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RESEARCH

- Main Interests**
- Philosophy of the science of ecology
 - Scientific understanding
 - Scientific models
 - Probabilistic causation
 - Quantum mechanics
 - Semantic view of scientific theories
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- In Progress**
- The various causal pictures underlying Bell-type phenomena
 - Enlightening Falsehoods
 - Downward Causation: Making sense of it vs making the best out of it
 - French translation of *Scientific Image*, Bas van Fraassen, with Feisal Ben Hassel and Guillaume Garetta
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- Submitted**
- Probability conditions are not locality conditions
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- Forthcoming**
- Book (editor and translator): *La philosophie de la physique, d'aujourd'hui à demain*, to appear in Vuibert Editions, collection "Philosophie des sciences".
 - Qu'est-ce que la philosophie de la physique? (What is philosophy of physics?). in *La philosophie de la physique, d'aujourd'hui à demain*, Vuibert: Paris.
 - Le problème de la localité en mécanique quantique (The issue of locality in quantum mechanics) in *La philosophie de la physique, d'aujourd'hui à demain*, Vuibert: Paris.
 - (forthcoming) Bohm vs. Many-Worlds: how understanding matters – Or Not, Contribution accepted in *Probing the Meaning of Quantum Mechanics: Physical, Philosophical, Mathematical and Logical Perspectives*, C. de Ronde, S. Aerts, D. Aerts (Eds.), World Scientific.
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- Published**
- (2011) Defending the Semantic View: what it takes? *European Journal for the Philosophy of Science*, Online First.
 - (2009) Fine ways to fail to secure Local Realism, *Studies in the History and Philosophy of Modern Physics*, Volume 40, Issue 2, pp. 142-150
 - (2009) Que peut la philosophie pour la physique quantique? (What can the philosophy of quantum physics do?), *Mensuel de l'Université*, May 2009
 - (2009) Des mondes et des particules (worlds and particles), Comment on Jean Bricmont, Proceedings of the second Pierre Duhem Conference, *Philosophie de la mécanique quantique*, Vuibert.
 - (2008) Book review: L-G. Johansson, *Interpreting Quantum Mechanics: A Realistic View in Schrodinger's Vein*, in *International Studies in the Philosophy of Science*, 22:3, pp. 330-333
 - (2008) La conception sémantique des théories scientifiques II: Comment peut-elle rester « sémantique »? (The semantic conception of scientific theories II: how can it remain « semantic »?), *Matière Première*, 3
 - (2007) What status should be given to the quantum description of the world?, Comment on A. Zwirn, in Soler, L., Sankey, H., and Hoyningen-Huene, P. (Eds.), *Rethinking the Comparative Evaluation of Scientific Theories, Stabilities, Ruptures, Incommensurabilities*, Boston Studies in the Philosophy of science, 255, Springer
 - (2006) La conception sémantique des théories scientifiques I: En quoi a-t-elle pu se dire « sémantique »? (The semantic conception of scientific theories I: in what sense is it « semantic »?), *Matière Première*, 1
 - (2005) Entries in the *Cultural Dictionary of French Language*, Le Robert : "Invention" ; "Impression" ; "Steam" ; "Science" ; "Sea"
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- Invited Talks**
- (October 2011) Enlightening falsehoods, Center for Philosophy of Science, University of Pittsburgh
 - (May 2011) Why understanding matters – or not, IHPST, Paris
 - (January 2010) Bell-type correlations: the hidden causal picture re-assessed, Ecole Normale Supérieure, Paris
 - (May 2008) Defending the semantic view: what it takes, Conference *Entanglement and Complexity*, University of Nice-Sophia Antipolis
 - (Feb. 2008) Bell-type correlations: the hidden causal picture re-assessed, Center for Philosophy of Science, University of Pittsburgh
 - (Jan. 2008) Defending the semantic view: what it takes, Philosophy Colloquium, University of South Carolina
 - (May 2007) Worlds and particles, Comment on Jean Bricmont for the *Pierre Duhem Conference*, Ecole Normale Supérieure, Paris.
 - (Mars 2007) Philosophical Interpretations of quantum mechanics, invited lecture for the *Alliance Française*, University of Missoula

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- Refereed Conferences**
- (Nov. 2008) Defending the semantic view: what it takes, *Philosophy of Science Association Conference*, Pittsburgh
 - (June 2006) In defense of the semantic conception of scientific models , *HOPOS Conference*, Paris
 - (April 2006) Logical or scientific models: a false dilemma for the semantic view, 33rd Annual *Dubrovnik Philosophy of Science Conference*
 - (Jan. 2005) Que reste-t-il des lois de nature dans la conception sémantique des théories scientifiques ?, Communication in the Symposium "What is the future for laws of nature?" for the *First Congress of the Société de Philosophie des Sciences*, Paris
 - (Dec. 2004) Statistical independence : locality or rationality ? , One-day Conference, *Philosophy, Physics and Probability*, Paris
 - (Sept. 2004) Experimental metaphysics from a certain perspective, communication in the *13th Meeting on the Foundations of Physics*, York
 - (June 2004) What status should be given to the quantum description of the world ?, Answer to the communication by A. Zwiirn, International Conference *Rethinking the Comparative Evaluation of Scientific Theories*, Nancy
 - (Nov. 2003) with Anouk Barberousse, CNRS-IHPST, From physics to ontology? Answer to the communication Explanation, Emergence and Quantum-entanglement by A. Hütteman, International Conference *Reduction and Emergence*, Ecole Normale Supérieure, Paris
 - (Sept 2003) About non-locality: experience, theory, interpretation : the levels of legitimacy of scientific discourses, communication given in the Conference of Analytic Philosophy Conference in Montreal : *Language, Thought, Action* (SOPHA)
 - (August 2003) Epistemological morals of a twenty year long meaningless discussion about non-locality, *International Congress of Logic, Methodology and Philosophy of Science*, Oviedo
 - (April 2003) Non-locality: a twenty year long meaningless discussion, *International Congress of Philosophy of Science*, Dubrovnik

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- Other Presentations**
- (April 2010) Bell-type correlations: the hidden causal picture re-assessed, *Philosophy Forum*, University of Montana
 - (Mars 2007) Logical models vs. scientific models: a false dilemma for the semantic view, *Philosophy Forum*, University of Missoula
 - (December 2006) A Fine lecture, *Humanities Department Colloquium*, I.I.T.
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- (Mai 2006) Sur l'interprétation du théorème de Bell par Fine, *Graduate Conference IHPSI*, Paris
 - (April 2006) Sur quelques mythes concernant la conception sémantique des modèles scientifiques, One-day Conference, *Vie Vécue, vie expliquée*, Centre Cavailles, Ecole Normale Supérieure, Paris
 - (January 2006) The interpretations of quantum mechanics: the current state of play, *Physics Seminar*, University of Bielefeld
 - (Nov 2005) Statistical independence in Bell's theorem: locality or rationality? *Neuere Themen der Wissenschaftsphilosophie Seminar*, University of Bielefeld
 - (Oct 2005) Statistical independence in Bell's theorem: locality or rationality? *Young Quantum Meetings*, CREA, Brussels
 - (August 2005) Statistical independence: locality or rationality? Summer School Philosophy, *Probability and Physics*, Konstanz
 - (June 2005) L'indépendance statistique entre localité et rationalité, *Graduate Conference*, Paris VII
 - (March 2005) Statistical Independence: Locality or Rationality?, *Work in Progress graduate seminar*, University of Pittsburgh
 - (March 2005) Les interprétations de la mécanique quantique, *Quantum Afternoons*, University of Nancy
 - (March 2003) Saving incommensurability: semantic theory of meaning or semantic theory of science? Comment on Martin Carrier: "Semantic Incommensurability and Empirical Comparability : the Case of Lorentz and Einstein", during a one-day conference with Prof. Martin Carrier as special speaker in Nancy

Popular

- (February 2004) Participation on a TV program: *Scientific Revolutions* broadcasted on the educational series *Les Amphis de la Cinquième*

TEACHING

Teaching Competence

- **Graduate level:**
 - Philosophy of the Science of Ecology
 - Philosophy of Physics
 - Philosophy of Science
 - **Advanced Undergraduate:**
 - History of Science
 - Ancient Philosophy: Plato, Aristotle, Hellenistic Philosophies
 - Modern philosophy: Descartes, Leibniz, Spinoza, Hobbes, Berkeley, Locke, Hume
 - German philosophy: Kant, Fichte, Nietzsche
 - History of Metaphysics
 - **Introductory:** philosophy, logic, ethics, philosophical reasoning, science and religion
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Teaching Experience

- **400-level Undergraduate:**
 - Descartes vs Hume, University of Montana, Fall 2009
 - Philosophy of Science, Fall 2009 (Indep. Stud.), Spring 2010, Spring 2011 (Indep. Study)
 - Honors research thesis (Spring 2011)
 - **300-level Undergraduate:**
 - Ancient Philosophy, I.I.T. Fall 2006, Springs 2007 and 2008
 - Modern Philosophy, I.I.T, Fall 2007
 - History and Philosophy of Science, University of Paris VI, Spring and Fall 2002 and 2003
 - **200-level Undergraduate**
 - History and Philosophy of Science, University of Montana, Fall 2008
 - Modern Philosophy, University of Montana, Spring 2009, 2010, 2011
 - Ethics: The Great Traditions, University of Montana, Fall 2008, Spring 2009, Fall 2009
 - Statistical Methods and Computer Science for the Humanities, University of Paris VI, Spring and Fall 2002 and 2003
 - **100-level Undergraduate:** Age of Darwin, I.I.T, Fall 2006, 2007, Spring 2007, 2008
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