

# CV Mauro Dorato

## CURRENT OCCUPATION

Full Professor for the Philosophy of Science at the Department of Philosophy of the University of Rome 3 since 01.10.2005

## EDUCATION

### The Johns Hopkins University

- Ph. D. (May 1992)
- Diploma from the Center for History and Philosophy of Science (1989)
- M.A. in Philosophy (1988)

### The University of Rome “La Sapienza”

- Laurea (i.e., BS+MS) in Mathematics (27 Jan. 1993)
- Laurea (i.e., BA+MA) in Philosophy (6 Dec. 1982)

## FELLOWSHIPS AND RESEARCH ACTIVITIES AS VISITING SCHOLAR

- |             |   |
|-------------|---|
| Summer 2015 | Visiting scholar at the Max Planck Institut für Wissenschaftsgeschichte for a project on the history of cosmology |
| Summer 2014 | Visiting Scholar at the Centre for Time, University of Sydney   |
| Fall 2013   | Offer for a Visiting Fellowship Center for History and Philosophy of Science of the University of Pittsburgh      |
| Summer 2012 | Visiting professor Department of Philosophy University of Bielefeld   |
| Fall 1995   | Visiting scholar at the Center for History and Philosophy of Science of the University of Pittsburgh.             |

## FELLOWSHIPS

- |           |  |
|-----------|--|
| 1995-1997 | Post-doc scholar at the University of Padua                        |
| 1986-87:  | Fullbright scholar at the Johns Hopkins University, Baltimore, MD. |

## **EDITORIAL ACTIVITIES**

Deputy editor of the *European Journal for Philosophy of Science*, (EJPS), Springer, 1 issue came in 2011

From the beginning of 2012 **co-editor** of the same journal with Carl Hoefer (UWO, London)

Member of the editorial board in

Axiomates

Epistemologia

Rivista di Filosofia

Colloquium Philosophicum

Epistemologia

Reti, Saperi, linguaggi. Italian journal of cognitive sciences

Epistemic Studies (directed by S. Hartmann, M. Esfeld)

## **ACTIVITY AS PEER REVIEWER FOR SCIENTIFIC JOURNALS:**

*Australasian Journal of Philosophy*

*British Journal for the Philosophy of Science*,

*Dialectica*,

*Epistemologia*,

*Erkenntnis*

*European Journal for Analytic Philosophy*,

*Foundations of Physics*

*Foundations of Science*,

*International Studies for the Philosophy of Science*,

*Mind*

*New York academy of science*

*Philosophical Transactions*

*Philosophy of Science*,

*Studies in History and Philosophy of Modern Physics*,

*Studies in History and Philosophy of Science*

*Synthese*

*Theoria*.

*The Philosophical Quarterly*

## **ACTIVITY AS PEER REVIEWER FOR PUBLISHING HOUSES**

*Elsevier, Oxford University Press, Routledge*

## **ACTIVITY AS EXPERT FOR REVIEWING APPLICATION GRANTS**

British Research Council AHRS,  
Fund for Scientific Research-FNRS (**F.R.S.-FNRS**) Belgium  
Israeli Science Foundation (ISF)  
National Science Foundation (USA),  
Netherlands Organisation for Scientific Research (NOW)  
Swiss National Science Foundation,  
The Dutch Research Council)  
Member of expert for the European Science Foundations  
Reviewer for the National Agency for the Evaluation of the University Research

## **MEMBERSHIP IN INTERNATIONAL SOCIETIES**

Former member of the steering committee of the European Philosophy of Science Association (created in 2007). <http://www.ucm.es/info/epsa07/>

Co-chair of the Program Committee for the first conference of the European Philosophy of Science Association, to be held in Madrid in November 9-11 2007 <http://www.ucm.es/info/epsa07/>

Member of the steering committee of the International Society for the study of spacetime (Concordia University, Montreal) <http://www.spacetimesociety.org/>

Member of the Program Committee for the series of international conferences The ontology of spacetime (Concordia University, Montreal)

Since 2008 Corresponding member of the *Academie Internationale des Philosophie des Sciences*. Nominated ordinary member in 2011

Since 2010 Member of the Academia Europaea (The Academy of Europe)

From 2008 to 2011 member of the steering committee of the Italian Society of Logic and Philosophy of Science (SILFS)

Since April 30 2011 until June 2014, President of the Italian Society of Logic and Philosophy of Science (SILFS)

## **ADMINISTRATIVE JOBS**

2012-2015 Director of the PH.D joint program of Roma3 University and Tor Vergata University

2018 Member of the committee for the assessment of the didactic and scientific activity of the University

1/11/2018, President of the library system of the University

## **DIRECTION OF GRANT PROJECTS**

2000 until 2019

Participant in various research projects financed by the Italian Ministry of Public Education

2014-2017

Director of the Local Research Team in the research project Models and Inference in science (Units belonging to the team University of Rome Roma 3, University of Milan La Bicocca, University of Bologna)

2017-2020

Director of the Local Research Team in the research unit The Manifest Image and the Scientific Image

## **TALKS AND INVITATIONS TO INTERNATIONAL SYMPOSIA AND CONGRESSES**

### **2019**

19-22 May, Experiencing Reality Directly , The Hebrew University, Jerusalem

18-22 June Quantum limits of knowledge, Copenhagen

2-5 September, Time after time Villa Maraini, Roma

11-12 September Biennial meeting of EPSA, Geneva (accepted abstract)

### **2018**

1 May, Memorial Lecture in honor of Itamar Pitowsky, Hebrew University of Jerusalem

17-18 May Philosophy of Time: A View from the Past, University of Milan

11-13 June, Cracow, Modality in Physics

18–20 June 2018. International Society for the study of time, Yonsei University, Seoul/Incheon, South Korea.

12-13-14 July, Budapest, Central European university

28-29-30 August, Summer School at the Swiss Institute of Culture, villa Maraini, Roma

## **2017**

Triennial congress of the Italian Society for Logic and Philosophy of science, University of Bologna,  
June the 23<sup>rd</sup>

Realism and Quantum Mechanics, University of Leeds, 13 September

Bohr's philosophy of science, IMERA, Marseille, 25 September

## **2016**

4, 7 e 8 March Three Lectures at the Universidad Metropolitana de Mexico (UAM) on the philosophy  
of time

8 March Lecture at the Universidad Nacional Autonoma de Mexico (UNAM) on Realism and  
strumentalism on the wave function.

22-27 May, Lecture to the conference Carlo Rovelli's 60th birthday (Aix en Provence, Luminy,  
Merseille)

8-11 Conference in Wake Forrest University, NC for the biennial meeting of the Center for the  
philosophy of time

25-27 June invitation to participate to the edimburg conference of the centr for the study of time,  
declined

3-6 September Participation of the workshop Philosophy of science in the mediterranean, Jerusalem

## **2015**

25 March Luxemburg European school (Scuola Europea)

27 March University di Geneva.

27 April University of Copenhagen

30 April University of Bergen, Norway

7 May Oxford

11 May Liverpool

27 May Munich, LMU

3 July Max Planck Institut für Wissenschaftgeschichte

9 September Urbino, 100 years from Einstein's General Theory of Relativity  
22-26 September European Society for Philosophy of science biennial meeting EPSA 15

## **2014**

13<sup>th</sup> May Conference in Gargnano (Garda Lake) on Time  
14-19 May, Conference in Beijing on Science Values and Democracy  
22<sup>th</sup> of May Conference in Barcelona on "spacetime and the wave function"  
15<sup>th</sup> of September Oslo's Conference on Causation and Powers  
3<sup>rd</sup>-4<sup>th</sup> of October, Oxford Conference on Power Structuralism  
8-9 December, Conference on the limits of science, Granada

## **2013**

Cologne, Causation and Structuralism, 8 February  
Athens 3 March, metaphysics of scientific realism  
Paris La Sorbonne 4 April. On scientific revolutions  
Helsinki, 3 Conference of the European Philosophy of Science Association EPSA, 27- agosto-1-  
settembre, On Feynman's diagrams  
Louvain la Neuve, 18 October, Conference for in honor of Prof. M. Ghins

## **2012**

Louvain-la Neuve 25-26 April  
Heidelberg 4-6 June  
Bielefeld 19 June  
Hannover 20 June  
COLLEGE DE FRANCE, 26 JUNE, participation to a conference on the 100th anniversary of the  
discovery of cosmic rays  
Oslo, 3-5 September, Conference on Causality and Modality  
London, Metaphysics of Relation, 3-5 October  
Urbino, November Conference with the Barcelona Group on Science and Metaphysics  
Conference at the Georgia Institute of Technology. (November)  
PSA 2012 meeting (accepted presentation)

## **2011**

Persistence in Minkowski spacetime, University of Bonn, 13-14 February

Louvain la Neuve, Meeting of the Academie Internationale des Philosophies des Sciences 26-28 april,

Toronto 13-15 May, Metaphysics and the Philosophy of Science conference

Paris rationalité en situation, 10 december

Univ. of Leeds, conference at the dept. of philosophy 16 december. External examiner for a Ph.D viva

## **2010**

13-15 December, European Science Foundation, London School of Economics, Points of Contact between Physics and Biology

24 September, Commentator to S. Psillos on adding modalities to OSR (Padova, SIFA)

26 April, University of Konstanz

## **2009**

4 December, University of Athens, On natural laws, workshop with Steven French

20 November, University of Bonn, On time and existence in special relativity

19 October, Presentation at the European science foundation conference, Dreierbergen-Zeist, Holland

15 April, Presentation at the conference Metaphysics in Science, Dubrovnik

## **2008**

2 April, Talk on Causal Power and Disposition in Hotel Sonloup, Les Avants, Lousanne, for the Congress Causation in Biomedical sciences. Philosophical and Historical aspects.

7, 8 9 May, Presentation at the Conference Pragmatism and Naturalism, Tilburg, The Netherlands

11 June, Presentation at the conference Time and the Universe Tau (Montreal)

13 June, Presentation at the 3rd Conference The Ontology of Spacetime, Concordia Montreal

15-16 September, Presentation to Conference organized by the Academie de Philosophie de Sciences on Natural and Human sciences

19 December, Commentator of D. Dieks paper at the meeting European Science Foundations, Vienna, Section Philosophy of Physics

## 2007

29-31 Marzo, “Do dispositions and propensities have a role in the philosophy of quantum mechanics?”, 15th UK and European Meeting on the **Foundations of Physics**, University of Leeds

10-11 September, Connecting objective becoming with the conventionality of simultaneity, presented at the Boston Colloquium for the Philosophy of Science: Italian Trends in the Philosophy of Science

9 October, Congress of the Italian society of logic and philosophy of science (SILFS) (Commentary to Carlo Rovelli’s paper)

17 October, Participation to the congress *Autonomy of Reason?* Rome

27 October, Conference to the Festival della scienza (festival of science) Genoa

6 November, International conference in Honor of H. Putnam

29 November, Seminar in Louvain la Neuve on the role of mathematics in laws of nature

30 November, Seminar in Bruxelles on Becoming in physics and psychology

## 2006

8-11 June, Presentation at the Second conference on the Ontology of spacetime, Montreal, University of Concordia

14-18 June, Presentation to the first Congress of History of Philosophy of Science Society in Paris

6-7 October, Presentation at the conference *Probabilities, Causes and Propensities in Physics* (Universitas Complutense, Madrid)

13-14 October, Presentation “Structural spacetime realism and the evaporation of the substantialism-relationism debate” for the meeting “Physics meets Philosophy at every scale”, Parma

## 2005

17-21 January, Presentation at the conference Endophysics, Time, the Quantum and the Subjective, Zentrum für Interdisziplinäre Forschung, Bielefeld

27-31 August, Two presentations: one at the European Congress for Analytic Philosophy; the other at the special symposium Quantum information and philosophy”, both held in Lisbon



5-10 September, Congress in Losini for the 70<sup>th</sup> birthday of G.C. Ghirardi

## 2004

7-8 May, Presentation at the conference “The Arrow of Time in Physics and Philosophy”, organized at the l’ULB of Louvain, Belgium, by Michel Ghins on account of the European Science Foundation

11-14 May, Presentation at the conference *The Ontology of Spacetime*, held at the Concordia University, Montreal, Canada. For this conference I have contributed to evaluate the submitted papers and to organize the sessions

15-19 July, Presentation at the conference “Time in the Natural sciences” at the Center for Time at the University of Sydney

11-13 October, Presentation at the conference “God and the Laws of nature”, Varenna, Italy

29-30 November, organization of the workshop *Time in Physics and Philosophy*

## 2003

May 8, Seminar at the Dept. of Physics at the University of Florence: “Why are most laws of nature mathematical?”

25-29 August, Talk at the International conference on the relation between mathematics and physics, Losinj, Croazia

8-11 October, Conference at the meeting “Reason and Reasonableness”

26-28 November, The nature of scientific explanation University of Milano “Bicocca

## 2002

19-21 September, Presentation of a paper at the international meeting organized by Paris X Nanterre e and by the Ecole Politecnique on Causal Power and Dispositions

3-6 October, Sixth meeting of the Pittsburgh-Konstanz colloquium at the University of Pittsburgh

28-30 November, Commentator at the IX meeting of the Italian-Spanish philosophy

## 2001

24-27 May, “Language Rules and Laws of Nature” *The 5<sup>th</sup> Baltic Workshop on Logic and Philosophy of Science*.

4-8 June, Invitation to present “Determinism, Chance and Freedom, at the international congress on *Determinism*, Tegernsee, Freiburg

17-21 June, History and philosophy of cosmology (Monteporzio)

28 June, Seminar at the Institut für Grenzgebiet der Psychologie und Psychohygiene (Freiburg)

## **2000**

2-4 November, Talk at the PSA 2000 meeting in Vancouver

4-6 October, Talk at the meeting of the Italian Society for Analytic Philosophy

27-29 September, Talk at the meeting on the philosophy of time at the London School of Economics, for the Royal Series in Philosophy, 2000

## **1999**

20-26 August, Congress of the Logic Methodology and Philosophy of Science, Cracow, Poland

*Invited lecture* on the philosophy of space and time for the philosophy of physics session

## **1998**

21-25 October, PSA 98 meeting in Kansas City, USA

Participation to the symposium *Special Relativity and Ontology*; (the title of my paper is “Becoming and the arrow of causation”), co-symposiasts J. Balashov and S. McCall, commentator R. Clifton.

23-25 September Bologna

Italian congress of the society for analytic philosophy.

## **1997**

17-20 April. Trieste, Italy

Invitation to present “Gödel’s two relativistic arguments for the ideality of time” at the international conference organized by the SIFF (Italian Society for the Philosophy and the Foundations of physics).

## **1996**

5-8 September, Leeds, England

Invitation to present the paper “Mental causation and the reality of tenses” at the congress of the ESAP (European Society for Analytic Philosophy).

19-26 May, Castiglioncello, Italy

Commentator in the section “Space and Time” to John Norton’s and Andreas Bartel’s papers, presented at the annual meeting of the Fellows of the Center for History and Philosophy of Science of the University of Pittsburgh.

14 May, Cambridge, England

“The tensed theory of time and spacetime physics”, paper presented at the Department of philosophy of the University of Cambridge.

## **1995**

29 September 1995, Pittsburgh

Talk for the Lunchtime Colloquium Series “On Becoming, Relativity, Nonseparability”.

19-25 August, Florence

“Becoming in Minkowski spacetime”, presented at the 10th International Congress of Logic, Methodology and Philosophy of science in the section philosophy of physics.

24-28 May, Parma Italy

“Measurability, computability and the existence of theoretical entities”, presented at the International congress of the Acadèmie de Sciences.

18-21 May, Poel, Germany

“Three views of the relationship between time and reality”, presented at the International congress on the philosophy of time, organized by J. Faye, M. Urchs and Scheffler.

## **1993**

19 e 26 November, Vienna, Austria

Two seminars on Tarski’s indefinability theorem within the course held by prof. Herbert Hrachovec of the University of Vienna on Gödel’s incompleteness theorems (Gödel Unentscheidbarkeitsbeweis).

## LIST OF PUBLICATIONS (IN ENGLISH)

### Books

**Time and Reality. Spacetime physics and the objectivity of temporal becoming. CLUEB, Bologna, 1995.**

### Reviews of Time and Reality:

C. Callender (London School of Economics), *The British Journal for the Philosophy of Science*, 48, n.1, March 1997, p.117-120.

J. Faye (University of Copenhagen), “Dorato on Time and Reality”, *Epistemologia*, 20, pp. 355-372, 1997.

R. Le Poidevin (University of Leeds), “Relative Realities”, *Studies in History and Philosophy of Physics*, vol.28, n.4, 28, no.4, pp. 541-546, 1998.

**The Software of the Universe. An Introduction to the History and Philosophy of the Laws of Nature, Ashgate, 2005**

### Reviews of The Software of the Universe

J. Roberts, *Studies in History and Philosophy of Modern Physics*, 37 (2006), pp. 738–744

E. Tobin, *International Studies in Philosophy of Science*, 2008, n.3, 230-233.

M. Schrenk, *British Journal for the Philosophy of Science*, 2011, n.62, 225-232.

### Edited Books

3. M. Suarez, M. Dorato, and M. Rédei (eds.), *EPSA Epistemology and Methodology of Science. Proceedings of the first conference of the European Philosophy of Science Association*, Springer, Dordrecht, 2 voll, 2010.

4. M. Dorato M. Morganti, (eds.) *Current and Historical Perspectives on the Use of Models in Physics, Chemistry and Life Sciences*, Part H of the *Springer Handbook of Model-Based Science*, volume

editors L. Magnani and T. Bertolotti), Springer, Berlin (with Matteo Morganti).

## Papers

Essay Review: Review of Simon Prosser’s Experiencing Time, *Philosophy of Science*, October, 2019 Volume 86 Issue 4, 807-813, <https://doi.org/10.1086/704971>

## 2018

5 with Laura Feline, “On explaining non-dynamically the quantum correlations via Quantum Information Theory: what it takes”, in Sven Hansson (ed), *Technology and Mathematics*, Springer, pp.235-25

6 with Emanuele Rossanese, “The Nature of Representation in Feynman Diagrams” in *Perspectives in Science*, Special Issue edited by J. Brown, Volume 26, Number 4, July-August 2018, The Mit Press, p. 443-458

## 2017

7. “Bohr’s Relational Holism and the classical-quantum Interaction”, in H. Folse, J. Faye (eds.), *Niels Bohr and Philosophy of Physics: Twenty First Century Perspectives* Bloomsbury Publishing, London, UK, 2017, pp.133-154. <http://arxiv.org/abs/1608.00205>

8. with M. Morganti, *Models in Physics, Chemistry and Life Sciences Springer Handbook of Model-Based Science – Volume Editors: Lorenzo Magnani and Tommaso Bertolotti*, 2017

9. (with M. Morganti). *Current and Historical Perspectives on the Use of Models in Physics, Chemistry and Life Sciences* (editorial work for and introduction to Part H of the *Springer Handbook of Model-Based Science*, editors L. Magnani and T. Bertolotti), Springer, Berlin, pp.840-842.

## 2016

10. *Rovelli’s Relation Quantum Mechanics, Anti-monism And Quantum Becoming*, in Marmodoro, A., Yates D. (eds) *The Metaphysics of Relations*, Oxford University Press, 235-261.

2015

11. The physical world as a blob: is OSR really realism? In *Metascience*, special issue on Steven French, *The structure of the world*, Oxford University Press, Oxford, DOI: 10.1007/s11016-015-0031-z
12. Events and the Ontology of Quantum Mechanics, in *Topoi*, DOI:10.1007/s11245-015-9315-6 TOPO-D-15-00013.0, <http://arxiv.org/abs/1503.01140>
13. With Marc Wittmann, The now and the passage of time, *KronoScope* 15 (2015) 191-213, Koninklijke Brill NV, Leiden,| doi 10.1163/15685241-12341335
14. “The naturalness of the naturalistic fallacy and the ethics of nanotechnology”, in Hansson S.O. (ed), *The Role of Technology in science. Philosophical perspectives*, Springer, pp. 207-224.
15. with Esfeld M. “Primitivism and Dispositionalism about Laws”, in Bygai T. Wüthrich C. (eds), *Metaphysics in Contemporary Physics*, (Poznań Studies in the Philosophy of the Sciences and the Humanities, vol. 103), Amsterdam/New York, NY: Rodopi, 2015, pp. 333-354.
16. Laws of nature and the reality of the wave function, in *Synthese* 192, 10, October 2015, pp. 3179-3201---DOI 10.1007/s11229-015-0696-2, <http://arxiv.org/abs/1503.01137>
17. Presentism and the Experience of Time, *Topoi*: Volume 34, Issue 1 (2015), Page 265-275, ISSN 0167-7411, DOI 10.1007/s11245-014-9272-5

2014

18. Causal versus structural explanations in scientific revolutions, in *Synthese*, 2014, p.1-21, DOI: 10.1007/s11229-014-0546-7
19. With Laudisa F. “The ontological status of the wave function”, in S. Gao (ed.) *Protective Measurement*, Cambridge University Press, 2015, pp.119-144

2013

20. with Matteo Morganti, “Grades of Individuality. A pluralistic view of identity in quantum mechanics and the sciences”, *Philosophical Studies* (2013) vol. 163, n.3 pp. 591-610, DOI .1007/s11098-011-9833-z
21. “How to combine and not to combine science and metaphysics” In V. Karakostas and D. Dieks (eds.), *EPSA11 Perspectives and Foundational Problems in Philosophy of Science*,

The European Philosophy of Science Association Proceedings 2, DOI 10.1007/978-3-319-01306-0\_\_24,, © Springer International Publishing Switzerland 2013, pp. 295-305.

2012

22. Presentism/Eternalism and Endurantism/Perdurantism: why the unsubstantiality of the first debate implies that of the second, *Philosophia Naturalis* 49, 1, pp.25-41

23. "The natural ambiguity of the notion of "natural", and how to overcome it", *Epistemologia*, XXXV, pp.247-263, 2012

24. with A. Cei, Preface to "Physics, philosophy and bridging two gaps. In honor of Sir Michael Dummett, in A. Cei, M. Dorato (eds.) *European Journal of Analytic Philosophy*, vol.8, No.1, 2012, with contributions by Jeremy Butterfield, Holger Lyre, Jan Faye, Steven French and Kerry Mckenzie , Thomas Ryckman, Dennis Dieks.

2011

25. Dispositions and propensities in the ontology of quantum mechanics: some critical remarks", in M. Suárez (ed.) "Probabilities, Causes, and Propensities in Physics", *Synthese Library*, Springer, pp. 197-218, DOI 10.1007/978-1-4020-9904-5\_9, 2011.

18. "Truth, laws and the progress of science", in *Manuscrito. Revista Internacional de Filosofia*, E. Agazzi,

I. D'Ottaviano, D. Mundici (eds.), *Science Truth and Consistency*, 2011, v. 34, n. 1, p. 185-206, ISSN 0100-6015

19. with Carl Hoefer, "Editorial", *European Journal for Philosophy of Science: Volume 1, Issue 1* (2011), Page 1. DOI: 10.1007/s13194-011-0021-y

20. with Fellingine L., "Structural explanation and scientific structuralism", in A. Bokulich and P. Bokulich (eds.), *Scientific Structuralism*, *Boston Studies in Philosophy of Science*, Springer, 2011, pp.161-176 DOI 10.1007/978-90-481-9597-8\_9.

21. "Mathematical biology and the existence of biological laws", in D. Dieks, W. Gonzales, S. Hartmann, T. Uebel, M. Weber (eds), *Probabilities, Laws and Structure*, Springer, 2011, pp.109-121, DOI 10.1007/978-94-007-3030-4\_8

22. The Alexandroff present and Minkowski spacetime: why it cannot do what it has been asked to do, in D.Dieks, W. Gonzales, S. Hartmann, T. Uebel, M. Weber (eds.), *Explanation Prediction and Confirmation. New trends and old ones considered*. Springer, 2011, pp. 379-394.

2010

23. with M. Esfeld, “GRW as an Ontology of Dispositions”, in *Studies in History and Philosophy of Modern Physics*, 2010, 41, pp. 41-49.
24. *Physics and Metaphysics: Interaction or Autonomy?*, in C. Calosi (ed), *HumanaMente*, <http://www.humanamente.eu/>, 2010.
25. “Why is the Language of Nature Mathematical?” in G. Antonini, A. Altamore (eds.), *Galileo and the Renaissance Scientific Discourse*, Edizioni Nuova Cultura, Roma, 2010, pp.65-71.
26. *On Various Senses Of “Conventional” And Their Interrelation In The Philosophy Of Physics: Simultaneity As A Case Study*, in F. Stadler (ed.) together with D. Dieks, W. Gonzales, S. Hartmann, T. Uebel, M. Weber, *The Present Situation in the Philosophy of Science*, Springer, 2010, pp. 335-349.
27. with Felle L., “Structural explanations in Minkowski spacetime: which account of models?”, in V. Petkov (ed.) *Space, Time, and Spacetime - Physical and Philosophical Implications of Minkowski's Unification of Space and Time*, Springer, Berlin, Heidelberg, New York, 2010, pp. 189-203.
28. “The historicization of nature and the nomologization of the mental, or the rapprochement between the natural and the human sciences”, in E. Agazzi e C. Di Bernardo (eds.), *Relations between Natural Sciences and Human Sciences. Relations entre les sciences naturelles et les sciences humaines*, Special Issue of *Epistemologia*, 15, 2010, pp. 243-258.

2009

29. “Peirce’s method of tenacity and the method of science: the consistency of pragmatism and naturalism”, in R. Dottori (ed.), *Autonomy of Reason? Autonomie der Vernunft?*, *Proceedings of the V Meeting Italian-American Philosophy*, LIT Verlag, Vienna, 2009 pp.154-164.

2008

30. “Is structural spacetime realism relationism in disguise? The supererogatory nature of the substantivalism/relationism debate, in D. Dieks, *The ontology of spacetime II*, Amsterdam, Elsevier, 2008, pp.17-37.



31. Putnam on time and special relativity, *European Journal Analytic Philosophy*, vol.4, n.2, pp. 51-70, 2008, (with a “Reply to Mauro Dorato”, by Hilary Putnam, *European Journal Analytic Philosophy*, vol.4, n.2, 2008, pp.71-73)

2007

32. “Dispositions, relational properties and the quantum world”, in, *Dispositions and Causal Powers*, M. Kistler and B. Gnanassonou (eds.), Ashgate, 2007, pp.249-270.

33. “Review article: Relativity Theory between Structural and Dynamical Explanations”, *International Studies in the Philosophy of Science*, Vol. 21, No. 1, March 2007, pp. 95–102

2006

34. “The irrelevance of the presentism/eternalism debate for the ontology of Minkowski spacetime”, in D. Dieks (ed.), *The Ontology of Spacetime*, Elsevier, 2006, pp. 93-109.

35. with Massimo Pauri, “Holism and Structuralism in Classical and Quantum General Relativity”, in D. Rickles, S. French, and J. Saatsi (eds), *The Structural Foundations of Quantum Gravity*, Oxford University Press, Oxford, 2006, pp.121-151.

36. “Properties and Dispositions: some Metaphysical Remarks on Quantum Ontology”, in A. Bassi, D. Dürr, T. Weber, N. Zanghì (eds.), *Quantum Mechanics*, American Institute of Physics (AIP) Conference Proceedings, Vol. 844, 2006, pp. 139-157.

37. “Absolute becoming, relational becoming and the arrow of time: Some non conventional remarks on the relationship between physics and metaphysics”, *Studies in History and Philosophy of Modern Physics*, [Volume 37, Issue 3](#) , September 2006, 559-576, reprinted in *The Philosophy of Time*, N. Oaklander (ed.), vol IV, Routledge, Critical Concepts in Philosophy, London, 2009, pp. 254-276.

2005

38. “The Laws of Nature and the Effectiveness of Mathematics”, in Boniolo G., Budinich P., Trobok M. (eds.), *The Role of Mathematics in Physical , Interdisciplinary and Philosophical Aspects*, Springer, Dordrecht, 2005, pp.131-144 (reviewed by U. Bottazzini, *Il SOLE 24 ORE*,

Sunday 10.7.05)

39. *Becoming, Events and the Ontology of Quantum Physics*, in Buccheri R., Elitzur A. and Saniga M. (eds.), *Endophysics, Time, Quantum and the Subjective*, Singapore, World Scientific, 2005, pp.273-289.
40. “On the technological and theological roots of the notion of “law of nature”, in Dio, la Natura e la Legge, God and the Laws of Nature”, in E. Sindoni and S. Moriggi (eds.), *Proceedings of the international conference Villa Monastero, Varenna, Italy, 11-13 Ottobre 2004*, Angelicum, Mondo X, 2005, Milano, pp. 155-169.
41. “Why are (most) laws of nature mathematical?”, in Faye J., Needham P., Scheffler U. and Urchs M. (eds.), *Nature’s Principles*, Springer, Dordrecht, 2005 pp. 55-75.
42. “Becoming and the conventionality of simultaneity”, in Dottori R. (ed.), *Reason and Reasonableness. Vernunft und Vernünftigkeit*, Lit Verlag, Münster, 2005, pp. 47-69.

2004

43. “Epistemic and non-Epistemic Values in Science”, in P. Machamer and G. Wolters (eds.), *Science, Values and Objectivity*. University of Pittsburgh Press, Pittsburgh-Konstanz, 2004, pp. 53-77.

2003

44. “Cognitive Norms, the Methodology of Science and the Naturalization of Ethics”, in R. Egidi, M. Dell’Utri, M. De Caro (eds), *Normatività, fatti e valori (Normativity, facts and values)*, *Analisi Filosofiche*, Macerata, 2003, pp. 1163-172.
45. “How legitimate is to talk about an evolving or a becoming universe?” in S. Colafrancesco, G. Giobbi, (eds.) *Cosmology Through Time*, Mimesis, Milan, 2003, pp. 247-253.

2002

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