

Carlo Rovelli

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Luminy, Case 907,
F-13288 Marseille, France

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<http://www.cpt.univ-mrs.fr/~rovelli>

Present position

- *Professeur de classe exceptionnelle*, Université de la Méditerranée, Marseille, France.

Honorary positions

- *Universidad de San Martin, Buenos Aires, Argentina*, Laurea Honoris Causa.
- *Beijing Normal University, Beijing, China*, Honorary Professor.
- *Institut Universitaire de France*, Senior Member.
- *Académie Internationale de Philosophie des Sciences*, Membre Titulaire.
- *Accademia di Agricoltura Scienze e Lettere di Verona*, Honorary Member.
- *Accademia Galileana*, Member.
- *Department of History and Philosophy of Science, Pittsburgh University*, Affiliated Professor.
- *Città di Condofuri*, Honorary citizen.

Education

1970-1975	Liceo Maffei, Verona	Classical studies
1975-1981	Università di Bologna	Laurea in Fisica (with honors)
1983-1986	Università di Padova	Dottorato di Ricerca (Ph.D.) in Physics

Professional Employment

2006-pres	Université de la Méditerranée	Professeur de classe exceptionnelle
2000-2006	Université de la Méditerranée	Professeur (1ere classe)
1999-2000	Pittsburgh University	Full Professor
1998-1999	CPT Luminy	Directeur de Recherche
1994-1999	Pittsburgh University	Associate Professor
1990-1994	Pittsburgh University	Assistant Professor
1989	Sissa, Trieste	Post-Doctoral position
1989	Syracuse University	Visiting Fellow
1987	Yale University	Post-doctoral Fellowship
1987-1988	Università di Roma	INFN Post-doctoral position
1986	Imperial College London	Visiting position

Awards and honors

- *Chancellor Distinguished Research Award*, University of Pittsburgh 1993.
- *1994 Annual Series Lecturer*, Pittsburgh Center for Philosophy of Science.
- *Xanthopoulos Award*, Triennial International Prize in Relativity, 1995.
- *Gravity Research Foundation, Second Award 1996*, and Honorable mention 1995 and 2002.
- *Idoneo* al concorso Professore Universitario di Prima Fascia, Università di Lecce, Maggio 2000.
- *Chiamata per chiara fama* (Honor nomination) voted by Rome University Physics Dept, 2002.
- *Prix du Rayonnement International*, Festival des Sciences et des Technologies, 2004.
- *2005 and 2009 Selection* by IOP Select for the articles [127] and [151] below.
- *First Prize* of the 2009 FQXi “The nature of Time” Community Essay Contest.
- *Second Prize* of the 2013 FQXi Essay Contest.

- *Fellow of the International Society of General Relativity and Gravitation*, 2010.
- *Aspen Insitute Italia*, membro della sezione “Protagonisti italiani nel mondo”.
- *Prix du jury du jury du festival d’Astronomie de la Haute Maurienne*, for the book “Anaximandre de Millet” 2011.
- *2014 Prize “Premio Merk-Serono”*,
- *2014 Prize “Pagine di scienza di Rosignano”*, for the book “La realtà non è come ci appare”,
- *2014 Prize for scientific writing “Premio Galileo”*, for the book “La realtà non è come ci appare”,
- *2015 Prize “Premio Larderello”*,
- *2015 Prize “Premio Alassio centolibri per l’informazione scientifica”*,

Others

- Chief Editor, *Foundations of Physics*, 2016 –
- Section Editor, *Annales Henri Poincaré* (Section: quantum gravity), 2008 –
- Editorial Advisory Board for the *Einstein Studies* book series, 2017 –
- Editorial Board, *Journal of Theoretical and Computational Physics* (JTCP), 2011 –
- Editorial Board, *SIGMA* (Symmetry, Integrability and Geometry: Methods and Applications), 2008, –
- Editorial Board, *Classical and Quantum Gravity*, 2005 – 2014
- Advisory Panel, *Classical and Quantum Gravity*, 2014 –
- Editorial Board, *Foundation of Physics*, 2006 –
- Editorial Board, *Journal of Geometric Methods in Modern Physics*, 2013 –
- Editorial Board, *Nuovo Cimento B*, 2005 –
- Editorial Board, *The Gravitational Lens*, 2006 –
- Editorial Board, *Journal of Mathematical Physics*, 1995 - 2000
- Associate Editor, *General Relativity and Gravitation*, 1996 - 2006
- Advisory board of the *Institute of the Arts and Ideas of London*.
- Editorial Advisory Board for the *Einstein Studies Series*, 2016 –
- Program committee of the 6th Meeting of the *Société de Philosophie des Sciences* (SPS), University of Lausanne July 2016.
- Scientific committee of the journal “*Lato Senu, Revue de la Société de philosophie des sciences*”
- ESA (European Space Agency). Member of the Scientific Advisory Committee (GNSS-GSAC) 2010-2012.
- Institut Méditerranéen de Recherches Avancées d’Aix-Marseille*, membre du conseil de gestion, en tant que personnalité qualifiée, 20013 –.
- Steering Committee of the “*Quantum Gravity and Quantum Geometry*” European Science Foundation network. 2009 –
- Advisory Pannel, *Nature*, 2008 –
- Main Organizer, International Conference “*La Forma dello Spazio - Italian research on Quantum Gravity*”, Trento, Italy, June 1993
- Main Organizer, International Conference “*Non perturbative quantum gravity*”, Marseille, France, May 2004
- Président “*Comité d’évaluation*” of the UMR 8627, *Laboratoire de Physique Théorique*, Orsay, France, december 2009
- “*Comité d’évaluation*” of the UMR 7164, *Laboratoire d’AstroParticules et Cosmologie*, Paris, France, februray 2008

“NSERC Evaluation committee” of Perimeter Institute, Toronto, Canada. 4-August 29, 2006

“Comité National” du CNRS (Centre National de la Recherche Scientifique), France, Section 02. 2004 – 2008

Nominating Committee of the International Society on General Relativity and Gravitation 2007-2013

Bergmann-Wheeler Thesis Prize committee

Scientific Committee for the conference “Quantum Gravity”, Beijing, July, 2009

Program committee for conference “Inconsistency Robustness 2011”, Stanford 2011

Program Committee of the “Sydney-Tilburg conference on Reduction and the Special Sciences”, Tilburg Center for Logic and Philosophy of Science at Tilburg University, The Netherlands, April 2008

Scientific Committee of the International Conference on Gravitation and Cosmology, ICGC-2007, Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India

Scientific Committee for the conference “Quantum Gravity and Quantum Geometry”, Nottingham June 30th-July 4th, 2008

Scientific Advisory Committee of the Loops '07 conference, Morelia, Mexico, June 2007.

International Scientific committee, workshop “Beyond the Standard Model”, Università di Bologna, summer 2006.

International Standing Committee and International Advisory Committee of the Albert Einstein Centennial Meeting UNESCO, 2005

Scientific advisory committee, Center for gravity and relativity, University of South of China.

International Committee of the International conference “Loops and Spinfoams 2005”, Oct 10-15th, 2005, Albert Einstein Institute, Potsdam, Germany.

Scientific Committee, “Journé sur la Causalité” (“Einstein 2005”, Bordeaux)

Scientific Committee, SIGRAV (Italian General Relativity Society), 2003-

Scientific Committee, International Conference Mathematical Physics “Chelyabinsk Region”, Russia, Summer 2001.

Scientific Committee, International Conference “Constrained Dynamical Systems and Quantum Gravity I”, Dubna, Russia, July 1995

Scientific Committee, International Conference “Constrained Dynamical Systems and Quantum Gravity II”, Santa Margherita Ligure, Italy, September 1996

Scientific Committee, International Conference “Coherent States, Quantum Mechanics and Quantum Gravity”, Warsaw, Poland, August 1998

Comitato Scientifico, SIGRAV graduate school in contemporary relativity and gravitational physics, Villa Olmo, Como (Italy) 1998-present.

International Advisory Committee, “Gravity, Astrophysics and Strings at the Black Sea” Conference 2001.

Advisory Committee, Second Conference “Gravity, Astrophysics, and Strings at the Black Sea”, Kiten, June 10th - 16th, 2004.

Advisory Committee, International Workshop “Selected topics of theoretical and Modern Mathematical Physics”, Tbilisi, Georgia, July 1996

Advisory Committee, Constrained Dynamics and Quantum Gravity 99, Villasimius, Sardinia, Italy, September 14-18 1999.

Advisory Board, International Workshop Dice 2002, September 2002 at the cultural center Accademia dei Ravvivati in the town of Piombino (Italy).

Program Committee, 1996 International Fellows Conference Center for Philosophy of Science, Castiglione May 1996

Organizing Committee, International Seminar on Mathematical Cosmology March 30 - April 4, 1998, Potsdam, Germany

Editor, Special issue of the Journal of Mathematical Physics on “Quantum Geometry and Diffeomorphism Invariant Quantum Field Theory”, in collaboration with L Smolin, 1995

Lecturer “Como school in theoretical physics”, Como, Italy 2014

Lecturer “PSI”, Perimeter Institute, Toronto, Canada 2013

Lecturer, “PASI school on quantum gravity”, Morelia, Mexico, July 2010

Lecturer, “Naxos school on quantum gravity”, Naxos, Grece, September 2011

Lecturer, “Corfu school on quantum geometry”, Corfu, Grece, September 2009

Lecturer, “First quantum gravity school”, Zakopane, Poland, April 2007

Lecturer, “Italian School of Mathematical Physics”, Ravello, September 1996

Lecturer, “Karpacz XXXV Winter School of Theoretical Physics “From Cosmology to Quantum Gravity” Polanica, Poland, February 1999

Associate Fellow, Newton Institute, Cambridge UK, 1994

Conseiller de Laboratoire, Centre de Physique Théorique de Luminy, 2004 –

Comité des spécialistes, Commission 29, Université de Aix Marseille I

Comité des spécialistes, Commission 29, Université de Aix Marseille II

Resident Fellow of the Center for the Philosophy of Science, Pittsburgh, PA

Résponsable de l'équipe de gravité quantique du Centre de Physique Théorique de Luminy.

Membre du comité scientifique du Département de Physique de l'Université de la Méditerranée.

Referee for

Journals: Nature, Physical Review Letters, Physical Review D, Physical Review A, Nuclear Physics, Physics Letters, Proceedings of the Royal Society, Journal of Mathematical Physics, Classical and Quantum Gravity, Journal of General Relativity, General Relativity and Gravitation, Gravity and Geometry, Foundations of Physics, Nuovo Cimento, Modern Physics Letters, International Journal of Modern Physics, International Journal of Theoretical Physics, Europhysics Letters, Complexity, Europhysics Letters.

Publishers: Oxford University Press, Chicago University Press, Birkhauser, Cambridge University Press, Elsevier Publishing Company.

Founding Agencies: National Science Foundation (USA), European Science Foundation (EU), European Marie Curie Networks (EU), Engineering and Physical Sciences Research Council (UK), Agence d'évaluation de la recherche et de l'enseignement supérieur (France), Science Council (Canada), Natural Sciences and Engineering Research Council (Canada), Shared Hierarchical Academic Research Computing Network (Canada), Fonds zur Förderung der Wissenschaftlichen Forschung (Austria).

Grants

“Quantum events as the basis of quantum mechanics and quantum gravity”,
FQXi Grant \$ 90,000 (2015 - 2017)

“Planck Stars: a window on quantum gravity?”,
AMideX Grant €30,000 (2014 - 2015)

“Is space is really discrete? Is time is really non existent?”,
Templeton Foundation grant: €190,250 (2012 - 2015)

“Gravité Quantique et Philosophie”,
 PEPS CNRS : €2,500 (2012)
 “Gravitation quantique à boucles : groupe de renormalisation et expériences”,
 ANR grant SAR 09-BLAN-0041-01 LQG-09: €280,000 (2009 - 2013)
 “Collaboration Marseille-Berkeley”,
 France-Berkeley Fund: \$10,000 (2009)
 “Gravitation Quantique à boucles”,
 ANR grant BLAN06-3139436: €180,000 (2006 - 2009)
 “Relativité Générale”,
 Institut Universitaire de France: €76,225 (2010 - 2015)
 “Relativité Générale”,
 Institut Universitaire de France: €76,225 (2004 - 2009)
 “Non perturbative Quantum Gravity”,
 NSF Grant PHY-9900791: \$95,631 (1999 - 2002)
 “Non perturbative Quantum Gravity”,
 NSF Grant PHY-95-15506: \$82,000 (1996 -1999)
 “Non perturbative Quantum Gravity”,
 NSF Grant PHY-93-11465: \$47,000 (1993 -1995)
 “Non perturbative Quantum Gravity”,
 NSF Grant PHY-90-12099: \$63,000 (1990-1993)
 Physics Department of the University of Pittsburgh,
 Grant PITT 2-11225: \$6,670 (1990-1994)
 “US-Italy cooperative research: Non perturbative quantum gravity”,
 NSF Grant: \$19,000 (1990-1993)
 “US-Argentina cooperative research: General Relativity”
 NSF Grant: \$11,000 (1992-1993)
 INFN Fellowship: Lit. 12,000,000 (1987-1988)
 “La forma dello spazio”
 INFN Grant: Lit. 5,000,000 (1993)
 “La forma dello spazio”
 University of Trento Grant: Lit. 4,000,000 (1993)
 Research Scholarship “Fondazione della Riccia”: Lit. 5,000,000 (1987)

Others

Italian citizen and citizen of the United States of America
 Spoken languages: Italian, French, English, fluent
 Born in Verona, Italy, on May 3rd, 1956

Citations

Total number of citations: > **13.000**.
 “h” factor = **58** (*SLAC-SPIRES* database).

TRAINING AND TEACHING

Ph.D. students or postdocs trained under my supervision who have now permanent positions in universities or research institutions

1. Eugenio Bianchi (PhD, postdoc), Professor at Penn State University (2014).
2. Valentin Bonzom (PhD), Maitre de Conférence, at the Université Paris XIII (2013).
3. You Ding (PhD), Professor at the Beijing Jiaotong University (2012).
4. Jonathan Engle (postdoc), Professor at Florida State University (2012).
5. Simone Speziale (PhD, postdoc), Chargé de Recherche CNRS (2008).
6. Robert Oeckl (postdoc), Professor at the Universidad Nacional Autonoma de Mexico.
7. Alejandro Perez (PhD), Professeur de première classe, at the Aix-Marseille Université, France.
8. Etera Livine (PhD), Chargé de Recherche at the Ecole National Supérieure de Lyon, France.
9. Merced Montesinos (PhD), Professor at the CINVESTAV-IPN, Mexico.
10. Marcelo Bareira (PhD), Assistant Professor at the Pontificia Universidade Católica and Research Professor at Centro Universitario do Sul, Minas, Brasil.
11. Hugo Morales-Tecotl (PhD), Full Professor at the Universidad Autónoma Metropolitana Iz-tapalapa, Mexico.

Ph.D. Thesis supervised

1. José Balduz (Carnegie Mellon University, Pittsburgh)
Completed November 1994
“Dynamical Model of Quantum Measurement”
2. Hugo Morales-Tecotl (SISSA, Trieste)
Completed August 1993
“Fermions in the Loop Representation”
3. Junichi Iwasaki (University of Pittsburgh)
Completed January 1994
“The Linearization of Quantum gravity”
4. Norbert Grott (University of Pittsburgh)
Completed April 1998
“Moduli spaces in intersecting Knot Theory”
5. Marcelo Bareira (University of Pittsburgh).
“Black hole emission spectra”
6. Bill Curry (University of Pittsburgh)
“The relational interpretation of quantum mechanics”
7. Peush Upadhyaya (University of Pittsburgh)
“Loop quantum gravity”

8. Alejandro Perez (University of Cordoba)
Completed May 2001
“Finiteness of Spin Foam models”
9. Marcus Gaull (Munich University)
Completed 2001
“Hamiltonian constraint in LQG”
10. Etera Livine (Université de la Méditerranée).
Completed 2002
“Modèles de mousse de spin” (Prix de Thèse 2003 de l’Université de la Méditerranée)
11. Daniele Colosi (Université de la Méditerranée et Università di Roma)
Completed Mars 2005
“Dynamique quantique covariante”
12. Luisa Doplicher (Università di Roma)
Completed February 2005
“Teoria dei campi quantistica covariante”
13. Florian Conrady (Berlin University)
Completed September 2005
“The classical limit of spin foam models”
14. Simone Speziale (Università di Roma)
Completed January 2006
“2d Quantum Gravity”
15. Winston Fairbairn (Université de la Méditerranée)
Completed November 27, 2006
“Separability in LQG” (Prix de Thèse 2007 de l’Université de la Méditerranée)
16. Mauricio Mondragon Lopez (Université de la Méditerranée)
Completed March 2008
“Probability in relativistic quantum mechanics”
17. Emanuele Alesci (05/03/1980 Università di Roma III)
1/11/2005-11/1/2008
“The complete Loop Quantum Gravity graviton propagator”
18. Elena Magliaro (23/5/1981 Università di Roma Tre)
1/11/2005- 12/1/2009
“Low-energy limit of Loop Quantum Gravity”
19. Claudio Perini (19-07-1979 Università di Roma Tre)
1/11/2006- 30/4/2010
“Semiclassical analysis of Loop Quantum Gravity”
20. Eugenio Bianchi (Scuola Normale di Pisa)
“Loop quantum gravity”
21. Roberto Pereira (15/1/1982 Université de la Méditerranée)
1/9/2006-8/3/2010
“The loop quantum gravity vertex”
22. Valentin Bonzom (Université de la Méditerranée)

- “Spinfoams from simplicial geometry (Géométrie des simplexes et modèles de mousses de spin).”
23. Matteo Smerlak (7/12/1984 Université de la Méditerranée)
1/9/2008 - 7/12/2011
“Divergence des mousses de spin: Comptage de puissance et resommation dans le modèle plat”
 24. You Ding (Université de la Méditerranée)
“LQG vertex and hamiltonian”
 25. Francesca Vidotto (22/11/1980 Università di Pavia)
01/11/2009-16/02/2012
“Loop Quantum Gravity and Cosmology”
 26. Wolfgang Wieland (30 /1/1984, Aix-Marseille Université)
1/10/2010-12/12/2013
“The Chiral Structure of Loop Quantum Gravity (Structure chirale de la gravité quantique à boucles)”
Prix de Thèse 2013 de l’Université de la Méditerranée
 27. Mingyi Zhang (2/6/1987, Aix-Marseille Université)
15/9/2010.- 21/7/2014,
“Loop quantum gravity and discrete geometry, Gravite quantique a boucles et geometrie discrete”
 28. Aldo Riello (20/09/1987, Aix-Marseille Université)
1/9/2011 - 22/7/2014
“Corrections radiatives en gravité quantique à mousse de spins : Une étude du graphe de Self énergie dans le modèle EPRL Lorentzien”
 29. Seramika Ariwahjoedi (Indonesia)
1/10/2012 - 1/10/2016
 30. Marios Christodoulou (Aix-Marseille Université)
1/10/2012 - 30/11/2017
 31. Francois Collet (Aix-Marseille Université)
1/10/2013 - 30/11/2016
 32. Thibaut Josset (Aix-Marseille Université)
1/10/2014 –30/11/2017
“General covariant statistical mechanics”
 33. Fabio D’Ambrosio
1/1/2016–
“Planck Stars”
 34. David Martinez
1/10/2017
“Planck Stars”

Other thesis supervised

1. Alexandru, Mustatea, Master (Université de la Méditerranée),
“Quantum geometry”

2. Bernard Raffaelli (Université de la Méditerranée, Marseille), DEA.
“Quantum Gravity”
3. David Louapre (ENS, Lyon) DEA.
“Gravité Quantique en 3d”
4. Simone Speziale (Università di Roma) Laurea
“Reconcile Planck-scale discreteness and the Lorentz-Fitzgerald contraction”
5. Frank Hellmann (Munich University) Diploma Thesis
“Eigenvalues in relativistic quantum mechanics”
6. Francesca Vidotto (Università di Padova) Laurea
“Loop quantum cosmology. Curved models and inhomogeneities.”

Jury

1. Habilitation à diriger des recherches : Alejandro Perez, Marseille 21/2/2006.
2. Habilitation à diriger des recherches (Cosmologie) :
3. Habilitation à diriger des recherches (Philosophie) : Charles Alunni, ENS Paris, 2002.
4. Doctorat (Philosophie) : Alexei Grinbaum, Polytechnique Paris, 2002.
5. Doctorat : David Louapre, ENS Lyon, 2003.

Courses taught

1. General Relativity 1 (USA, Graduate)
2. General Relativity 2 (USA, Graduate)
3. Classical and Quantum Canonical General Relativity (USA, Graduate)
4. Cosmology (USA, Graduate)
5. Astronomy (USA, Undergraduate)
6. Introductory Quantum Mechanics (USA, Undergraduate)
7. Introductory Physics for Scientists and Engineers 1 (USA, Undergraduate)
8. Introductory Physics for Scientists and Engineers 2 (USA, Undergraduate)
9. Introductory Physics for Scientists and Engineers 3 (USA, Undergraduate)
10. Introductory Physics for non science majors 1 (USA, Undergraduate)
11. Introductory Physics for non science majors 2 (USA, Undergraduate)
12. Physics of Music (USA, Undergraduate)
13. Meccanica Razionale (Italy)
14. Introduction à la Mécanique Quantique (France, DEUG)
15. Relativité generale (France, Maitrise)
16. Mécanique Quantique (France, License)
17. Optique Géométrique (France, Deug)
18. La Naissance de la Science (France, License)

Introduction and development of new courses

1. La Naissance de la Science (France, License)
New undergraduate cours proposed and developed at the Université de la Méditerranée. Started winter 2005. 130 students.

BOOKS

1. C Rovelli (editor): *Sette Brevi Lezioni di Fisica*, Adelphi 2014.
(English: *Seven brief lesson on physics*, Penguin 2015.)
Translated in 51 languages.
Currently one million copies sold worldwide.
2. F Vidotto, C Rovelli: *Covariant Loop Quantum Gravity*, Cambridge University Press, 2014.
3. C Rovelli (editor): *General relativity: The most beautiful of theories : Applications and trends after 100 years*. De Gruyter 2014.
4. C Rovelli: *Anaximandre de Milet ou la naissance de la science*, Dunot, Paris, 2009.
(English: *The First Scientist: Anaximander and his legacy*, Whestholme Chicago 2011.)
Transkated and published in 7 languages.
5. C Rovelli: *Quantum Gravity*, Cambridge University Press, 2004.
Available online at <http://www.cpt.univ-mrs.fr/~rovelli/book.pdf>
6. C Rovelli: *La realtà non è come ci appare*, Cortina Editore, 2014.
(English: *reality is not what it seems*, Penguin 2016.)
Translated in 9 languages.
7. C Rovelli: *Cos'è il tempo? Cos'è lo spazio?*, DiRenzo editore, Roma 2004.
(English : *What is Time? What is Space?*, English translation by J.C. van den Berg, DiRenzo editore, Roma 2006.)

POPULARIZATION

CD

1. "Interview avec Claude Cohen-Tannoudji"
De Vive Voix, Paris 2005.
2. "Temps et espace: d'Anaximandre à la gravitéé quantique"
De Vive Voix, Paris 2007.

Encyclopaedias

1. *Enciclopedia Treccani, XXI SECOLO, L'Universo Fisico*, article "Gravità quantistica". pagina 163. (Treccani 2010)
2. *Encyclopaedia Britannica*, 1991 Yearbook of Science and Technology, article "Knots and Physics".
3. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/win2003/entries/rovelli/> entry "Relational quantum mechanics".
4. *Handbook of the Philosophy of Science*. Volume 2: Philosophy of Physics Volume editors: John Earman and Jeremy Butterfield. Handbook editors: Dov M. Gabbay, Paul Thagard and John Woods, entry "Quantum Gravity" (Elsevier, 2006)
5. *Encyclopedia of Mathematical Physics*, eds. J.-P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006 (ISBN 978-0-1251-2666-3), entry "Loop Quantum Gravity", volume 3 page 339.
6. *Encyclopedia of Mathematical Physics*, eds. J.-P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006 (ISBN 978-0-1251-2666-3), entry "Canonical general relativity", volume 1 page p. 412.

7. *La Scienza*, Edizioni La Repubblica, Roma 2005, entry “Spazio e Tempo”.

Some popularization articles on my work, or by myself (not up to date)

1. “S’affranchir du temps”, C Rovelli, *Pour la Science*, October 2010.
2. *Il Sole 24 Ore*, *supplemento cultura domenicale*, “Dante e Einstein nella tre-sfera”, C Rovelli, October 2010.
3. *La Recherche*, “Oubliez le temps”, C Rovelli, dossier, June 2010.
4. *La Recherche*, “Mécanique quantique, un question de perspective”, M Smerkal and C Rovelli, April 2008.
5. *The Daily Telegraph*, “On the third stroke, time will be a-changin’”, Roger Highfield, February 2008.
6. *Discover*, “Does Time Exist?”, T Folger, June 2007.
7. *Physics Today*, “Quantum Gravity Faces Reality”, L Smolin, November 2006.
8. *Science et Avenir*, *Hors-Série*, “Le pile et face quantique”, M Bitbol, October/November 2006.
9. *Ciel et espace*, *Hors-Série*, “Chercher c’est reconnaitre que nous ne savons presque rien”, October 2006.
10. *Il Sole 24 ore*, “Stringhe che non tengono”, C Rovelli, October, 2006.
11. *The Economist*, “Looping the loop”, September 30th, 2006.
12. *New Scientist*, “Supersizing quantum gravity” Cover page and article, D Castelvechi, August 2006.
13. *Spektrum Wissenschaft*, “Fluch und Segen spekulativer Theorien” (“Curse and benediction of speculative theories”), C Rovelli, 2006N3 108, 2006.
14. *Science et Vie*, “Le monde existe-t-il vraiment?”, cover page and feature article, Octobre 2005.
15. *Science et Vie*, “Qu’y avait-il avant le Big Bang?”, cover page and feature article, Juillet 2005.
16. *Science et Vie*, “Depasser Einstein”, cover page and feature article, April 2005.
17. *Le Scienze*, “Universo, parte seconda”, Cristina Valsecchi, June 2005.
18. *Science et Vie*, “Depasser Einstein”, cover page and feature article, April 2005.
19. *Scientific American*, “Grains of Space”, Lee Smolin, January 2004.
20. *Physics World*, “Loop Quantum Gravity”, C Rovelli, November 2003.
21. *Science Magazine*, “Constructing Spacetime—No Strings Attached”, Adrian Cho, 8-11-2002.
22. *Science Magazine*, “The beginning of time”, Greg Hogan, 3-22-2002.
23. *International Herald Tribune*, “Turn Down That Web, These Scientists Plead, So We Can Think”, James Glanz, 6-20-2001.
24. *The New York Times*, “How is the Universe built? Grain by Grain”, George Johnson, 12-7-1999.
25. *Science News*, “Loops of Gravity: calculating a foamy quantum spacetime”, Ivars Peterson, 6-13-1998.
26. *Discover*, “Beyond Einstein: Is Space Loopy?”, Marcia Bartusiak, April 1993.

Science fiction books making extensive reference to my scientific work

1. *Blue Mars*, by Kim Stanley Robinson (Bantam, New York, 1996.)
2. *Schild Ladder*, by Greg Egan (Gollancz, London 2001.)

SCIENTIFIC PAPERS

1. C Rovelli: "Ghosts in Gravity theories with a scalar field", *Il Nuovo Cimento* 78B, 167 (1983)
2. C Rovelli: "Constraint algebra in General Relativity", *Il Nuovo Cimento* 92B, 49 (1986)
3. C Rovelli: "Anomalies in quantum gravity", *Physics Letters* B187, 88 (1987)
4. C Rovelli: "Quantization of the 'single point gravity' hamiltonian system", *Physics Review* D35, 2987 (1987)
5. C Rovelli: "Group quantization of constrained systems", *Il Nuovo Cimento* B 100, 343 (1988)
6. C Rovelli and L Smolin: "Knot theory and quantum gravity", *Physical Review Letters* 61, 1155 (1988)
7. C Rovelli: "Loop space representation", In: "New perspectives in canonical gravity", A Ashtekar Bibliopolis, Naples 1988
8. C Rovelli: "General relativity in the fixed volume gauge", *Classical and Quantum Gravity* 6, 911 (1989)
9. A Ashtekar, V Husain, J Samuel, C Rovelli, L Smolin: "2+1 quantum gravity as a toy model for the 3+1 theory", *Classical and Quantum Gravity* 6, L185 (1989)
10. C Rovelli, L Smolin: "Loop space representation for quantum general relativity", *Nuclear Physics* B331, 80 (1990)
11. C Rovelli: "What is observable in classical and quantum gravity?", *Classical and Quantum Gravity* 8, 297 (1991)
12. C Rovelli: "Quantum reference systems", *Classical and Quantum Gravity* 8, 317 (1991)
13. C Rovelli: "Quantum mechanics without time: a model", *Physical Review* D42, 2638 (1991)
14. C Rovelli: "Time in quantum gravity: an hypothesis", *Physical Review* D43, 442 (1991)
15. C Rovelli: "Ashtekar formulation of general relativity and loop space non-perturbative Quantum Gravity: a report", Invited review paper. *Classical and Quantum Gravity*, 8, 1613-1675 (1991)
16. A Ashtekar, C Rovelli, L Smolin: "Gravitons and loops", *Physical Review* D44, 1740 (1991)
17. C Rovelli: "Quantum evolving constants", *Physical Review* D44, 1339 (1991)
18. C Kozameh, T Newman, C Rovelli: "On Radiation in a massive Schwarzschild background", *Physical Review* D44, 551 (1991)
19. J Goldberg, T Newman, C Rovelli: "On Hamiltonian systems with first class constraints", *Journal of Mathematical Physics* 32, 2739-2743 (1991)
20. D Boyanowski, T Newman, C Rovelli: "Quantization of dynamical systems with a Chern-Simon term", *Physical Review* D45, 1210 (1992)
21. C Rovelli: "Knot theory and spacetime", Feature Article in the 1992 edition of the "Year-Book of Science and Technology" of the Encyclopedia Britannica
22. A Ashtekar, C Rovelli: "Connections, loops and quantum general relativity", *Classical and Quantum Gravity* 9, 3 (1992)
23. A Ashtekar, C Rovelli: "Loop representation of Maxwell field", *Classical and Quantum Gravity* 9, 1121 (1992)
24. A Ashtekar, C Rovelli, L Smolin: "Self duality and quantization", *Journal of Geometry and Physics* 8, 7 (1992)
25. A Ashtekar, C Rovelli, L Smolin: "Weaving a classical metric with quantum threads", *Physical Review Letters* 69, 237 (1992)
26. ET Newman, C Rovelli: "Generalized lines of force as the gauge invariant degrees of freedom for general relativity and Yang-Mills theory", *Physical Review Letters* 69, 1300 (1992)
27. C Rovelli: "Area is the length of Ashtekar's triad field", *Physical Review* D 47, 1703 (1993)
28. J Iwasaki, C Rovelli: "Gravitons as Embroidery on the Weave", *International Journal of Modern Physics* D1, 533 (1993)
29. C Rovelli: "Statistical mechanics of gravity and thermodynamical origin of time", *Classical and Quantum Gravity*, 10, 1549 (1993)
30. C Rovelli: "The statistical state of the universe", *Classical and Quantum Gravity*, 10, pg 1567 (1993)

31. C Rovelli: "A generally covariant quantum field theory and a prediction on quantum measurements of geometry", *Nuclear Physics B* 405, 797 (1993).
32. C Rovelli: "Basis of the Ponzano-Regge-Turaev-Viro-Ooguri quantum gravity model is the loop representation basis", *Physical Review D* 48, 2702 (1993)
33. J Lewandowski, ET Newman, C Rovelli: "Variation of the parallel propagator and holonomy operator and the Gauss law constraint", *Journal of Mathematical Physics* 34, 4646 (1993)
34. C Rovelli and L Smolin: "The physical hamiltonian in nonperturbative quantum gravity", *Physical Review Letters* 72, 446 (1994)
35. H Morales-Tecotl, C Rovelli: "Fermions in Quantum Gravity", *Physical Review Letters* 72, 3642 (1994)
36. A Connes and C Rovelli: "Von Neumann algebra automorphisms and time versus thermodynamics relation in general covariant quantum theories", *Classical and Quantum Gravity*, 11, 2899 (1994)
37. J Iwasaki, C Rovelli: "Gravitons from loops: non-perturbative loop-space quantum gravity contains the graviton-physics approximation", *Classical and Quantum Gravity* 11, 1653 (1994)
38. C Rovelli: "Comment on 'The meaning of the wave function' ", *Physical Review A*, 50 (1994) 2788
39. S Frittelli, S Koshti, T Newman, C Rovelli: "Classical and quantum dynamics of the Faraday lines of force", *Physical Review D* 49 (1994) 6883
40. C Rovelli: "Analysis of the different meaning of the concept of time in different physical theories", *Il Nuovo Cimento* 110B, 81 (1995)
41. R DePietri and C Rovelli: "Eigenvalues of the Weyl operator as observables in General Relativity", *Classical and Quantum Gravity* 12, 1279 (1995)
42. C Bicchieri and C Rovelli: "Evolution and Revolution; catastrophe theory and the dynamics of norms", *Rationality and Society* 7, 201 (1995)
43. C Rovelli and L Smolin: "Discreteness of Area and Volume in Quantum Gravity", *Nuclear Physics B* 442, 593 (1995). Erratum: *Nuclear Physics B* 456, 753 (1995)
44. C Rovelli: "Outline of a General Covariant Quantum Field Theory and a Quantum Theory of Gravity", *Journal of Mathematical Physics* 36, 6529 (1995). Paper awarded by a honorable mention from the Gravity Research Foundation.
45. H Morales-Tecotl and C Rovelli: "Loop space representation of quantum fermions and gravity", *Nuclear Physics B* 451, 325 (1995)
46. C Rovelli and L Smolin: "Spin Networks and Quantum Gravity", *Physical Review D* 53, 5743 (1995); gr-qc/9505006
47. N Grott and C Rovelli: "Moduli spaces structure of knots with intersections", *Journal of Mathematical Physics*, 37, 3014 (1996)
48. C Rovelli: "Relational Quantum Mechanics", *International Journal of Theoretical Physics*, 35, 1637 (1996). Arxiv: quant-ph/9609002
49. R DePietri and C Rovelli: "Geometry Eigenvalues and Scalar Product from Recoupling Theory in Loop Quantum Gravity", *Physical Review D* 54 (1996) 2664
50. C Bicchieri, ME Pollack, C Rovelli, I Tsamardinos: "The Potential for Evolution of Cooperation among Web Agents", *International Journal of Human-Computer Studies*, 48 (1998) 9-29.
51. M Barreira, M Carfora, C Rovelli: "Physics with Loop Quantum Gravity: Radiation from Quantum Black Hole", *General Relativity and Gravitation*, 28 (1996) 1293. Second Award of the Gravity Research Foundation, 1996; gr-qc/9603064
52. N Grott, C Rovelli and RS Tate: "Time-of-arrival in quantum mechanics", *Physical Review A* 54 (1996) 4679; quant-ph/9603021
53. S Frittelli, L Lehner, C Rovelli: "The complete spectrum of the area from recoupling theory in loop quantum gravity ", *Classical and Quantum Gravity*, 13 (1996) 2921.
54. C Rovelli: "Loop Quantum Gravity and Black Hole Physics", *Helvetica Physica Acta*, 69 (1996) 582; gr-qc/9608032
55. C Rovelli: "Half way through the woods", in *The Cosmos of Science*, J Earman and JD Norton editors, (University of Pittsburgh Press and Universitäts Verlag Konstanz, 1997).

56. S Frittelli, C Kozameh, ET Newman, C Rovelli and RS Tate: “Fuzzy spacetime points from the null-surface formulation of general relativity”, *Classical and Quantum Gravity*, 14 (1997) A143
57. N Grott, C Rovelli: “Weave states in loop quantum gravity”, *General Relativity and Gravitation*, 29 (1997) 1039.
58. C Rovelli: “Quantum gravity as a ‘sum over surfaces’ ”, *Nuclear Physics (Proc Suppl)* 57 (1997) 28-43.
59. M Reisenberger, C Rovelli: “Sum over Surfaces Form of Loop Quantum Gravity”, *Physical Review D*56 (1997) 3490-3508; gr-qc/9612035
60. C Rovelli: “Black Hole Entropy from Loop Quantum Gravity”, *Physical Review Letter* 14, pg 3288 (1996).
61. S Frittelli, C Kozameh, ET Newman, C Rovelli and RS Tate: “Quantization of the null-surface formulation of general relativity”, *Physical Review D*56 (1997) 889-907
62. C Rovelli: “General Relativity in terms of Dirac Eigenvalues”, *Physical Review Letters*, 78 (1997) 3051; gr-qc/9612034
63. R Borissov, R DePietri, C Rovelli: “Matrix elements of Thiemann hamiltonian”, *Classical and Quantum Gravity* 14 (1997) 2793; gr-qc/97703090
64. C Rovelli, T Thiemann: “The Immirzi parameter in quantum general relativity”, *Physical Review D*57 (1998) 1009-1014; gr-qc/9705059.
65. C Rovelli: “Loop Quantum Gravity”, *Living Reviews in Relativity* (refereed electronic journal), invited review paper. <http://www.livingreviews.org/Articles/Volume1/1998-1rovelli>; gr-qc/9709008.
66. C Rovelli: “ ‘Incerto tempore, incertisque loci’ : Can we compute the exact time at which the quantum measurement happens?”, *Foundations of Physics*, 28 (1998) 1031-1043; quant-ph/9802020
67. G Landi, C Rovelli: “Gravity from Dirac Eigenvalues”, *Modern Physics Letters A*13 (1998) 479-494; gr-qc/9708041
68. C Rovelli: “What is a gauge transformation in quantum mechanics?”, *Physical Review Letters* 80 (1998) 4613; gr-qc/9711028
69. C Rovelli: “Strings, loops and others: a critical survey of the present approaches to quantum gravity”, in *Gravitation and Relativity: At the turn of the Millenium*, N Dadhich J Narlikar eds, pg 281-331 (Inter-University centre for Astronomy and Astrophysics, Pune 1998); gr-qc/9803024.
70. M Montesinos, C Rovelli: “The fermionic contribution to the spectrum of the area operator in nonperturbative quantum gravity”, *Classical and Quantum Gravity*, 15 (1998) 3795-3801; gr-qc/9806120.
71. C Rovelli and P Upadhy: “Loop quantum gravity and quanta of space: a primer”, gr-qc/9806079.
72. C Rovelli: “The projector on physical states in loop quantum gravity”, *Physical Review D*59 (1999) 104015; gr-qc/9806121.
73. M Montesinos, C Rovelli and T Thiemann: “An $SL(2, R)$ model of constrained systems with two hamiltonian constraints”, *Physical Review D*60 (1999) 044009; gr-qc/9901073.
74. C Rovelli: “Quantum Spacetime: what do we know?”, in *Physics meets Philosophy at the Planck length*, C Callender N Hugget eds, Cambridge University Press 1999; gr-qc/9903045.
75. C Rovelli: “Erratum: What is a gauge transformation in quantum mechanics?”, *Physical Review Letters* 81 (1998) 4530.
76. C Rovelli: “Spectral noncommutative geometry and quantization: a simple example”, gr-qc/9904029.
77. J Louko, C Rovelli: “Refined Algebraic Quantization in the oscillator representation of $SL(2, R)$ ”, *Journal of Mathematical Physics* 41 (2000) 132-155; gr-qc/9907004.
78. C Rovelli: “Spectral noncommutative geometry and quantization”, *Physical Review Letters*, 83 (1999) 1079.
79. R DePietri, L Freidel, K Krasnov, C Rovelli: “Barret-Crane model from a Boulatov-Ooguri field theory over a homogeneous space”, *Nucl Phys B*574 (2000) 785-806; hep-th/9907154.

80. C Rovelli: “The century of the incomplete revolution: searching for general relativistic quantum field theory”, *Journal of Mathematical Physics* **41**, Special Issue 2000, invited contribution, 3776 (2000); hep-th/9910131.
81. C Rovelli: “Notes for a Brief History of Quantum Gravity”, in *Proceedings of the ninth Marcel Grossmann Meeting on General Relativity* R.T. Jantzen, R. Ruffini, V. G. Gurzadyan editors pages 742-768 (World Scientific, Singapore 2002); 0006061
82. M Gaul, C Rovelli: “Loop Quantum Gravity and the Meaning of Diffeomorphism Invariance”, *Lecture Notes in Physics* 541 (2000) 277-324; gr-qc/9910079.
83. M Montesinos, C Rovelli: “Statistical mechanics of generally covariant quantum theories: A Boltzmann-like approach”, *Classical and Quantum Gravity* 18 (2001) 555-569; gr-qc/0002024.
84. M Reisenberger, C Rovelli: “Spinfoams as Feynman diagrams”, in *2001 A Relativistic Spacetime Odyssey* I. Ciufolini, D. Dominici, L. Lusanna eds. pp 431-48 (World Scientific, Singapore 2003); gr-qc/ 0002083.
85. M Reisenberger, C Rovelli: “Spacetime as a Feynmann diagram: the connection formulation”, *Class Quantum Grav* 18 (2001) 121-140; gr-qc/0002095.
86. A Perez, C Rovelli: “A spin foam model without bubble divergences”, *Nuclear Physics B*599 (2001) 255-282; gr-qc/0006107.
87. A Perez, C Rovelli: “Spin foam model for Lorentzian General Relativity”, *Physical Review D*63 (2001) 041501
88. A Perez, C Rovelli: “3+1 spinfoam model of quantum gravity with spacelike and timelike components”, *Physical Review D*64 (2001) 064002
89. M Gaul, C Rovelli: “A generalized Hamiltonian Constraint Operator in Loop Quantum Gravity and its simplest Euclidean Matrix Elements”, *Class and Quant Grav* 18 (2001) 1593-1624; gr-qc/0011106.
90. L Crane, A Perez, C Rovelli: “A finiteness proof for the Lorentzian state sum spinfoam model for quantum general relativity”, gr-qc/0101088.
91. R Livine, A Perez, C Rovelli: “2d manifold-independent spinfoam theory”, *Classical and Quantum Gravity* 20, 4103-4123; gr-qc/ 0102051.
92. C Rovelli: “Partial observables”, *Physical Review D*65 (2002) 124013
93. C Rovelli: “A note on the foundation of relativistic mechanics. I: Relativistic observables and relativistic states”, *Proceedings of the 15th SIGRAV Conference on General Relativity and Gravitational Physics, Rome, September 2002*; gr-qc/0111037.
94. C Rovelli: “GPS observables in general relativity”, *Physical Review D*65 (2002) 044017, gr-qc/0110003
95. M Reisenberger, C Rovelli: “Spacetime states and covariant quantum theory”, *Physical Review D*65 (2002) 125016; gr-qc/0111016
96. L Crane, A Perez, C Rovelli: “Finiteness in spinfoam quantum gravity”, *Physical Review Letters* 87 (2001) 181301
97. D Marolf, C Rovelli: “Relativistic quantum measurement”, *Physical Review D*66 (2002) 023510; gr-qc/0203056
98. C Rovelli: “A note on the foundation of relativistic mechanics. II: Covariant hamiltonian general relativity”, in *Topics in Mathematical Physics, General Relativity and Cosmology*, H Garcia-Compean, B Mielnik, M Montesinos, M Przanowski editors, pg 397, (World Scientific, Singapore 2006); gr-qc/0202079
99. C Rovelli: “Dynamics without time for quantum gravity: Covariant hamiltonian formalism for field theory and Hamilton-Jacobi equation on the space G”, in *Decoherence and Entropy in Complex Systems. Selected lectures from DICE 2002*, HT Elze ed, *Lecture Notes in Physics* Lecture Notes in Physics 633 (2003) 36-62 (Springer, Berlin 2003); gr-qc/0207043
100. C Rovelli, S Speziale: “Reconcile Planck-scale discreteness and the Lorentz-Fitzgerald contraction”, *Physical Review D*67 (2003) 064019; gr-qc/0205108
101. P Martinetti, C Rovelli: “Diamonds’s Temperature: Unruh effect for bounded trajectories and thermal time hypothesis”, *Classical and Quantum Gravity* (2003) 4919-4932; gr-qc/0212074
102. L Freidel, R Livine, C Rovelli: “Spectra of Length and Area in 2+1 Lorentzian Loop Quantum Gravity”, *Classical and Quantum Gravity* 20 (2003) 1463-1478; gr-qc/0212077

103. F Conrady, L Doplicher, R Oeckl, C Rovelli, M Testa: “Minkowski vacuum in background independent quantum gravity”, *Physical Review D* 69 (2004) 064019; gr-qc/0307118
104. D Colosi, C Rovelli: “A simple background-independent hamiltonian quantum model”, *Physical Review D* 68 (2003) 104008; gr-qc/0306059
105. C Rovelli: “Loop quantum gravity”, *Phys World* 16N11 (2003) 37
106. F Conrady, C Rovelli: “Generalized Schrödinger equation in Euclidean field theory”, *International Journal of Modern Physics A* 19, (2004) 4037; hep-th/0310246
107. C Rovelli: “A dialog on quantum gravity”, *International Journal of Modern Physics*, D12 (2003) 1509-1528; hep-th/0310077
108. C Rovelli: “Comment on ‘Causality and the Arrow of Classical Time’ by F Rorhich”, *Studies in History and Philosophy of Modern Physics*, 35/3 (2004) 397-405
109. W Fairbairn, C Rovelli: “Separable Hilbert space in loop quantum gravity”, *Journal of Mathematical Physics*, 45 (2004) 2802-2814
110. C Rovelli: “Relational quantum theory”, in *Quo Vadis Quantum Mechanics?*, N Kolenda, A Elitzur editors, (Springer-Verlag, Berlin, 2004)
111. D Oriti, C Rovelli, S Speziale: “Spinfoam 2d quantum gravity and discrete bundles”, *Class Quantum Grav* 22 (2005) 85-108; gr-qc/0406063
112. D Colosi, L Doplicher, W Fairbairn, L Modesto, K Noui, C Rovelli: “Background independence in a nutshell”, *Class Quantum Grav* 22 (2005) 2971-2989; gr-qc/0408079
113. T Jacobson, D Marolf, C Rovelli: “Black hole entropy: inside or out?”, *Int J Theor Phys* 44 (2005) 1807-1837 hep-th/0501103
114. G 't Hooft, L Susskind, E Witten, M Fukugita, L Randall, J Smolin, J Stachel, C Rovelli, G Ellis, S Weinberg, R Penrose: “A theory of everything?” *Nature*, 433 (2005) 257-259
115. L Modesto, C Rovelli: “Particle scattering in loop quantum gravity”, *Physical Review Letters*, 95 (2005) 191301, gr-qc/0502036
116. F Mattei, C Rovelli, S Speziale, M Testa: “From 3-geometry transition amplitudes to graviton states”, *Nucl. Phys. B* 739 (2006) 234 [arXiv:gr-qc/0508007].
117. A Perez, C Rovelli: “Physical effects of the Immirzi parameter”, *Phys Rev D* 73 (2006) 044013; gr-qc/0505081
118. S Speziale, C Rovelli: “On the perturbative expansion of a quantum field theory around a topological sector”, *General Relativity and Gravitation*, 39:167-178,2007, gr-qc/0508106
119. C Rovelli: “Graviton propagator from background-independent quantum gravity”, *Phys Rev Lett* 97 (2006) 151301; gr-qc/0508124
120. C Rovelli: “The disappearance of Space and Time”, in *The Ontology of Spacetime* D. Dieks (Editor) (Elsevier 2006)
121. C Rovelli: “Loop Quantum Gravity”, in *Encyclopedia of Mathematical Physics*, eds. J.-P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006, volume 3 page 339
122. C Rovelli: “Canonical general relativity”, in *Encyclopedia of Mathematical Physics*, eds. J.-P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006, volume 1 page p. 412
123. C Rovelli: “Quantum Gravity”, in *Handbook of the Philosophy of Science*. Volume 2: Philosophy of Physics Volume editors: John Earman and Jeremy Butterfield. Handbook editors: Dov M. Gabbay, Paul Thagard and John Woods. 2006 Elsevier BV
124. C Rovelli: “The disappearance of Space and Time”, in *Philosophy and Foundations of Physics. The Ontology of Spacetime* D. Dieks (Editor) 2006 Elsevier B.V.
125. E Bianchi, L Modesto, C Rovelli, S Speziale: “Graviton propagator in loop quantum gravity”, *Classical and Quantum Gravity* 23 (2006) 6989-7028; (Article Selected by IOP Select). gr-qc/0604044
126. C Rovelli: “Unfinished revolution”, chapter of a book on Quantum Gravity, edited by Daniele Oriti, Cambridge University Press , gr-qc/0604045
127. M Smerlak, C Rovelli: “Relational EPR”, *Foundations of Physics* 37:427-445,2007, quant-ph/0604064
128. C Rovelli, S Speziale: “A semiclassical tetrahedron”, *Classical and Quantum Gravity* 23:5861-5870 (2006), gr-qc/0606074

129. F Hellmann, M Mondragon, A Perez, C Rovelli: “Multiple-event probability in general-relativistic quantum mechanics”, *Physical Review D* 75, 084033 (2007). gr-qc/0610140
130. L Fatibene, M Francaviglia, C Rovelli: “On a Covariant Formulation of the Barbero-Immirzi Connection”, *Classical and Quantum Gravity* 24 (2007) 3055-3066; gr-qc/0702134
131. E Magliaro, C Perini, C Rovelli: “Compatibility of radial, Lorenz and harmonic gauges”, *Physical Review D* 76 : 084013, 2007; arXiv:0704.0992
132. M Mondragon, A Perez, C Rovelli: “Multiple-event probability in general-relativistic quantum mechanics: a discrete model”, *Physical Review D* 76 (2007) 064005; arXiv:0705.0006
133. J Engle, R Pereira, C Rovelli: “The loop-quantum-gravity vertex-amplitude”, *Physical Review Letters*, 99 (2007) 161301; arXiv:0705.2388
134. L Fatibene, M Francaviglia, C Rovelli: “Spacetime Lagrangian Formulation of Barbero-Immirzi Gravity”, *Class. Quantum Grav.* 24 (2007) 4207-4217, arXiv:0706.1899
135. C Rovelli: “Beyond the screen of time”, *Nature, Physics*, 3 (2007)
136. C Rovelli: “Book review of ‘The Structural Foundations of Quantum Gravity’ by D Rickles, S French and J Saatsi (Eds.)”, *Class. Quantum Grav.* 24 (2007) 4539-4541. <http://stacks.iop.org/0264-9381/24/4539>.
137. E Alesci, C Rovelli: “The complete LQG propagator: I. Difficulties with the Barrett-Crane vertex”, *Physical Review D* 76 (2007) 104012; arXiv:0708.0883
138. J Engle, R Pereira, C Rovelli: “Flipped spinfoam vertex and loop gravity”, *Nuclear Physics*, 798 (2008) 251-290; arXiv:0708.1236
139. C Rovelli: “Comment on ‘Are the spectra of geometrical operators in Loop Quantum Gravity really discrete?’ by B. Dittrich and T. Thiemann”, arXiv:0708.2481.
140. E Magliaro, C Perini, C Rovelli: “Numerical indications on the semiclassical limit of the flipped vertex”, *Class. Quant. Grav.* 25: 095009, 2008. arXiv:0710.5034.
141. E Alesci, C Rovelli: “Complete LQG propagator. II. Asymptotic behavior of the vertex”, *Physical Review D* 77 (2008) 044024; arXiv:0711.1284
142. J Engle, E Livine, R Pereira, C Rovelli: “LQG vertex with finite Immirzi parameter” *Nuclear Physics B* 799:136-149,2008; arXiv:0711.0146
143. C Rovelli: “Quantum gravity”, *Scholarpedia*, 3(5) (2008) 7117, http://www.scholarpedia.org/article/Quantum_gravity
144. F Vidotto, C Rovelli: “Stepping out of homogeneity in Loop Quantum Cosmology”, *Class. Quantum Grav.* 25 (2008) 225024; arXiv:0805.4585
145. C Rovelli: “A note on DSR”, arXiv:0808.3505
146. C Rovelli: “Qu’est-ce que le temps ? La fin de nos certitudes newtoniennes”, in *Lexiques de l’incertain*, S Théodoru ed, (Parenthèses editions, Marseille 2008)
147. C Perini, C Rovelli, S Speziale: “Self-energy and vertex radiative corrections in LQG”, arXiv:0810.1714, *Physics Letters B* 682 (2009) 78–84. Journal online version <http://dx.doi.org/10.1016/j.physletb.2009.10.076>
148. C Rovelli, “Loop quantum gravity”, *Living Rev.Rel.*11:5,2008.
149. E Alesci, E Bianchi, C Rovelli, “LQG propagator: III. The new vertex” *Class. Quantum Grav.* 26 (2009) 215001; arXiv:0812.5018 [gr-qc]
150. D Colosi, C Rovelli: “What is a particle?”, *Class. Quantum Grav.* 26 (21 January 2009) 025002. gr-qc/0409054. (Article Selected by IOP Select).
151. D Mamone, C Rovelli: “Second-order amplitudes in loop quantum gravity”, *Class. Quantum Grav.* 26 (2009) 245013. arXiv:0904.3730 [gr-qc]
152. C Rovelli, F Vidotto: “Single particle in quantum gravity and BGS entropy of a spin network”, *Phys. Rev. D* 81 (2010) 044038. arXiv:0905.2983.
153. K Krasnov, C Rovelli: “Black holes in full quantum gravity”, *Class. Quantum Grav.* 26 (2009) 245009, arXiv:0905.4916
154. C Rovelli, F Vidotto: “On the spinfoam expansion in cosmology”, *Class. Quantum Grav.* 27 (2010) 145005, arXiv:0911.3097
155. MV Battisti, A Marciano, C Rovelli: “Triangulated Loop Quantum Cosmology: Bianchi IX and inhomogenous perturbations”, *Physical Review D* 81 (2010) 064019, arXiv:0911.2653

156. Y Ding, C Rovelli: “The volume operator in covariant quantum gravity”, *Class. Quantum Grav.* 27 (2010) 165003, arXiv:0911.0543
157. E Alesci, C Rovelli: “A regularization of the hamiltonian constraint compatible with the spinfoam dynamics”, *Physical Review D*.82 (2010) 044007. arXiv:1005.0817
158. E Bianchi, D Regoli, C Rovelli: “Face amplitude of spinfoam quantum gravity”, *Class. Quantum Grav.* 27 (2010) 185009 arXiv:1005.0764
159. E Bianchi, C Rovelli, F Vidotto: “Towards Spinfoam Cosmology”, *Physical Review D* 82 (2010) 084035, arXiv:1003.3483
160. E Bianchi, C Rovelli: “Why all these prejudices against a constant?”, arXiv:1002.3966
161. E Bianchi, C Rovelli: “Is dark energy really a mystery?”, *Nature*, 466 (2010) 321.
162. C Rovelli, S Speziale, “On the geometry of loop quantum gravity on a graph”, *Phys. Rev. D*82 (2010) 044018, arXiv:1005.2927
163. C Rovelli, M Smerlak: “Thermal time and the Tolman-Ehrenfest effect: temperature as the ‘speed of time’ ”, *Class. Quant. Grav* 28 (2011) 075007 arXiv:1005.2985
164. Y Ding, C Rovelli: “Physical boundary Hilbert space and volume operator in the Lorentzian new spin-foam theory”, *Class. Quantum Grav.* 27 (2010) 205003, arXiv:1006.1294.
165. A Henderson, C Rovelli, F Vidotto, E Wilson-Ewing: “Local spinfoam expansion in loop quantum cosmology”, *Class. Quantum Grav.* 28 (2011) 025003, arXiv:1010.0502
166. C Rovelli: “A new look at loop quantum gravity”, *Class. Quantum Grav.* 28 (2011) 114005. arXiv:1004.1780
167. C Rovelli: “Simple model for quantum general relativity from loop quantum gravity”, *J. Phys. Conf. Ser.* 314 (2011) 012006 arXiv:1010.1939
168. C Rovelli, M Smerlak: “In quantum gravity, summing is refining” *Class. Quantum Grav.* 29 (2012) 055004. arXiv:1010.5437
169. C Rovelli: “Some Considerations on Infinity in Physics”, in *Infinity. New Research Frontiers*, Michael Heller and W. Hugh Woodin editors, pg 167-175. Cambridge University Press, 2011.
170. Y Ding, M Han, C Rovelli: “Generalized Spinfoams”, *Phys Rev D*.83.124020, arXiv:1011.2149
171. C Rovelli: “Loop Quantum Gravity: the first twenty five years”, *Class. Quantum Grav.* 28 (2011) 153002, arXiv:1012.4707
172. C Rovelli, S Speziale: “Lorentz covariance of loop quantum gravity”, *Phys. Rev D.* 83.104029, arXiv:1012.1739
173. E Bianchi, M Han, E Magliaro, C Perini, C Rovelli, W Wieland: “Spinfoam fermions”, *Class. Quantum Grav.* 30 (2013) 235023, arXiv:1012.4719,
174. M Han, C Rovelli: “Spinfoam Fermions: PCT Symmetry, Dirac Determinant, and Correlation Functions” *Classical and Quantum Gravity*, 2013, 30 (7), pp.075007. arXiv:1101.3264,
175. E Bianchi, T Krajewski, C Rovelli, F Vidotto: “Cosmological constant in spinfoam cosmology”. *Physical review D*83.104015, arXiv:1101.4049
176. C Rovelli: “Zakopane lectures in loop gravity”, in the proceedings of the *3rd Quantum Gravity and Quantum Geometry School*, Proceedings of Science, PoS (QGQGS 2011) 003 http://pos.sissa.it/archive/conferences/140/003/QGQGS%202011_003.pdf, arXiv:1102.3660.
177. A Perez, C Rovelli: “Observables in quantum gravity”, in *Quanta of Maths*, E.Blanchard, D.Ellwood, M.Khalkhali, M.Marculli, H.Moscovici, S.Popa eds., pg 501-518, American Mathematical Society (2011) gr-qc/0104034
178. C Rovelli, M Zhang: “Euclidean three-point function in loop and perturbative gravity”, arxiv:1105.0566, *Class. Quantum Grav.* 28 (2011) 175010.
179. E Bianchi, C Rovelli “A note on the geometrical interpretation of quantum groups and non-commutative spaces in gravity”, *Phys Rev D* 84 (2011) 027502, arXiv:1105.1898
180. C Rovelli “Discretizing parametrized systems: the magic of *Ditt*-invariance”, arXiv:1107.2310. Submitted to the proceedings of the 6th Aegean Quantum Gravity School.
181. C. Rovelli, M. Smerlak, “Unruh effect without entanglement,” *Phys. Rev. D* 85, 124055 (2012), arXiv:1108.0320.
182. C Rovelli: “ ‘Forget Time’ ”, First Community Prize of the FQXi “The nature of Time” Essay Contest. *Foundations of Physics* 41 (2011) 1475-1490, arXiv:0903.3832

183. C. Rovelli, "On the structure of a background independent quantum theory: Hamilton function, transition amplitudes, classical limit and continuous limit," arXiv:1108.0832. Proceedings of LOOP11.
184. C. Rovelli, "A critical look at strings," invited contribution to the Special Issue of "Foundations of Physics" titled "Forty Years Of String Theory: Reflecting On the Foundations, Foundations of Physics: Volume 43, Issue 1 (2013), Page 8-20. arXiv:1108.0868.
185. C. Rovelli, E. Wilson-Ewing, "Discrete symmetries in covariant LQG," Phys RevD.86 (2012) 064002, arXiv:1205.0733.
186. M. Christodoulou, A. Riello, C. Rovelli, "How to detect an antispacetime", International Journal of Modern Physics D, 21 (2012) 12420. arXiv:1206.3903.
187. M. Christodoulou, M. Langvik, A. Riello, C. Röken, C. Rovelli "Divergences and Orientation in Spinfoams," , Class. Quantum Grav. 30 (2013) 055009, arXiv:1207.5156,
188. C. Rovelli, "De la gravitation à boucles," Images de la physique 2011, Journal du CNRS, pg 35 (2012).
189. C. Rovelli, "Kiefel's Quantum gravity" Class. Quantum Grav. 29 (2012) 179001.
190. C. Rovelli, "General relativistic statistical mechanics", Phys Rev D.87.084055, 2013, arXiv:1209.0065,
191. H.M. Haggard, C. Rovelli, F. Vidotto, W. Wieland, "The spin connection of twisted geometry", Phys Rev D.87.024038, arXiv:1211.2166
192. H.M. Haggard, C. Rovelli, "Death and resurrection of the zeroth principle of thermodynamics" International Journal of Modern Physics D Vol. 22, No. 12 (2013) 1342007, arXiv:1302.0724
193. C. Rovelli, "Covariant loop gravity" Lect. Notes Phys. 863 (2013) 57-66. http://link.springer.com/chapter/10.1007/978-3-642-33036-0_3
194. E. Bianchi, H. M. Haggard, and C. Rovelli, "The boundary is mixed", arXiv:1306.5206.
195. C. Rovelli, "History: Don't glorify Arab astronomy", Nature (letters) 499, 154 (2013).
196. F Vidotto and C. Rovelli, "Maximal acceleration in covariant loop gravity and singularity resolution", Physical Review Letters (editor's choice) 111 (2013) 091303. arXiv:1307.3228.
197. C. Rovelli, "Why Gauge?". Foundations of Physics 44 (2014) 91-104 arXiv:1308.5599.
198. G. Chirco, H. Haggard and C. Rovelli, "Coupling and thermal equilibrium in general-covariant systems", Phys. Rev. D 88, 084027 (2013), arXiv:1309.0777.
199. C. Rovelli, "GPS observables in general relativity", Acta Futura 7 (2013) 97-101.
200. E. Alesci, F. Cianfrani and C. Rovelli, "Quantum-Reduced Loop-Gravity: Relation with the Full Theory", Physical Review D, American Physical Society 88 (2013) pp.104001. arXiv:1309.6304.
201. C. Rovelli, E. Wilson-Ewing, "Why are the effective equations of loop quantum cosmology so accurate?", Phys. Rev. D 90, 023538 (2014), arXiv:1310.8654.
202. C. Rovelli, "Relative information at the foundation of physics", FQXi second Prize, in *It from Bit or Bit from It? On Physics and information*, A Aguirre, B Foster and Z Merali eds., 79-86 (Springer 2015), e-Print: arXiv:1311.0054 .
203. C. Rovelli, "Aristotle's Physics: A Physicist's look", Journal of the American Philosophical Association, 1 (2015) 23-40 arXiv:1312.4057.
204. G. Chirco, H. Haggard, A. Riello, C. Rovelli, "Spacetime thermodynamics without hidden degrees of freedom", Phys. Rev. D 90, 044044 (2014) arXiv:1401.5262
205. C. Rovelli, F. Vidotto, "Planck Stars", International Journal of Modern Physics D23 (2014) 12, 1442026, arXiv:1401.6562.
206. A. Barrau, C. Rovelli, "Planck star phenomenology", Physics Letters B, 739 (2104), 405-409, arXiv:1404.5821
207. E. Calloni, M. De Laurentis, R. De Rosa, L. Di Fiore, G. Esposito, F. Garufi, L. Rosa, C. Rovelli, P. Ruggi, F. Tafuri, "Towards weighing the condensation energy to ascertain the Archimedes force of vacuum", Physical Review D 90 (2014) 022002, arXiv:1401.6940.
208. W. Bunting, C. Rovelli, "Propagator with positive cosmological constant in 3d euclidean quantum gravity toy model" Classical and Quantum Gravity, 31 (2014) 155011. arXiv:1401.7358.
209. C. Rovelli, "La gravité quantique à boucles", in *Le monde quantique. Les débats philosophiques de la physique quantique*, B d'Espaçant, H Zwirn eds., pg 407 (Matériologiques, Paris 2014)

210. H. Haggard, C Rovelli, “Black hole fireworks: quantum-gravity effects outside the horizon spark black to white hole tunnelling” *Physical Review D* (2015) 92.104020. arXiv:1407.0989
211. G Chirco, C Rovelli, P Ruggiero, “Thermally correlated states in Loop Quantum Gravity” *Class.Quant.Grav.* 32 (2015) no.3, 035011, arXiv:1408.0121.
212. C Rovelli, “Lorentzian Connes Distance, Spectral Graph Distance and Loop Gravity” arXiv:1408.3260
213. A Ashtekar, M Reuter and C Rovelli, “From General Relativity to Quantum Gravity”, in *General Relativity and Gravitation: A Centennial Survey*, commissioned by the International Society for General Relativity and Gravitation (Cambridge University Press, 2015). arXiv:1408.4336
214. A. Barrau, C. Rovelli, F Vidotto, “Fast Radio Bursts and White Hole Signals”, *Phys. Rev. D (Brief Reports)* 90, 127503 (2014). arXiv: 1409.4031.
215. C. Rovelli, “The Strange Equation of Quantum Gravity”, *Class. Quantum Grav.* 32 (2015) 124005. arXiv:1506.00927.
216. C. Rovelli, “Relative information at the foundation of physics” in *It From Bit or Bit From It?*, A. Aguirre et al. eds., Springer International Publishing, pp.79-86, 2015. arXiv:1311.0054.
217. C. Rovelli, “Why do we remember the past and not the future? The ‘time oriented coarse graining’ hypothesis” arXiv:1407.3384
218. Enrico Calloni, S Caprara, Martina De Laurentis, Giampiero Esposito, M Grilli, Ettore Majorana, G P Pepe, S Petrarca, P Puppo, F Ricci, Luigi Rosa, Carlo Rovelli, P Ruggi, N L Saini, Cosimo Stornaiolo, Francesco Tafuri, “The Archimedes project: a feasibility study for weighing the vacuum energy”, *Frontiers of Fundamental Physics 14 - FFP14*, Jul 2014, Aix Marseille University (AMU) Saint-Charles Campus, Marseille, France. *Proceedings of Science (POS)*, 187. arXiv:1409.6974
219. Seramika Ariwahjoedi, Jusak Sali Kosasih, Carlo Rovelli, Freddy P. Zen, “How many quanta are there in a quantum spacetime?”, *Class. Quantum Grav.* 32 (2015) 165019. arXiv:1404.1750.
220. Marios Christodoulou, Carlo Rovelli, “How big is a black hole?”, *Phys. Rev. D* 91, 064046 (2015), arXiv:1411.2854
221. Tommaso De Lorenzo, Costantino Pacilio, Carlo Rovelli, Simone Speziale “On the Effective Metric of a Planck Star”, *General Relativity and Gravitation* 47 (2015) 41, arXiv:1412.6015
222. Carlo Rovelli “LQG predicts the Unruh Effect. Comment to the paper “Absence of Unruh effect in polymer quantization” by Hossain and Sardar”. arXiv:1412.7827
223. Carlo Rovelli, Francesca Vidotto “Compact phase space, cosmological constant, discrete time”, *Phys.Rev. D* 91 (2015) no.8, 084037 arXiv:1502.00278
224. Seramika Ariwahjoedi, Jusak Sali Kosasih, Carlo Rovelli, Freddy P. Zen, “Curvatures and discrete Gauss-Codazzi equation in (2+1)-dimensional loop quantum gravity”, *International Journal of Geometric Methods in Modern Physics*, Vol. 12, No. 10, 1550112 (2015) 1550112. arXiv:1503.05943.
225. M. Cerdonio, C Rovelli, “Casimir effects are not an experimental demonstration that free vacuum gravitates: connections to the Cosmological Constant Problem”, *International Journal of Modern Physics D* Vol. 24, No. 12 (2015) 1544020, arXiv:1406.1105.
226. Thibaut Josset, Goffredo Chirco, Carlo Rovelli, “Statistical mechanics of reparametrization invariant systems. Takes Three to Tango”, *Class.Quant.Grav.* 33 (2016) 045005 arXiv:1503.08725.
227. Carlo Rovelli, “Is the Time Arrow Perspectival?”, in *The Philosophy of Cosmology*, Khalil Chamcham, Joseph Silk, John Barrow, Simon Saunders eds; Cambridge University Press, 2016. <http://philsci-archive.pitt.edu/11443/>, arXiv:1505.01125
228. Carlo Rovelli, “Michelangelo’s Stone: an Argument against Platonism in Mathematics”, *European Journal for Philosophy of Science*, 7 (2017) 285-297 doi:10.1007/s13194-016-0159-8, <http://philsci-archive.pitt.edu/id/eprint/11595>. arXiv:1508.00001.
229. Carlo Rovelli, “An argument against the realistic interpretation of the wave function”, *Foundations of Physics*, 46, (2016), pp 1229–1237 <http://philsci-archive.pitt.edu/id/eprint/XXX>. arXiv:1508.05533.

230. Marios Christodoulou, Carlo Rovelli, Simone Speziale, Ilya Vilenky. “Realistic Observable in Background-Free Quantum Gravity: the Planck-Star Tunnelling-Time”, *Phys. Rev. D* 94, 084035 (2016), arXiv:1605.05268.
231. Hal M. Haggard, Carlo Rovelli, “Quantum Gravity Effects around Sagittarius A*”, *Int.J.Mod.Phys. D*25 (2016) no.12, 1644021, arXiv:1607.00364.
232. Carlo Rovelli, “The dangers of non-empirical confirmation”. To appear on the proceedings of the meeting ‘Why Trust a Theory? Reconsidering Scientific Methodology in Light of Modern Physics,’ Munich, Dec. 7-9, 2015. arXiv:1609.01966.
233. Gerard 't Hooft, Steven B. Giddings, Carlo Rovelli, Piero Nicolini, Jonas Mureika, Matthias Kaminski, Marcus Bleicher, “The Good, the Bad, and the Ugly of Gravity and Information”, panel discussion held at the 2nd Karl Schwarzschild Meeting, Frankfurt am Main, Germany, July 2015; to be published in *Springer Proceedings in Physics*. arXiv:1609.01725
234. Carlo Rovelli, “Meaning = Information + Evolution”, arXiv:1611.02420.
235. L. Rosa, S. Avino, E. Calloni, S. Caprara, M. De Laurentis, R. De Rosa, Giampiero Esposito, M. Grilli, E. Majorana, G. P. Pepe, S. Petrarca, P. Puppo, P. Rapagani, F. Ricci, C. Rovelli, P. Ruggi, N. L. Saini, C. Stornaiolo, F. Tafuri, “Casimir energy for two and three superconducting coupled cavities: numerical calculations”, arXiv:1701.04335.
236. Carlo Rovelli, “Gregory: Anaximander. A re-assessment”, *Revue des Etudes Anciennes* 118, 657- 661, 2016
237. Seramika Ariwahjoedi, Valerio Astuti , Jusak Sali Kosasih, Carlo Rovelli, Freddy P. Zen, “Statistical discrete geometry”, arXiv:1607.08629
238. Carlo Rovelli “Planck stars: new sources in radio and gamma astronomy?”, *Nature Astronomy* 1, 0065 (2017).
239. Carlo Rovelli “Black holes have more states than those giving the Bekenstein-Hawking entropy: a simple argument”, arXiv:1710.00218.
240. Carlo Rovelli “Space is blue and birds fly through it”, to appear in *Philosophical Transactions A*. arXiv:1712.02894.
241. Eugenio Bianchi, Marios Christodoulou, Fabio D’Ambrosio, Carlo Rovelli, Hal M. Haggard, “White Holes as Remnants: A Surprising Scenario for the End of a Black Hole”, arXiv:1802.04264.
242. Carlo Rovelli “The Meaning of the Wave Function. In Search of the Ontology of Quantum Mechanics, by Shan Gao. Book review”. *Foundations of Physics*. To appear in *Foundations of Physics*.