

# Résumé

## Francesca Vidotto



Dr. Vidotto is an internationally recognized Quantum Gravity expert and has established a significantly successful interdisciplinary research program. Her publication record includes 34 papers published mostly in high impact journals including *Physical Review Letters* (PRL) and the *Journal for Cosmology and Astrophysics* (JCAP), attracting a total number of citations that to date is reaching two thousand (see [inspirehep.net/author/profile/F.Vidotto.1](https://inspirehep.net/author/profile/F.Vidotto.1)). Her leadership is evident in the number of talks at international conferences (80, more than half of which invited plenary talks) distributed among mathematical physics, astrophysics and philosophy events, and in her engagement as editor of the international journals *Quantum* and *Foundations of Physics*.

Dr. Vidotto's interdisciplinary approach to her work in marrying the fields of mathematical physics, astrophysics and philosophy, is appreciated by different research communities across the world. Her current position reflects her interdisciplinary profile: she is hired at Western University 50% in Physics and Astronomy and 50% in the Philosophy Department, that is recognized as one of the best in the world for philosophy of physics. She is also a core member of the Rotman Institute for Philosophy of Science and she is affiliated to the Perimeter Institute for Theoretical Physics.

Quantum gravity is among the hardest open problems at the foundation of theoretical physics. Part of the difficulty resides in the fragmentation of the field, that includes lines of investigation ranging from observations in astrophysics and cosmology, to the development of mathematical techniques, all the way to philosophical questions on the meaning of a theory where the usual notions of space and time emerge only as approximations. Dr. Vidotto has addressed all of these aspects of the research in quantum gravity and is involved in the academic philosophical debate on spacetime and quantum theory. Her principal field of investigation is Loop Quantum Gravity, a field in which she has made new original contributions and authored a textbook which is a central reference for students. She pioneered several research directions: she started the investigation of early cosmology using the path-integral formalism of Loop Quantum Gravity (Spinfoam Cosmology); she initiated a direction of investigation on the quantum properties of black holes without a central singularity proposing the ideas of Planck Stars, Black-to-White phenomenology, and White Hole remnants as dark matter. These are examples of her innovative leadership and impact. Her seminal paper on Planck Stars has been cited over 300 times and has been featured in popular dissemination outlets such as *New Scientist*.

Dr. Vidotto's research has obtained significant research support. For example, she was the recipient of the prestigious Canada Research Chair, for a value of \$600,000, and the Rubicon and Veni grants from the Dutch Research Council (NWO) in the total amount of €368,000. She is a member of several research collaborations, ranging from the Fundamental Science group within the LISA mission that aims at detecting gravitational waves in space, to the newly formed QISS network for the study of the relations between quantum information and quantum gravity, supported by a \$6-million grant from the Templeton Foundation.

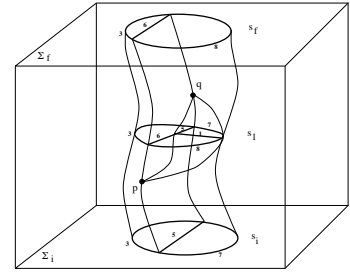
Dr. Vidotto is internationally appreciated for her engagement with science and society at large, beyond the borders of her scientific research. She is engaged in knowledge dissemination through regular invitations to public talks such as TedX and featured articles in large-public science journals in different countries, such as *New Scientist*. She is recognized as an advocate for gender equity in science through community engagement activities.

# Francesca Vidotto

WebSite: [loopy.space/vidotto](http://loopy.space/vidotto)

## University of Western Ontario

Postal Address: Department of Physics and Astronomy  
1151 Richmond Street, London N6A 5B7, ON, Canada



## Profile

I'm a theoretical physicist with a research focus in Loop Quantum Gravity and its application to cosmology, black holes and the foundations of physics.

## Current position

Since 2019 Assistant Professor at the University of Western Ontario, Canada  
Department of Physics & Astronomy and Department of Philosophy  
Canada Research Chair in the Foundations of Physics  
Member of the The Rotman Institute of Philosophy  
Affiliated to the Perimeter Institute for Theoretical Physics

## Previous positions

- 2017/19 Postdoc at the University of the Basque Country, Bilbao, Spain.  
Research-group leader: Prof. José Senovilla
- 2014/17 NWO Veni fellow at Radboud University, Nijmegen, the Netherlands.  
Research-group leader: Prof. Klaas Landsman
- 2012/14 NWO Rubicon fellow at Radboud University, Nijmegen, the Netherlands.  
Research-group leader: Prof. Renate Loll
- 2011/12 Researcher at Laboratoire de Physique Subatomique et de Cosmologie and teaching assistant at Université J. Fourier in Grenoble, France (ATER).  
Research-group leader: Prof. Aurélien Barrau

## Habilitations

- 2019 — Qualification "Professeur d'Université" in France, Sec 29
- 2014 — Habilitation as associate professor in Italy, Sec 02 Theoretical Physics
- 2013 — Qualification "Maître de Conference" in France, Sec 29

## Education

- 16/02/2012 — PhD in Physics, University of Pavia, Italy;  
adjoint supervision with the University of Aix-Marseille, France.  
Title: General covariant transition amplitudes in quantum cosmology  
Advisors: Prof. Mauro Carfora and Prof. Carlo Rovelli and  
(Homologated in 2017 to Spanish title at the Basque Country, Bilbao)
- 17/10/2008 — "Laurea" (B. Sc. + M. Sc.) in Physics, University of Padova, Italy;  
Title: Closed models and Inhomogeneities in Loop Quantum Cosmology  
Advisors: Prof. Sabino Matarrese and Prof. Carlo Rovelli

## Languages

English, fluent; French, fluent; Spanish, basic; Italian, mother language.

## Publication summary:

(Google Scholar - updated at 18/03/23)

HEP papers: 42 and 1 monograph      h index: 24      h<sub>HEP</sub> index: 20  
Total number of citations: 2878      i10-index: 35

List of scientific publications at: <http://inspirehep.net/author/profile/F.Vidotto.1>

Talks at international conferences: ~80 of which ~40 invited talks

### Grants as Principal Investigator

- 2020 – Tier 2 Canada Research Chair ( 600.000 CAD ) in the Foundations of Physics
- “Discovery Grants Program” ( 120.000 CAD ) awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) for the research project: “Loop Quantum Gravity: from Computation to Phenomenology” ( 5 years )
  - “Discovery Launch Supplement” ( 12.500 CAD ) awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) to support my new research group
- 2019 – “Start Up Grant” ( 70.000 CAD ) awarded by the University of Western Ontario to support my new research group
- “Tenure Track Pilot Programme” ( 1.000.000 € ) awarded by the Croatian Science Foundation (HRZZ) for the research project: “Exploring the Quantum Universe” ( 5 years ) - *declined*.
- 2014 – “Veni fellowship” ( 250.000 € ) awarded by the Netherlands Organization for Scientific Research (NWO) for the research project: “Investigating the early universe with quantum gravity” ( 3 years ).
- 2012 – “Rubicon fellowship” ( 118.000 € ) awarded by the Netherlands Organization for Scientific Research (NWO) for the research project: “Exploring the early universe with quantum gravity” ( 2 years ).
- 2009 – “Fondazione A. Della Riccia” scholarship ( 11.000 € ) ( 1 year ).
- 2007 – Erasmus scholarship ( 1 year ) at Aix-Marseille University, France.

### Grants as Co-Investigator

- 2022 – John Templeton Foundation grant ( 4.000.000 € ) for the project “The Quantum Information Structure of Spacetime” (QISS), lead by Carlo Rovelli and Marios Christodoulou: the Rotman Institute became the leading center of the project ( 3 years ).
- 2019 – John Templeton Foundation grant ( 2.000.000 € ) for the project “The Quantum Information Structure of Spacetime” (QISS), lead by Carlo Rovelli and Marios Christodoulou ( 3 years ).

### Awards

- Scharzschild-Springer Prize for the best junior (less than 8 year from the PhD defense) presentation at the Karl Schwarzschild Meeting 2015.
- 2015 NVH Jubilee Prize (1.000€) awarded by the Network of Female Professors to the most talented young female scientist at Radboud University Nijmegen.
- Honorable mention at the gravity essay contest by Gravity Research Foundation, USA, for “Planck Stars” by Carlo Rovelli, Francesca Vidotto. Int. J. Mod. Phys. D 23, 1442026, 2014.
- “Many-nodes/many-links spinfoam: the homogeneous and isotropic case” by Francesca Vidotto. Class.Quant.Grav.28:245005,2011. Selected by the editors of Class.Quant.Grav. for inclusion in the ‘Highlights of 2011-2012’.
- James B. Hartle Award for the best student presentation at the 19th International Conference on General Relativity and Gravitation (GR19), Mexico City.
- Honorable mention at the gravity essay contest by Gravity Research Foundation, USA, for “Single particle in quantum gravity and BGS entropy of a spin network ” by Carlo Rovelli, Francesca Vidotto. Phys.Rev.D81:044038,2010

### Visiting Position

- 2019 — 1-month ERC Visiting Fellow in Gravitational Physics, at the Center for Astrophysics and Gravitation in Técnico (GRIT), Lisbon, Portugal.
- 2016 — 1-month Visiting Fellow at the Centre de Physique Theorique (CPT) of the Aix-Marseille University, Marseille, France.
- 2008 — 4-month Undergraduate Summer Research Position at Perimeter Institute, Canada. Project: “Early Universe in a Quantum Cosmos”.
- 2007 — 1-month Undergraduate Visiting Position at the Albert Einstein Institute, Germany.

### Professional Membership

International Society of General Relativity and Gravitation (ISGRG)  
Italian Society of General Relativity and Gravitational Physics (SIGRAV)

### Referees for (selected)

Physical Review Letters (PRL), Physical Review D (PRD), Journal of High Energy Physics (JHEP), Classical and Quantum Gravity, General Relativity and Gravitation, Foundations of Physics, Studies in History and Philosophy of Modern Physics.

Founding Editor of Quantum, arXiv overlay journal for quant-ph.

Member of the Editorial Board of Foundation of Physics.

### Referees for Funding Agencies (selected)

Natural Sciences and Engineering Research Council of Canada, Austrian Academy of Sciences, National Science Centre of Poland.

### Scientific Committee of International conferences

- 2023 – International Foundations of Physics Conference, Bristol, UK
- 2022 – IAP Annual Conference, Paris, France
  - QISS Conference, London ON, Canada
- 2020 – International Foundations of Physics Conference, Paris, France
  - Annual Philosophy of Physics Conference, London ON, Canada
- 2020 – Quantum Gravity and Cosmology, Abu Dhabi, United Arab Emirates
- 2019 – Twistors Meet Loops, CIRM, Marseille, France
- 2018 – International Foundations of Physics Conference, Utrecht, Netherlands
- 2014 – Frontiers in Fundamental Physics Conference, Marseille, France, July

### Institutional Responsibilities

- 2021/— – Executive Committee, Rotman Institute, Western U.
- 2022/23 – Climate Committee, Philosophy Dept., Western U.
- 2022/23 – Appointments Committee, Philosophy Dept., Western U.
- 2022/23 – Freedom-22, Physics and Astronomy Dept., Western U.
- 2022/23 – Search Committee, Physics and Astronomy Dept., Western U.
- 2021/22 – Can-Grad, Physics and Astronomy Dept., Western U.
- 2020/22 – Grad Admissions Committee, Philosophy Dept., Western U.
- 2020/21 – Climate Committee, Philosophy Dept., Western U.
- 2020/21 – Appointments Committee, Applied Mathematics Dept., Western U.
- 2019/21 – Steering Committee, Rotman Institute, Western U.

2016/17 – Halkes Women Network (board member), Radboud U.  
2002/04 – Faculty Council (elected member), Padova U.  
2002/04 – Equal Opportunity Committee (elected member), Padova U.  
2001/02 – Faculty Didactic Commission, Padova U.

### Doctoral Thesis Committee

2023 – Bruno Giménez Umbert, Western University, Canada (physic)  
– Mackenzie Marcotte, Western University, Canada (philosophy)  
2022 – Andrea Orizzonte, University of Torino, Italy (mathematics)  
– Christopher Wyenberg, Western University, Canada (astronomy)  
– Joshua Hedgepeth, Western University, Canada (planetary sciences)  
– Indrani Das, Western University, Canada (astronomy)  
– Giovanni Buonocore, Università di Firenze, Italy (philosophy)  
– Dimitrios Athanasiou, Western University, Canada (philosophy)  
2021 – Lautaro Amadei, Aix-Marseille Université, France (physics)  
– Francesco Gozzini, Aix-Marseille Université, France (physics)  
– Pranav Vijay Chakravarthy, Western University, Canada (mathematics)  
– Arpan Das, Western University, Canada (astronomy)  
2020 – Loic Marsot, Aix-Marseille Université, France (physics)  
– Pierre Martin-Dussaud, Aix-Marseille Université, France (physics)  
2019 – Fabio D’ambrosio, Aix-Marseille Université, France (physics)  
– Hongguang Liu, Aix-Marseille Université, France (physics)  
2018 – Tommaso de Lorenzo, Aix-Marseille Université, France (physics)  
2016 – François Collet, Aix-Marseille Université, France (physics)

### Supervised Postdocs

2022/23 – Pietro Donà (Physics)  
Topic: Numerical Methods in LQG  
2021/23 – Emily Adlam (Philosophy)  
Topic: Quantum Gravity and Quantum Information

### Supervised PhD Students

2022/— – Pascal Rodriguez (Philosophy)  
Topic: Temporal correlations in quantum systems  
2020/— – Mateo Pascual (Physics)  
Topic: Loop Quantum Cosmology  
2020/— – Farshid Soltani (Physics)  
Topic: Spinfoam Amplitudes and Black Holes  
2020/— – Pietropaolo Frisoni (Physics)  
Topic: Numerical Methods in Covariant Loop Quantum Gravity  
2019/— – Yichen Liu (Philosophy)  
Topic: Black Holes and the Thermodynamics of Spacetime

### Supervised MSc Students

- 2022/— – Sophie Reid  
Topic: Entanglement in Spinfoam Cosmology
- 2022/— – Jared Wogan  
Topic: Numerical Methods in Covariant Loop Quantum Gravity
- 2021/22 – Federico Scali  
Title: “A particular truncation of the Covariant Vacuum in Loop Quantum Gravity: semiclassical analysis and cosmological interpretation”
- 2017/18 – Gabriel Carral  
Title: “The tensorial structure of covariant quantum system”
- 2017/18 – Francesco Gozzini  
Title: “Entangled states in the primordial universe”
- 2015/16 – Marrit Schutten  
Title: “Phenomenology of quantum black holes”
- 2014/15 – Nicola Colacino  
Title: “Loop Quantum Gravity observables with quantum groups”
- 2013/14 – Bertrand Jayles  
Title: “Entanglement in spinnetwork states”

### Supervised Undergraduate Students

- 2021 – Jacob Adams (Physics 4999E 6-month project)  
Title: “Developing Numerical Methods in Python for Computing Angular Momentum Recoupling in the Framework of Loop Quantum Gravity”
- 2020 – Patrick Fraser (USRA 4-month project)  
Title: “Quantum Fluctuations in Loop Quantum Cosmology”
- 2018 – Francesco Pisani (3-month project)  
Title: “Entanglement properties of LQG states”
- 2014 – John van de Wetering (6-month project)  
Title: “Entanglement in spinnetwork states”

### Summer Projects Supervision at Western

- 2021 – Cameron Yetman: creation of an annotated bibliography in Philosophy of Cosmology (with Pauline Barmby)
- 2020 – Mackenzie Marcotte: creation of an annotated bibliography in Feminist Epistemology
- Mahima Siali and Tamunomiete Brown: creation of new WebWork material for the learning of advanced Linear Algebra

### University Courses

- 2024 – The Origin of the Universe (ASTRO 2022B)  
for undergraduate students at Western University, Canada.
- Philosophy of Physics (PHIL 2310F)  
for undergraduate students at Western University, Canada.
- 2023 – The Origin of the Universe (ASTRO 2022B)  
for undergraduate students at Western University, Canada.
- 2022 – Quantum Gravity (PHYSICS 9204A)  
for graduate students (MSc/PhD) at Western University, Canada.
- Women and Science (PHIL 9703A / 4311F)  
for graduate students (MSc/PhD) at Western University, Canada.

- The Origin of the Universe (ASTRO 2022B)  
for undergraduate students at Western University, Canada.
- 2021 – Women and Science (PHIL 9703A / 4311F)  
for graduate students (MSc/PhD) at Western University, Canada.
- c (AM 2811B)  
for undergraduate students at Western University, Canada.
- 2020 – Women and Science (PHIL 9703A / 4311F)  
for graduate students (MSc/PhD) at Western University, Canada.
- Introduction to General Relativity (AM 9625B)  
for graduate students (MSc/PhD) at Western University, Canada.
- 2019 – The Physics of Spacetime (Special and General Relativity)  
for Master students at African Institute for Mathematical Sciences, Ghana.
- 2016 – Foundations of Quantum Mechanics  
for Master students at Radboud University Nijmegen, the Netherlands.
- Quantum Mechanics  
for Master students at African Institute for Mathematical Sciences, Senegal.

### Other Courses

- 2023 – Summer School on the philosophy of Dark Matter at the University of Urbino, Italy.
- 2022 – Summer Institute on the philosophy of Cosmology and of Quantum Gravity at the University of Geneva, Switzerland.
- 2018 – Relativity for high school students at the ESO AstroCamp, Portugal.
- 2017 – Summer School on the philosophy of Quantum Gravity at the University of Urbino, Italy.

### Teaching Assistantship

- 2012 – Quantum Mechanics, Special Relativity and Physic Laboratory 1  
(assistant) for undergraduates at Université J.Fourier in Grenoble, France.

### Public Engagement

- 2023 – Seminar “E-quality in Science”, Bologna, Italy
- 2022 – Seminar “La diversità che rende la scienza migliore”, Padova, Italy
  - Headline Debate “The Shock of The Future” with Lee Smolin and John Vervaeke, The Institute of Art and Ideas ([iai.tv](http://iai.tv)), London, UK
  - Panel on Women in Science, Perimeter Institute, Canada
  - FAU’s Frontiers in Science Lecture Series, Florida Atlantic University, US
- 2021 – “Everyday quantum physics” New Scientist Online Course, UK
  - Online discussion for the project “Girls in Physics”, London, UK
  - Intervention at theatre festival, Correggio, Italy
  - Discussion with PennState Physics EDI group
  - Online Colloquium “Can Physics be Feminist?” for the Grupo Especializado de Mujeres en Física de la Real Sociedad Española de Física, Spain
  - Online Interview for the series “Scienziati” of Media INAF, Italy
- 2019 – Round table on gender in physics, event organised for the GR22-Amaldi12 Conference, Valencia, Spain
  - Public debate for the feminist organisation Pinkabbestia, Rimini, Italy
- 2018 – Public discussion on Time at the Genoa Science Festival, Italy
  - Public Talk on Science and Theatre, Treviso, Italy
- 2017 – Skype seminar to the students of Hampshire College, Amherst, US



- Presentation of the science of Stephen Hawking for the projection of the movie "Theory of Everything" at the University of Bologna, Italy
- Public talk on "Spacetime" for high school students, Belluno, Italy
- Ted talk on "Roots to the Future" at the Ted-X event in Treviso, Italy
- Ted talk on "Particles" for the Italian Physics Society in Trento, Italy
- Ted talk on "Time" at the Ted-X event in Udine, Italy
- Public talk on "Time in Modern Physics" at the University of Padua, Italy
- Dutch premiere the movie "Hidden Figures" and chair of the debate after the projection, LUX, Nijmegen, Netherlands
- 2015 - Lecture on General Relativity for its centenary, Radboud University, Nijmegen, NL
  - Open-air lecture "La nascita del tempo" at Festival delle Scienze, Agrigento, Italy
- 2011 - Open-air lecture "L'equazione dell'universo" at Festival della Letteratura, Mantova, Italy
- 2005 - Preparation and guide service at the Scientific Exposition "Sperimentando" for INFN and Physics department, Padova, Italy
  - Scientific advisor for the play "That Blue Light. Life of Marie Curie" by Ursa Major Theatre
  - Main organizer of the Theatrical Review "La Scienza a Teatro", University of Padova, Italy
  - Invited speaker, Seminar "Gender in Science and Engineering: testimonies, researches, ideas.", University of Padova;
- 2001 - Lecture, "Donne, Scienza e Potere. Oseremo disturbare l'Universo?" Second Conference of the Italian Women and Science Association, University of Lecce, Italy;
  - Scientific Committee and Chair Person, Third Conference of the Italian Women and Science Association, University of Padova;
  - Main organizer, Workshop "Globalizzazione, quale (co)scienza?", University of Padova;
  - Main organizer, Conferences Cycle "Donne e Scienza: tre incontri con/tra donne di scienza", University of Padova.

#### Recorded outreach presentations (selected)

- Perimeter Institute Podcast Series  
Date of production: December 7, 2022  
[\[youtube.com/watch?v= TBA\]](#)
- "Can physics be feminist?"  
Date of production: February 25, 2021  
Seminar for the Grupo Especializado "Mujeres en Fisica" RSEF  
[\[https://youtu.be/-7Xl7ePXCW4\]](https://youtu.be/-7Xl7ePXCW4)
- La Scienze é un atto di ribellione (Italian, "Science is an act of rebellion")  
Date of production: November 11, 2017  
TED talk at the "Roots to the Future" Ted-X event in Treviso, Italy  
[\[youtube.com/watch?v=fBm2Wi\\_7XbY\]](#)
- Fisica femminista (Italian, "Feminist physic(ist)s")  
Date of production: September 14, 2017  
TED-format talk for the event "Particelle" of the Italian Physics Society in



Trento, Italy

[[youtube.com/watch?v=kzA1MQ-flvY](https://youtube.com/watch?v=kzA1MQ-flvY)]

- Il tempo di quel che c'è (Italian, "The time of what there is")  
Date of production: March 3, 2017  
TED talk at the "Time Re-shaping" Ted-X event in Udine, Italy  
[[youtube.com/watch?v=G0FRqkQhgZw](https://youtube.com/watch?v=G0FRqkQhgZw)]

### Videos

- Everyday quantum physics  
Date of production: September 6, 2021  
Interview for a New Scientist online course.  
[<https://academy.newscientist.com>]
- G-Ambassadors  
Date of production: July 20, 2018  
Interview for a documentary on women working in the field of gravitational physics. With the support of Spanish (UV, UPV/EHU, RTRG, FeCYT, CSIC) and European (COST) agencies.  
[<http://g-ambassadors.com>]
- The Big Bounce, Signs in the CMB? A Loop Quantum Gravity update  
Date of production: June 18, 2019  
Interview for a documentary on Loop Quantum Gravity  
[[youtube.com/watch?v=MgwJmWXoWWI](https://youtube.com/watch?v=MgwJmWXoWWI)]
- Black Holes, Dark Matter & Quantum Gravity, what's new in Loop Quantum Gravity  
Date of production: June 18, 2019  
Interview for a documentary on Loop Quantum Gravity  
[[youtube.com/watch?v=HFJtDLR4bTo](https://youtube.com/watch?v=HFJtDLR4bTo)]
- The Story of Loop Quantum Gravity - From the Big Bounce to Black Holes  
Date of production: July 20, 2018  
Interview for a documentary on Loop Quantum Gravity  
[[youtube.com/watch?v=G0FRqkQhgZw](https://youtube.com/watch?v=G0FRqkQhgZw)]

## Conferences and selected talks

(for the slides of each talk, please visit: [loopy.space/vidotto/events/myevents.html](http://loopy.space/vidotto/events/myevents.html))

Talks presented at international conferences: ~80

Plenary invited talks at international conferences: ~50

### Upcoming

- ‘Perspectives on time’ Conference, Milan, Italy  
87 Invited talk [TBA](#)
- ‘Metaphysics Beyond Spacetime’ Workshop, Ovronnaz, Switzerland  
86 Invited talk [TBA](#)
- Philosophy of Physics Summer School on Dark Matter, Urbino, Italy  
85 Invited lectures
- New Directions in the Foundations of Physics conference, Viterbo, Italy  
(Invited discussant and session chair)
- Annual Philosophy of Physics Conference (Topic: Quantum Field Theory), Western University, London, Canada
- "Quantum Spacetime in the Cosmos" Conference, Perimeter Institute, Canada  
84 Invited talk [TBA](#)
- 2023 – Japanese-Canadian Frontiers of Science Symposium, Banff, Canada  
(Invited discussant)
- Workshop on the Arrow of Time “From Local Systems to the Whole Universe”, Buenos Aires, Argentina  
83 Invited plenary talk “[Thermodynamics Without Time](#)”
- 2022 – QISS Workshop, Lesvos, Greece \* Main organizer  
82 general presentation about [Loop Quantum Gravity](#)
- LOOPS’22 Conference, Lyon, France  
81 talk “[Computing cosmological primordial fluctuations from the full covariant quantum theory](#)” and final Panel on “[The Future of Quantum Gravity](#)”
- 23rd International Conference on General Relativity and Gravitation (GR23), Liyang, China  
80 talk “[Computing cosmological primordial fluctuations from the full covariant quantum theory](#)” (Highlighted Talk)  
*Held online due to COVID-19 emergency*
- International Summer Institute in Philosophy of Physics, Morzine, France  
79 Invited lecture on the [Philosophy of Quantum Gravity](#)
- The Quantum, the Thermal and the Gravitational Reconciled: Physics and Philosophy in the Varied Landscape of the Intersections, Munich, Germany  
78 Invited plenary talk “[h,k,G: it takes three to bring them together](#)”
- QISS’22 Conference, London ON, Canada \* Main organizer
- Buddhism, Physics, and Philosophy Redux, UC Berkeley, US  
77 Invited plenary talk “[The Relational Ontology of Contemporary Physics](#)”
- *Online seminar “[Thermodynamics Without Time](#)” for the Online workshop on Time in the Foundations of Physics (Lisbon-Lausanne).*
- 2021 – Philosophy of Science Association Meeting, Baltimore, US  
76 talk “[Metaphysical considerations after the Non-Metaphysical resolution of the Hole Argument](#)”
- European & UK conference in the Foundations of Physics, Paris, France  
75 talk “[On the tensorial structure of general covariant systems](#)”
- Canadian Undergraduate Mathematics Conference (CUMC), Canada  
*Keynote talk “[The mathematical Structure of Quantum Gravity](#)”*  
*Held online due to COVID-19 emergency*
- *Online seminar “[If you want to make the universe from scratch you must first invent a quantum state of the geometry](#)” for the “[Laws of Nature](#)” seminar series organized with the University of Trieste, LMU Munich, and KU Leuven.*

- Online seminar “Quantum Gravity in Practice” for the Cosmology Beyond Spacetime seminar series at the Pittsburgh Center for Philosophy of Science, US
- 2020 – Online seminar “Loop Quantum Gravity” at the Universidade Estadual de Campinas, Brazil
- Quantum Gravity Conference, Perimeter Institute, Waterloo, Canada  
Held online due to COVID-19 emergency
- (Virtual) Midwest Summer School in Philosophy of Physics, Chicago, US
- 74 Invited talk “Spacetime Emergence” ([Watch lecture here](#))  
Held online due to COVID-19 emergency
- Foundations of Physics Conference, Paris, France  
Cancelled due to COVID-19 emergency
- Conference in honour of the 60th birthday of Simon Saunders, Oxford, UK  
Cancelled due to COVID-19 emergency
- Theory Canada 15, Division of Theoretical Physics (DTP), Waterloo, Canada  
Invited plenary talk, cancelled due to COVID-19 emergency
- Buddhism, Physics, and Philosophy Redux, Berkeley, US  
Invited plenary talk, cancelled due to COVID-19 emergency
- 2019 – Causality in the Quantum World, Perimeter Institute, Waterloo, Canada
- Emmy Noether Workshop: the Structure of Quantum Spacetime, Perimeter Institute, Waterloo, Canada
- 7th LISA Cosmology Working Group Workshop, Padova, Italy
- “Time Machine Factory” Conference, Torino, Italy
- 73 Invited plenary talk “Black Holes are Time Machines”
- Jurekfest, Warsaw, Poland
- Twistors Meet Loops, CIRM, Marseille, France
- 6th FQXi’s Conference “Mind Matters”, Lucca, Italy
- GR22-Amaldi12 Conference, Valencia, Spain
- 72 Talk “Astrophysical signatures of primordial black hole explosions”
- 71 Talk “Correlations in Spinfoam Cosmology”
- 70 Talk “A new look at remnants as dark matter”
- LOOPS19 Conference, State College, US
- 69 Talk “A new look at remnants as dark matter”
- New Directions in the Foundations of Physics conference, Tarquinia, Italy
- 68 Invited plenary talk “Quantum spacetime: from principles to measurements”
- Seminar (invited) at the Center for Philosophy of Time, Milano, Italy
- Workshop ‘Cross-disciplinary perspectives on model-independent searches’, Edinburgh, UK
- 66 Invited plenary talk on Philosophy of Cosmology: “Model-independence in Quantum Gravity: Theoretical & Experimental Perspectives”
- Seminar (invited) “How does a black hole die?” at CSIC, Madrid, Spain
- 2018 – Workshop “The origin and evolution of spacetime”, Lateran University, Rome, Italy
- 65 Invited plenary talk “Bouncing Cosmology from Loop Quantum Gravity”
- Seminar (invited) “How does a black hole die? Cosmological and astrophysical consequences” at Scuola Normale Superiore, Pisa, Italy
- Workshop “Fundamental physics with LISA”, Galilei Institute, Arcetri, Italy
- 64 Invited moderator of the panel on Black Hole physics with LISA
- Foundational problems in black holes and gravitational radiation, MCMP, Germany
- 63 Invited plenary talk “White is the new black”
- Quantum Gravity meets Lattice QFT, Trento, Italy (TBC)
- 62 Talk “Loop Quantum Gravity: a general-covariant lattice gauge theory”
- First Irvine-Munich-PoliMi-Salzburg Conference in Philosophy and Foundations of Physics (IMPS 2018), Salzburg, Austria
- 61 Invited talk “Relational Observables and Relational Time”
- Gravity in the Quantum Lab, Benasque, Spain
- 60 Invited talk “Quanta of Spacetime”
- 59 Invited talk “White is the new Black”
- “100 Years of Gauge Theory”, Bad Honnef, Germany
- 58 Invited talk “Loop Quantum Gravity: a general-covariant lattice gauge theory”
- 2nd World Summit on Exploring the Dark Side of the Universe, Guadalupe

- 57 **Invited** talk “Quantum Insights on Primordial Black Holes as Dark Matter”  
 – Summer Institute on Philosophy of Cosmology, London, Ontario, Canada
- 56 **Invited** talk TBA  
 – New Directions in the Foundations of Physics conference, Viterbo, Italy (invited)  
 – *Cosmology Workshop in San Servolo*, Venice, Italy
- 55 **Invited** talk “Quantum Insights on Primordial Black Holes as Dark Matter”  
 The 2nd workshop on “Singularities of general relativity and their quantum fate”
- 54 **Invited** talk “Planck Stars: the final fate of quantum non-singular black holes and its phenomenological consequences”  
 – Time & the Observer Workshop, La Jolla, California  
 – Seminar (invited) “Planck Stars: theory and phenomenology” at DAMTP, Cambridge, UK  
 – Colloquium (invited) “Planck Stars: explosions from a quantum hole” at the Kapteyn Astronomical Institute, Groningen, NL
- 2017 – Texas Symposium on Relativistic Astrophysics, Cape Town, South Africa  
 – Current Themes in High Energy Physics and Cosmology, Copenhagen, Denmark  
 – Conference of the Italian Physics Society (SIF), Trento, Italy
- 53 **Talk** “Quantum gravity phenomenology with primordial black holes”  
 – XIX International Summer School in Philosophy of Physics (SILFS), Urbino, Italy
- 52 **Series of four lectures (invited)** on the “Principles of Quantum Gravity”  
 – LOOPS 17, Warsaw, Poland
- 51 **Invited plenary talk** “How to measure a realistically observable quantity in LQG: primordial black holes”  
 – Workshop Conceptual Issues in Fundamental Physics, Grenoble, France
- 50 **Invited plenary talk** “No Time No Problem”  
 – Conference on the Philosophy of Cosmology, London, Western-Ontario University, Canada
- 49 **Invited plenary talk** “Quanta of spacetime in a non-singular universe”  
 – String Theory & Cosmology (GRS), Tuscany, Italy
- 48 **Talk** “Exploding Black Holes” (Junior Highlight)  
 – String Theory & Cosmology (GRS), Tuscany, Italy
- 47 **Talk** “Quantum-gravity signals from primordial black holes” (Junior Highlight)  
 – New Directions in the Foundations of Physics’ conference, Tarquinia, Italy  
 – Seminar (invited) “Possible quantum-gravity signals from primordial black holes” (Napoli, Italy)  
 – Pine Symposium 2017, Minnesota, US (invited)  
 – Workshop “Black Holes, Gravitational Waves and Spacetime Singularities, Vatican
- 46 **Invited plenary talk** “Quantum gravity phenomenology with primordial black holes”  
 – Fundamental Physics with SKA, Mauritius
- 45 **Invited talk** “Quantum gravity phenomenology with primordial black holes”  
 – Do Black Holes Exist? – The Physics and Philosophy of Black Holes, Bad Honnef, Germany  
 – Workshop “Quantum Gravity in Paris 2017”, IHP, Paris, France  
 – Workshop “Symmetry and Symmetry Breaking in Fundamental Physics, University Paris-6
- 44 **Invited talk** “Gauge is in the eye of the beholder”  
 – “Experimental Search of Quantum Gravity” Conference, Frankfurt, Germany
- 43 **Invited talk** “Quantum-gravity signals from primordial black holes”  
 – SIGARV Congress 2016, Cefalù, Italy;
- 42 **Invited talk** “Quantum black holes: theory and phenomenology”  
 – 5th international FQXi conference on “The Physics of the Observer”, Banff, Canada
- 41 **Invited talk** “Happened=Observed. A relational Argument”  
 – 21st International Conference on General Relativity and Gravitation (GR21), New York, US
- 40 **talk** “Quantum-gravity signals from primordial black holes”  
 – Conference “Time in Cosmology”, Perimeter Institute, Canada

- 2016 – II FLAG (FieLds And Gravity) meeting on Quantum Gravity, Trento, Italy  
 39 Invited talk “Quantum black holes: theory and phenomenology”  
 – 4th International Conference on the Nature and Ontology of Spacetime, Varna, Bulgaria  
 38 Invited keynote talk “Atomism and Relationalism as guiding principles for Quantum Gravity”  
 – Seminar “Possible quantum-gravity signals from primordial black holes” (Physics Dep., Geneva)  
 – Seminar (invited) “A relational ontology from General Relativity and Quantum Mechanics” (Geneva)  
 – CarloFest (organizer), Conference for the 60th birthday of Carlo Rovelli, Marseille  
 37 talk “Quantum-gravity phenomenology with primordial black holes”  
 – Seminar (invited) “Possible quantum-gravity signals from primordial black holes” (IAP, Paris)
- 2015 – Conference “A century of General Relativity”, Berlin, December;  
 – Seminar (invited) “Possible quantum-gravity signals from primordial black holes” (LUTH, Paris)  
 – Seminar (invited) “Possible quantum-gravity signals from primordial black holes” (SISSA, Trieste)  
 – “From Inflation to Galaxies: a workshop in honour of Sabino Matarrese”, Castiglioncello, Italy  
 – Hawking Radiation Conference, Stockholm, Sweden  
 36 Invited plenary talk “A new quantum black-hole phenomenology”  
 – Karl Schwarzschild Meeting, Frankfurt, Germany  
 35 Invited plenary talk “Quantum-gravity phenomenology with primordial black holes”  
 – Quantum Gravity Meeting, Rome, Italy  
 34 Invited plenary talk “New signals from quantum gravity with primordial black holes”  
 – LOOPS15, Erlagen, Germany  
 33 Talk “Compactification of LQG Phase Space”  
 – Conference 100 Years of General Relativity, Penn State, US  
 32 Talk “Quantum-gravity phenomenology with primordial black holes”  
 – Seminar “What if the universe accelerates because time is discrete?” (Perimeter Institute, Canada)  
 – Seminar “Planck stars: from cosmology to black holes and back” (Physics Dep., Oxford, UK)  
 – Philosophy of Physics Research Seminars HT 2015, Oxford, UK  
 – Seminar (invited) “A relational ontology from General Relativity and Quantum Mechanics”  
 – “Quantum Gravity Foundations: UV to IR” program, KITP, Santa Barbara, US  
 – EFI Winter Conference on Canonical and Covariant LQG, Tux, Austria  
 31 talk “The compact phase space of Loop Quantum Gravity”  
 – Seminar “Planck Stars” GRAPPA Institute, Amsterdam, the Netherlands  
 – Physics@FOM Veldhoven 2015, Utrecht, the Netherlands  
 30 talk “Planck Stars”
- 2014 – seminar (invited) “Planck Stars” Physics Department, Trento, Italy (04/12/14)  
 – XI International Ontology Congress, Barcelona, Spain  
 29 Invited talk “A relational ontology from General Relativity and Quantum Mechanics”  
 – XXI SIGRAV Conference on General Relativity and Gravitational Physics, Alessandria, Italy  
 28 Invited talk “What can we learn from Loop Quantum Cosmology? The case of Planck Stars”  
 – International Conference “The Philosophy of Cosmology”, Tenerife, Spain  
 – Conceptual and Technical Challenges for Quantum Gravity, Rome  
 27 talk “Spinfoam Cosmology and Maximal Acceleration”  
 – Experimental Search for Quantum Gravity, SISSA, Italy  
 26 talk “Experimental Search for Planck Stars”

- WE-Heraeus-Seminar Quantum Cosmology, Bad Honnef, Germany
- 25 Invited talk [“What can we learn from Loop Quantum Cosmology? The case of Planck Stars”](#)
- Conference “Frontiers in Fundamental Physics”, Marseille, France
- 24 talk ["Atomism and Relationalism as guiding principles for Quantum Gravity"](#)
- XI SIGRAV graduate school “Gravity and the Quantum”, Como, Italy
- 23 talk ['Spinfoam Cosmology'](#)
- Workshop Cosmology and the Constants of Nature, DAMPT, Cambridge, UK
- 4th FQXi's Conference “The Physics of Information”, Vieques, Puerto Rico
- 2013 – Seminar on the Philosophical Foundations of Quantum Gravity, U. of Illinois, Chicago
- 22 talk ["Atomism and Relationalism as guiding principles for Quantum Gravity"](#)
- LOOPS13, Perimeter Institute, Waterloo, Canada July
- 21 talk [“A covariant prospective on singularity resolution”](#)
- 20th International Conference on General Relativity and Gravitation (GR20), Warsaw, Poland
- 20 talk [“Maximal acceleration in covariant loop gravity and singularity resolution”](#)
- Mini-workshop "Philosophie et Physique", Laboratoire Sphere\*, Paris, France
- Seminar ["Spinfoam and Cosmology", APC, Paris, France](#)
- Third Oxford Miniseries: "Cosmology and Quantum Foundations", Oxford, UK
- Workshop and Discussion Group: "Inflationary Evidence", Oxford, UK
- Workshop "Spacetime and the Wavefunction", Barcelona, Spain
- Workshop “Infinities and Cosmology”, DAMPT, Cambridge, UK
- 19 talk [“Infinities as a measure of our ignorance”](#)
- 1st EFI Winter Conference on Canonical and Covariant LQG, Tux, Austria
- 18 talk [“A new twist on spin connection”](#)
- 2012 – “The Search for Quantum Gravity: CDT and Friends”, Nijmegen, the Netherlands
- Perspectives of Fundamental Cosmology, Nordita Program, Stockholm, Sweden
- 17 talk [“Spinfoam and Cosmology”](#);
- X International Ontology Congress “Physis. From elementary particle to human nature” San Sebastian, Spain, October;
- 13th Marcel Grossmann Meeting, Stockholm, Sweden, July;
- 16 talk [“Spinfoam Cosmology”](#)
- 15 talk [“Spinfoam for cosmologists”](#)
- Workshop "Quantum Gravity in Paris", APC-Paris, France, March;
- Workshop "Landscapes for Quantum Gravity", Pavia, Italy, February;
- VII International Conference on Gravitation and Cosmology, Goa, India
- 14 talk [“An Invitation to Spinfoam Cosmology”](#)
- VI Aegean Summer School of Quantum Gravity and Quantum Cosmology, Greece
- 13 talk [“An Invitation to Spinfoam Cosmology”](#)
- Women in Physics , Perimeter Institute, Canada
- 12 talk [“What's the entropy of the gravitational field?”](#)
- “Challenges for Early Universe Cosmology , Perimeter Institute, Canada
- Seminar [“Spinfoam Cosmology”, Perimeter Institute, Canada](#)
- 2011 – LOOPS11 “Celebrating 25 years of Loop Quantum Gravity”, Madrid, Spain
- 11 talk [“Results and open issues in Spinfoam Cosmology”](#)
- 10 talk [“Singularity Resolution in Loop Quantum Cosmology”](#)
- Workshop Mathematical, Physical and Conceptual aspects of Quantum Gravity, APC Paris, France
- Workshop “Quantum Gravity and Quantum Field Theory”, Nice, France
- 9 talk [“Spinfoam Cosmology”](#)
- 3rd Quantum Geometry and Quantum Gravity School, Zakopane, Poland
- 8 International Loop Quantum Gravity Seminars, given talk [“Spinfoam Cosmology”](#)
- 2010 – International Fall Workshop on GEOMETRY and PHYSICS, Paris, France
- Spanish Relativity Meeting (ERE2010), Granada, Spain
- 7 talk [“Toward Spinfoam Cosmology”](#)
- 19th International Conference on General Relativity and Gravitation (GR19), Mexico City, Mexico
- 6 talk [“Spinfoam Cosmology: quantum cosmology from the full theory”](#)
- PASI Quantum Gravity summer school, Morelia, Mexico, June;

- ESF science meeting: Open problems in Loop Quantum Gravity, Zakopane, Poland
- 2009 – 2nd School and Workshop on Quantum Gravity and Quantum Geometry, Corfù, Greece
  - LOOPS09 International Conference on Quantum Gravity, Beijing Normal University, China, August;
  - 5 talk “Quantum-Gravity Thermodynamics”
  - The BNU International Summer School on Quantum Gravity, Beijing Normal University, China
- 2008 – Quantum Gravity in Cracow<sup>2</sup>, Jagiellonian University, Institute of Physics, Cracow, Poland
  - 4 talk “Mini-superspace Loop Quantum Gravity”
  - Second TRR33 Winter School "Theory for observers & Observations for theorists", Passo del Tonale, Italy, December
  - 3 talk “Loop Quantum Cosmology”
  - Emergent Gravity 08 Workshop, MIT Boston, US, August;
  - Young Loops and Foams 08 Workshop, Perimeter Institute, Canada, August;
  - QG<sup>2</sup> Quantum Geometry and Quantum Gravity Conference, Nottingham, UK
  - 2 talk “Stepping out of homogeneity in Loop Quantum Cosmology”
  - Quantum Gravity Colloquium 4, Albert Einstein Institute, Berlin, Germany
  - 1 talk “Dipole Cosmology”;
  - Workshop CosmoTools, Marseille, France, April;
  - ESF science meeting Quantum Gravity: Loops and Foams, Zakopane, Poland
- 2007 – Italian Logic and Philosophy of Science (SILFS) Conference, Milano, Italy
  - 1-mont visit to the Quantum Gravity group of AEI, Golm, Germany
  - “From Quantum to Emergent Gravity: Theory and Phenomenology”, SISSA Trieste, Italy
  - 1st Quantum Geometry and Quantum Gravity School, Zakopane, Poland
- 2005 – International Conference “Spacetime in Action”, Pavia, Italy
- 2001 – IV Summer School of Philosophy of Physics (SILFS), Cesena, Italy



# Publications

## Francesca Vidotto

### Publication summary:

Total number of citations:	2878
h index:	24
i10-index:	35

### Book

- Covariant Loop Quantum Gravity  
*An elementary introduction to Quantum Gravity and Spinfoam Theory*  
Carlo Rovelli and Francesca Vidotto.  
Cambridge University Press, 2014.

### Published papers (peer reviewed)

1. **Markov Chain Monte Carlo methods for graph refinement in Spinfoam Cosmology**  
Pietro Paolo Frisoni, Francesco Gozzini, Francesca Vidotto  
*Class. Quantum Grav.*, to appear [arXiv:2207.02881]
2. **Diffuse emission from black hole remnants**  
Sina Kazemian, Mateo Pascual, Carlo Rovelli, Francesca Vidotto  
*Class. Quantum Grav.* 40 087001 [arXiv:2207.06978]
3. **Numerical analysis of the self-energy in covariant Loop Quantum Gravity**  
Pietro Paolo Frisoni, Francesco Gozzini, Francesca Vidotto  
*Phys.Rev. D* 105 (10), 106018 [arXiv:2112.14781]
4. **Editorial: Loop Quantum Cosmology**  
Beatriz Elizaga Navascués, Guillermo Mena Marugán, Francesca Vidotto  
*Front. Astron. Space Sci.* 9:845459, 2022
5. **Primordial fluctuations from quantum gravity**  
Francesco Gozzini, Francesca Vidotto  
*Front. Astron. Space Sci.* 7:629466, 2021 [arXiv:1906.02211]  
[Special Issue on Loop Quantum Cosmology](#)
6. **Small black/white hole stability and dark matter**  
Carlo Rovelli, Francesca Vidotto  
*Universe* 2018, 4(11), 127 [arXiv:1805.03872]  
[Invited submission to the Special Issue on Loop Quantum Cosmology](#)
7. **Pre-big-bang black-hole remnants and the past low entropy**  
Carlo Rovelli, Francesca Vidotto  
*Universe* 2018, 4(11), 129 [arXiv:1805.03224]  
[Invited submission to the Special Issue on Bouncing Cosmologies](#)
8. **Effects of primordial black holes quantum gravity decay on galaxy clustering**  
Alvise Raccanelli, Licia Verde, Francesca Vidotto  
*JCAP* 1808 no.08, 003, 2018 [arXiv:1708.02588]
9. **Bouncing black holes in quantum gravity and the Fermi gamma-ray excess**  
Aurelien Barrau, Boris Bolliet, Marritt Schutten, Francesca Vidotto  
*Phys. Lett.* B772, 58-62, 2017 [arXiv:1606.08031]
10. **Phenomenology of bouncing black holes in quantum gravity: a closer look**  
Aurelien Barrau, Boris Bolliet, Francesca Vidotto, Celine Weimer.  
*JCAP* 1602 no.02, 022, 2016 [arXiv:1507.05424]
11. **Compact phase space, cosmological constant, discrete time**  
Carlo Rovelli, Francesca Vidotto  
*Phys.Rev.* D91:084037, 2015 [arXiv:1502.00278]

12. **Fast radio bursts and white hole signals**  
Aurélien Barrau, Carlo Rovelli, Francesca Vidotto.  
*Phys.Rev.* D90:127503, 2014. [arXiv:1409.4031]
13. **Planck stars**  
By Carlo Rovelli, Francesca Vidotto.  
*Int. J. Mod. Phys. D* 23, 1442026, 2014 [arXiv:1401.6562]  
[Honourable mention at the gravity essay contest by Gravity Research Foundation, USA.](#)  
[Citations > 300](#)
14. **Evidences of Maximal Acceleration and Singularity Resolution in Covariant Loop Quantum Gravity**  
Carlo Rovelli, Francesca Vidotto.  
*Phys. Rev. Lett.* 111, 091303, 2013 [arXiv:1307.3228]  
[Selected by Phys.Rev.Lett. as editors' suggestion \(see PRL 98, 010001 \(2007\)\).](#)
15. **The spin connection of twisted geometry**  
Hal Haggard, Carlo Rovelli, Francesca Vidotto.  
*Phys.Rev.* D87:024038, 2013. [arXiv:1211.2166]
16. **Consistency of holonomy-corrected scalar, vector and tensor perturbations in Loop Quantum Cosmology**  
Thomas Cailleteau, Aurelien Barrau, Julien Grain, Francesca Vidotto.  
*Phys.Rev.* D86:087301, 2012 [arXiv:1206.6736]  
[Citations > 140](#)
17. **Learning about quantum gravity with a couple of nodes**  
Enrique F. Borja, Inaki Garay, Francesca Vidotto.  
*SIGMA* 8, 015, 2012 [arXiv:1110.3020]
18. **General covariant transition amplitudes in quantum cosmology**  
Francesca Vidotto.  
*Scientifica Acta* 5, No.1, Ph17-21, 2011 [arXiv:1110.2905]
19. **Many-nodes/many-links spinfoam: the homogeneous and isotropic case**  
Francesca Vidotto.  
*Class.Quant.Grav.* 28:245005, 2011 [arXiv:1107.2633]  
[Selected by the editors of Class.Quant.Grav. for the 'Highlights of 2011-2012'.](#)
20. **Cosmological constant in spinfoam cosmology**  
Eugenio Bianchi, Thomas Krajewski, Carlo Rovelli, Francesca Vidotto.  
*Phys.Rev.* D83:104015, 2011 [arXiv:1101.4049]
21. **Exotic singularities and spatially curved Loop Quantum Cosmology**  
Parampreet Singh, Francesca Vidotto.  
*Phys.Rev.* D83:064027, 2011 [arXiv:1012.1307]
22. **Local spinfoam expansion in Loop Quantum Cosmology**  
Adam Henderson, Carlo Rovelli, Francesca Vidotto, Edward Wilson-Ewing.  
*Class.Quant.Grav.* 28:025003, 2011 [arXiv:1010.0502]
23. **Towards Spinfoam Cosmology**  
Eugenio Bianchi, Carlo Rovelli, Francesca Vidotto.  
*Phys.Rev.* D82:084035, 2010 [arXiv:1003.3483]  
[Citations > 170](#)
24. **On the spinfoam expansion in cosmology**  
Carlo Rovelli, Francesca Vidotto.  
*Class.Quant.Grav.* 27:145005, 2010 [arXiv:0911.3097]

25. **Single particle in quantum gravity and BGS entropy of a spin network**  
Carlo Rovelli, Francesca Vidotto.  
*Phys.Rev.* D81:044038, 2010, [arXiv:0905.2983]  
[Honourable mention at the gravity essay contest by Gravity Research Foundation, USA.](#)
26. **Stepping out of Homogeneity in Loop Quantum Cosmology**  
Carlo Rovelli, Francesca Vidotto.  
*Class.Quant.Grav.* 25:225024, 2008 [arXiv:0805.4585]

### Note on contribution in multi authored publications

It is customary in my field to list authors in alphabetical order.  
Of the 26 publications listed before, 21 were originated by my original ideas.

### Conference papers

1. **Quantum insights on Primordial Black Holes as Dark Matter**  
Francesca Vidotto  
PoS EDSU2018 [arXiv:1811.08007]
2. **Measuring the last burst of non-singular black holes**  
Francesca Vidotto  
*Found. Phys.* (2018) doi.org/10.1007/s10701-018-0190-z [arXiv:1803.02755]
3. **Quantum Gravity Phenomenology with Primordial Black Holes**  
Francesca Vidotto, Aurelien Barrau, Boris Bolliet, Marritt Schutten, Celine Weimer  
Springer KSM2015 [arXiv:1609.02159]
4. **Black holes in Asymptotically Safe Gravity**  
Frank Saueressig, Natalia Alkofer, Giulio D'Odorico, Francesca Vidotto  
PoS FFP14,174 [arXiv:1503.06472]
5. **Spinfoam Cosmology: quantum cosmology from the full theory**  
Francesca Vidotto.  
*J.Phys.:Conf.Ser.*314:012049 (2011) [arXiv:1011.4705]

### White papers

1. **Prospects for Fundamental Physics with LISA**  
Enrico Barausse, Emanuele Berti, Thomas Hertog, Scott A. Hughes, Philippe Jetzer et al.  
*Gen.Rel.Grav.* 52 (2020) [arxiv:2001.09793]
2. **Electromagnetic probes of primordial black holes as dark matter**  
A. Kashlinsky, Y. Ali-Haimoud, S. Clesse, J. Garcia-Bellido, L. Wyrzykowski et al.  
[arxiv:1903.04424]
3. **Fundamental Physics with the Square Kilometre Array**  
A. Weltman, P. Bull, S. Camera, K. Kelley, H. Padmanabhan et al.  
*Publ.Astron.Soc.Austral.* 37 (2020) [arXiv:1810.02680]

## Other papers

- **White-hole dark matter and the origin of past low-entropy**  
Carlo Rovelli, Francesca Vidotto  
Essay written for the Gravity Research Foundation Award [arXiv:1804.04147]

## Papers in Philosophy of Physics (single author not indicated otherwise)

- **Philosophical Foundations of Loop Quantum Gravity** with Carlo Rovelli  
*Invited contribution to the book "Handbook of Quantum Gravity"*, edited by Cosimo Bambi, Leonardo Modesto and Ilya Shapiro. Springer Nature, 2023 [arXiv:2211.06718]
- **Time, space and matter in the primordial universe**  
*Invited contribution to the book "Cosmology: multidisciplinary approach"* edited by Marilena Streit-Bianchi, Paola Catapano, Cristiano Galbiati, Enrico Magnani. Springer Nature, 2022 [arXiv:2207.13722 ]
- **The relational ontology of contemporary physics**  
*Invited contribution to the book "Quantum Mechanics and Fundamentality: Naturalizing Quantum Theory between Scientific Realism and Ontological Indeterminacy"* edited by Valia Allori. Springer Nature, 2022 [arXiv:2201.00907]
- **Relational Quantum Cosmology**  
*Invited contribution to the book "Philosophy of Cosmology"* edited by John Barrow, Khalil Chamcham, Joe Silk, Simon Saunders. Cambridge University Press, 2017 [arXiv:1309.1403]
- **A relational ontology from General Relativity and Quantum Mechanics**  
Paper presented at "Physics and Reality. A tribute to John Bell in the 50 Years of his theorem", IX International Ontology Congress, Barcelona, 6 October 2014
- **Atomism and Relationalism as guiding principles for Quantum Gravity**  
Paper presented at the "Seminar on the Philosophical Foundations of Quantum Gravity", Chicago, 27-29 September 2013, PoS(FFP14)222 [arXiv:1309.1403]
- **Infinites as a measure of our ignorance.** Paper presented at the workshop "Infinites and Cosmology", DAMPT, Cambridge, UK, 21st March 2013 [arXiv:1305.2358]

**Book Review** (single author)

- **An encyclopedic tour through modern physics**  
Review of the book “From Classical to Quantum Fields”  
by Laurent Baulieu, John Iliopoulos, and Roland Sénéor. Oxford U. Press, 2017.  
Physics Today: Vol 71, No 2 (2018).

**Interviews**

- « La matière noire pourrait se cacher sous forme de trous noirs » for the Dossier: Universe et Physique Quantique of the magazine **La Recherche**, February 2021.
- “The mystery of the universe in 10 objects”, New Scientist, 22 September 2018.
- “What is space”, internet magazine **Plus**, March 2013.  
<http://plus.maths.org/content/what-space>

**Popularization articles** (in French)

- Review of Loop Quantum Gravity for the Special issue on Gravitation of the magazine **Asymmetrie**, published by INFN in May 2021.
- Finalist at the 16° **Le Monde** Prize for Scientific Research for a popularization article on my PhD thesis, November 2013.
- “Cosmologie Quantique” Aurélien Barrau, Francesca Vidotto. **L'Astronomie**, March 2011.
- “De l'autre côté du Big Bang” Aurélien Barrau, Francesca Vidotto. **La Recherche**, December 2011.

Date: April 24th, 2023

Signature:

A handwritten signature in black ink, appearing to read 'Francesca Vidotto', with a stylized initial 'FV' at the start.