

Jerome Quintin – Curriculum Vitae

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Citizenship: Canadian

Languages: French, English, German (intermediate)

EMPLOYMENT	University of Toronto and University of Waterloo , Ontario, Canada Postdoctoral Fellow	July 2022-present
	Max Planck Institute for Gravitational Physics (Albert Einstein Institute) , Potsdam, Germany (AEI-Potsdam) Postdoctoral Researcher	Sep 2019-Aug 2022
EDUCATION	Ph.D. and M.Sc. in Physics, McGill U. Thesis Supervisor: Robert Brandenberger GPA: 4.0/4.0	Sep 2013-Jun 2019
	B.Sc. in Physics and Mathematics, Bishop's U. Research Advisor: Lorne Nelson GPA: 95.74/100 <i>Recipient of the Governor General's Silver Medal (student graduating with the highest grade point average in the university at the undergraduate level)</i>	Sep 2010-Apr 2013
RESEARCH EXPERIENCE	AEI-Potsdam , postdoctoral research with Jean-Luc Lehnert	2019-2022
	McGill , doctoral research with Robert Brandenberger	2015-19
	ETH-ITS Zurich , Visiting Graduate Research Student	Oct-Nov 2015
	McGill , M.Sc. Student with Robert Brandenberger & Yi-Fu Cai	2013-15
	Bishop's , Honors Student with Lorne Nelson & Saul Rappaport (MIT)	2011-13
	Mont-Mégantic Observatory , Visiting Scientist	Aug 2011-12-13, May 2012
SELECTED HONORS AND AWARDS	MIT , Visiting Undergraduate Research Student	May 2011
	U. of Waterloo Math Faculty <i>Prestigious Postdoctoral Fellowship</i>	starting Dec 2022
	Fields Postdoctoral Fellowship, U. of Toronto	July 2022-present
	AARMS Postdoctoral Fellowship, UNB (declined)	
	NSERC Postdoctoral Fellowship	2019-21
	FRQNT Postdoctoral Research Scholarship	2019-21
	Kavli IPMU Postdoctoral Fellowship, Tokyo (declined)	
	Nordita Postdoctoral Fellowship, Stockholm (declined)	
	Vanier Canada Graduate Scholarship , NSERC	2016-19
	Reinhardt C. Fellowship, McGill	2017
	Walter C. Sumner Memorial Fellowship, McGill	2015-17
	NSERC Alexander Graham Bell Graduate Scholarship - CGS D (declined)	
	FRQNT Doctoral Research Scholarship	2015-16
	FRQNT Masters Research Scholarship	2014-15
	NSERC Alexander Graham Bell Graduate Scholarship - CGS M	2013-14
	Lorne Trottier Accelerator Award, McGill	2013
	NSERC Undergraduate Student Research Award (USRA, 3 times)	2011-13
	Captain Melville Greenshields Memorial Scholarship, Bishop's	2011-12
	Richard Tomlinson Scholarship, Bishop's	2010-11
PUBLICATIONS	22. C. Jonas, J. L. Lehnert and J. Quintin , <i>Uses of complex metrics in cosmology</i> , JHEP 08, 284 (2022) , arXiv:2205.15332 [hep-th]	
	21. C. Ganguly and J. Quintin , <i>Microphysical manifestations of viscosity and consequences for anisotropies in the very early universe</i> , PRD 105, 023532 , arXiv:2109.11701 [gr-qc]	

20. **J. Quintin**, H. Bernardo and G. Franzmann, *Cosmology at the top of the α' tower*, [*JHEP* **07**, 149 \(2021\)](#), [arXiv:2105.01083 \[hep-th\]](#)
19. C. Jonas, J.-L. Lehnert and **J. Quintin**, *Cosmological consequences of a principle of finite amplitudes*, [*PRD* **103**, 103525](#), [arXiv:2102.05550 \[hep-th\]](#)
18. J.-L. Lehnert and **J. Quintin**, *Quantum circuit complexity of primordial perturbations*, [*PRD* **103**, 063527](#), [arXiv:2012.04911 \[hep-th\]](#)
17. Y. Sakakihara, D. Yoshida, K. Takahashi and **J. Quintin**, *Theories with limited extrinsic curvature and a nonsingular anisotropic universe*, [*PRD* **102**, 084004](#), [arXiv:2005.10844 \[gr-qc\]](#)
16. **J. Quintin** and D. Yoshida, *Cuscuton gravity as a classically stable limiting curvature theory*, [*JCAP* **2002**, 016](#), [arXiv:1911.06040 \[gr-qc\]](#)
15. **J. Quintin**, R. H. Brandenberger, M. Gasperini and G. Veneziano, *Stringy black-hole gas in α' -corrected dilaton gravity*, [*PRD* **98**, 103519](#), [arXiv:1809.01658 \[hep-th\]](#)
14. D. Yoshida and **J. Quintin**, *Maximal extensions and singularities in inflationary spacetimes*, [*CQG* **35**, 155019](#), [arXiv:1803.07085 \[gr-qc\]](#)
13. C. Lin, **J. Quintin** and R. H. Brandenberger, *Massive gravity and the suppression of anisotropies and gravitational waves in a matter-dominated contracting universe*, [*JCAP* **1801**, 011](#), [arXiv:1711.10472 \[hep-th\]](#)
12. L. Santos, W. Zhao, E. G. M. Ferreira and **J. Quintin**, *Constraining interacting dark energy with CMB and BAO future surveys*, [*PRD* **96**, 103529](#), [arXiv:1707.06827 \[astro-ph.CO\]](#)
11. D. Yoshida, **J. Quintin**, M. Yamaguchi and R. H. Brandenberger, *Cosmological perturbations and stability of nonsingular cosmologies with limiting curvature*, [*PRD* **96**, 043502](#), [arXiv:1704.04184 \[hep-th\]](#)
10. Y. B. Li, **J. Quintin**, D. G. Wang and Y. F. Cai, *Matter bounce cosmology with a generalized single field: non-Gaussianity and an extended no-go theorem*, [*JCAP* **1703**, 031](#), [arXiv:1612.02036 \[hep-th\]](#)
9. B. Kalomeni, L. Nelson, S. Rappaport, M. Molnar, **J. Quintin** and K. Yakut, *Evolution of cataclysmic variables and related binaries containing a white dwarf*, [*ApJ* **833**, 83](#), [arXiv:1610.03051 \[astro-ph.SR\]](#)
8. **J. Quintin** and R. H. Brandenberger, *Black hole formation in a contracting universe*, [*JCAP* **1611**, 029](#), [arXiv:1609.02556 \[astro-ph.CO\]](#)
7. **J. Quintin**, Z. Sherkatghanad, Y. F. Cai and R. H. Brandenberger, *Evolution of cosmological perturbations and the production of non-Gaussianities through a nonsingular bounce: Indications for a no-go theorem in single field matter bounce cosmologies*, [*PRD* **92**, 063532](#), [arXiv:1508.04141 \[hep-th\]](#)
6. Y. F. Cai, E. G. M. Ferreira, B. Hu and **J. Quintin**, *Searching for features of a string-inspired inflationary model with cosmological observations*, [*PRD Rapid Communications* **92**, 121303](#), [arXiv:1507.05619 \[astro-ph.CO\]](#)
5. S. F. Bramberger, R. H. Brandenberger, P. Jreidini and **J. Quintin**, *Cosmic string loops as the seeds of super-massive black holes*, [*JCAP* **1506**, 007](#), [arXiv:1503.02317 \[astro-ph.CO\]](#)
4. Y. F. Cai, F. Chen, E. G. M. Ferreira and **J. Quintin**, *New model of axion monodromy inflation and its cosmological implications*, [*JCAP* **1606**, 027](#), [arXiv:1412.4298 \[hep-th\]](#)
3. E. G. M. Ferreira, **J. Quintin**, A. A. Costa, E. Abdalla and B. Wang, *Evidence for interacting dark energy from BOSS*, [*PRD* **95**, 043520](#), [arXiv:1412.2777 \[astro-ph.CO\]](#)
2. **J. Quintin**, Y. F. Cai and R. H. Brandenberger, *Matter creation in a nonsingular bouncing cosmology*, [*PRD* **90**, 063507](#), [arXiv:1406.6049 \[gr-qc\]](#)

1. Y. F. Cai, **J. Quintin**, E. N. Saridakis and E. Wilson-Ewing, *Nonsingular bouncing cosmologies in light of BICEP2*, **JCAP** **1407**, 033, arXiv:1404.4364 [astro-ph.CO]

INVITED TALKS
(long-term visits
of $\gtrsim 2$ weeks
denoted by **)

32. ****McGill U.** Theoretical High Energy Journal Club Dec 2021
31. **Perimeter Institute** Cosmology Seminar Nov 2021
30. **U. of New Brunswick** Gravity Group Meeting Nov 2021
29. **Lisbon U.** Institute of Astrophysics and Space Science Seminar Nov 2021
28. **Copernicus Webinar Series** Oct 2021
27. **Jagiellonian U.** Theoretical Cosmology Group Meeting Jul 2021
26. **Canadian Association of Physicist (CAP) Congress** Jun 2021
25. **U. of Science and Technology of China** Particle Cosmology Webinar Feb 2021
24. **ICTS Workshop - Physics of the Early Universe** Sep 2021
23. **Quantum Aspects of Space-Time and Matter (QASTM)** Online Talk Apr 2020
22. **U. of Cambridge** DAMTP Cosmology Journal Club Nov 2019
21. **Autumn Workshop on Gravity and Cosmology at Warsaw U.** Nov 2019
20. **Dartmouth College** Cosmology Seminar Apr 2019
19. **Ohio State U.** High Energy Physics Seminar Oct 2018
18. ****Harvard-ITC** Luncheon Sep 2018
17. ****Harvard-ITC** Prof. Avi Loeb Group Meeting Sep 2018
16. **Princeton U.** New Directions in Cosmology and Gravitational Theory Talk Jan 2018
15. **Institut d'Astrophysique de Paris (IAP)** GRECO Seminar Sep 2017
14. **Imperial College London** 3-PAC Seminar May 2017
13. **U. of Cambridge** DAMTP Cosmology Journal Club May 2017
12. **King's College London** Theoretical Particle Physics & Cosmology Seminar May 2017
11. **Queen Mary U. of London** Cosmology and Relativity Seminar May 2017
10. **Portsmouth U.** Institute of Cosmology and Gravitation Seminar May 2017
9. **Tufts U.** Institute of Cosmology Seminar Apr 2017
8. **U. of Pennsylvania** Astrophysics and Cosmology Group Talk Apr 2017
7. ****U. of Tokyo** Research Center for the Early Universe Seminar Jun 2016
6. ****U. of Science and Technology of China** Astronomy Colloquium Jun 2016
5. **Fudan U.** Cosmology Seminar Jun 2016
4. **Tokyo Institute of Technology** Cosmology Seminar Jun 2016
3. **U. of Geneva** Cosmology and Astroparticle Physics Journal Club Oct 2015
2. ****ENS-Lyon** Centre de Recherche Astrophysique de Lyon Seminar Oct 2015
1. **Bishop's U.** Physics Seminar Sep 2015

CONTRIBUTED TALKS	10. Atlantic General Relativity Conference	May 2022
	9. YITP (Kyoto U.) Quantum Cosmology Workshop	Nov 2021
	8. Alternative Gravities and Fundamental Cosmology Conference	Sep 2021
	7. Northeast Cosmology Workshop at McGill U.	Mar 2018
	6. COSMO-17 at Paris U.	Sep 2017
	5. Beyond ΛCDM Conference	Jan 2015
	4. Centre for Research in Astrophysics of Qubec (CRAQ) Meeting	May 2013
	3. American Astronomical Society (AAS) Meeting #221	Jan 2013
	2. Canadian Undergraduate Physics Conference (CUPC)	Oct 2012
	1. Centre for Research in Astrophysics of Qubec (CRAQ) Meeting	May 2012
INTERNAL TALKS	• U. of Waterloo Applied Math (2022-present): 1 talk	
	• Fields Institute (2022): 1 talk	
	• AEI-Potsdam (2019-2022): 6 talks	
	• McGill U. Centre for High Energy Physics (2013-2019): 14 talks	
	• McGill Space Institute (2017-2019): 2 talks	
	• Bishop's U. Department of Physics: 3 talks	
SELECTED WORKSHOPS, SCHOOLS AND ADDITIONAL CONFERENCES ATTENDED	10th Central European Relativity Seminar @ AEI	Feb 2020
	Advanced Winter School on Theoretical Cosmology @ Nordita	Jan 2020
	Workshop on Geometry and Duality @ AEI	Dec 2019
	Symposium on History for Physics: Quantum Gravity @ AEI	Nov 2019
	XI International Symposium: Quantum Theory and Symmetries @ UdeM	Jul 2019
	XIX International Congress on Mathematical Physics @ Montréal	Jul 2018
	Northeast Cosmology Workshop @ McGill	Mar 2018
	Gravity in the Early Universe @ Princeton-PCTS	Jan 2018
	McGill-Dartmouth Cosmology Day @ McGill	May 2017
	100 Years, General Theory of Relativity, Einstein Symposium @ ETH Zurich	Nov 2015
	Workshop on AdS/CFT and the Resolution of Cosmological Singularities @ CRM	Jul 2015
	Summer School on Cosmology @ ICTP	Aug 2014
	Theory Canada 8 Conference @ Bishop's	May 2013
	AAS Meeting @ Boston	May 2011
OUTREACH TALKS	Public talk (in French), “Astronomie en Fût” (Astronomy on Tap), <i>L'univers a-t-il eu un commencement? (Did the universe have a beginning?)</i> @ Montréal	Apr 2017
	Speaker and guide for tours at the Bishop's University Observatory	2011-13
PRESS COVERAGE	Semeando buracos negros supermassivos (Sowing supermassive black holes) by Rua Josephine in Cientistas Feministas (in Portuguese)	
	Evolution of cataclysmic variables and related binaries containing accreting white dwarfs in Phys.org	
	The ‘Dark’ Universe May Be Full of Strange Interactions by Charles Q. Choi in NOVA	

PROFESSIONAL ACTIVITIES AND COMMUNITY	Referee for PRD, PRL, JCAP, PLB, CQG, EPJ C, MPLA, LHEP, Physica Scripta, and Ap&SS	
	Member of the SOC for the Nordita Winter School on Theoretical Cosmology	Jan 2020
	Reviewed a grant proposal for the National Science Center of Poland	Dec 2018
	McGill HEP-th Journal Club organizer	Sep 2017-Dec 18
	Helped with the organization of the Northeast Cosmology Workshop @ McGill	Mar 2018
	Helped with the organization of the McGill-Dartmouth Cosmology Day @ McGill	May 2017
	Helped with the organization of the Theory Canada 8 Conference @ Bishop's	May 2013
SUPERVISION AND TEACHING	AEI	
	<ul style="list-style-type: none"> • Mentor of PhD student Caroline Jonas 	Oct 2019-present
	McGill U.	
	<ul style="list-style-type: none"> • Substitute Lecturer <i>Very Early Universe</i> 	Sep 2017
	<ul style="list-style-type: none"> • Mentor for the MGAPS mentorship program 	Sep-Dec 2016
	<ul style="list-style-type: none"> • Teaching Assistant <i>General Relativity and Cosmology, Modern Physics and Relativity, Electromagnetic Waves, Introductory Physics – Mechanics, Honours Classical Mechanics 2, Honours Classical Mechanics 1, Topics in Classical Mechanics, Modern Physics and Relativity</i> 	Sep 2013-Apr 2017
	Bishop's U.	
	<ul style="list-style-type: none"> • Tutor at the Bishop's University Physics Help Centre 	Sep 2012-Apr 13
	<ul style="list-style-type: none"> • Teaching Assistant <i>Introduction to Mechanics, Differential Equations, Thermal and Fluid Physics</i> 	Jan 2012-Apr 2013
	Private mathematics and physics tutor (high school and college level)	2009-11, 2015
PROGRAMMING	<ul style="list-style-type: none"> • Languages: Python (including NumPy, SciPy, Matplotlib, etc.), Fortran, C/C++, Java, UNIX shell scripts, Perl, Mathematica, Maple • Codes: CAMB, MultiModeCode, PyTransport, CosmicPy, Pyflation, MathGR, xPand, MESA 	