

## Jerome Quintin – Curriculum Vitae

Email: [jquintin@fields.utoronto.ca](mailto:jquintin@fields.utoronto.ca)

Website: <https://jerome-quintin.github.io/>

Citizenship: Canadian

Languages: French, English, German (intermediate)

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

20. **J. Quintin**, H. Bernardo and G. Franzmann, *Cosmology at the top of the  $\alpha'$  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  $\alpha'$ -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

<b>CONTRIBUTED TALKS</b>	10. <a href="#">Atlantic General Relativity Conference</a>	May 2022
	9. <a href="#">YITP (Kyoto U.) Quantum Cosmology Workshop</a>	Nov 2021
	8. <a href="#">Alternative Gravities and Fundamental Cosmology Conference</a>	Sep 2021
	7. <a href="#">Northeast Cosmology Workshop at McGill U.</a>	Mar 2018
	6. <a href="#">COSMO-17 at Paris U.</a>	Sep 2017
	5. <a href="#">Beyond <math>\Lambda</math>CDM Conference</a>	Jan 2015
	4. <a href="#">Centre for Research in Astrophysics of Qubec (CRAQ) Meeting</a>	May 2013
	3. <a href="#">American Astronomical Society (AAS) Meeting #221</a>	Jan 2013
	2. <a href="#">Canadian Undergraduate Physics Conference (CUPC)</a>	Oct 2012
	1. <a href="#">Centre for Research in Astrophysics of Qubec (CRAQ) Meeting</a>	May 2012
<b>INTERNAL TALKS</b>	• <a href="#">U. of Waterloo Applied Math (2022-present): 1 talk</a>	
	• <a href="#">Fields Institute (2022): 1 talk</a>	
	• <a href="#">AEI-Potsdam (2019-2022): 6 talks</a>	
	• <a href="#">McGill U. Centre for High Energy Physics (2013-2019): 14 talks</a>	
	• <a href="#">McGill Space Institute (2017-2019): 2 talks</a>	
	• <a href="#">Bishop's U. Department of Physics: 3 talks</a>	
<b>SELECTED WORKSHOPS, SCHOOLS AND ADDITIONAL CONFERENCES ATTENDED</b>	<a href="#">10th Central European Relativity Seminar @ AEI</a>	Feb 2020
	<a href="#">Advanced Winter School on Theoretical Cosmology @ Nordita</a>	Jan 2020
	<a href="#">Workshop on Geometry and Duality @ AEI</a>	Dec 2019
	<a href="#">Symposium on History for Physics: Quantum Gravity @ AEI</a>	Nov 2019
	<a href="#">XI International Symposium: Quantum Theory and Symmetries @ UdeM</a>	Jul 2019
	<a href="#">XIX International Congress on Mathematical Physics @ Montréal</a>	Jul 2018
	<a href="#">Northeast Cosmology Workshop @ McGill</a>	Mar 2018
	<a href="#">Gravity in the Early Universe @ Princeton-PCTS</a>	Jan 2018
	<a href="#">McGill-Dartmouth Cosmology Day @ McGill</a>	May 2017
	<a href="#">100 Years, General Theory of Relativity, Einstein Symposium @ ETH Zurich</a>	Nov 2015
	<a href="#">Workshop on AdS/CFT and the Resolution of Cosmological Singularities @ CRM</a>	Jul 2015
	<a href="#">Summer School on Cosmology @ ICTP</a>	Aug 2014
	<a href="#">Theory Canada 8 Conference @ Bishop's</a>	May 2013
	<a href="#">AAS Meeting @ Boston</a>	May 2011
<b>OUTREACH TALKS</b>	Public talk (in French), “Astronomie en Fût” ( <a href="#">Astronomy on Tap</a> ), <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 <a href="#">Bishop's University Observatory</a>	2011-13
<b>PRESS COVERAGE</b>	<a href="#">Semeando buracos negros supermassivos (Sowing supermassive black holes)</a> by Rua Josephine in Cientistas Feministas (in Portuguese)	
	<a href="#">Evolution of cataclysmic variables and related binaries containing accreting white dwarfs</a> in Phys.org	
	<a href="#">The ‘Dark’ Universe May Be Full of Strange Interactions</a> by Charles Q. Choi in NOVA	

<b>PROFESSIONAL ACTIVITIES AND COMMUNITY</b>	Referee for PRD, PRL, JCAP, PLB, CQG, EPJ C, MPLA, LHEP, Physica Scripta, and Ap&SS	
	Member of the SOC for the <a href="#">Nordita Winter School on Theoretical Cosmology</a>	Jan 2020
	Reviewed a grant proposal for the National Science Center of Poland	Dec 2018
	<a href="#">McGill HEP-th Journal Club organizer</a>	Sep 2017-Dec 18
	Helped with the organization of the <a href="#">Northeast Cosmology Workshop @ McGill</a>	Mar 2018
	Helped with the organization of the <a href="#">McGill-Dartmouth Cosmology Day @ McGill</a>	May 2017
	Helped with the organization of the <a href="#">Theory Canada 8 Conference @ Bishop's</a>	May 2013
<b>SUPERVISION AND TEACHING</b>	AEI	
	• Mentor of PhD student <a href="#">Caroline Jonas</a>	Oct 2019-present
	McGill U.	
	• Substitute Lecturer <i>Very Early Universe</i>	Sep 2017
	• Mentor for the <a href="#">MGAPS</a> mentorship program	Sep-Dec 2016
	• 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.	
	• Tutor at the Bishop's University Physics Help Centre	Sep 2012-Apr 13
	• 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
<b>PROGRAMMING</b>	• Languages: Python (including NumPy, SciPy, Matplotlib, etc.), Fortran, C/C++, Java, UNIX shell scripts, Perl, Mathematica, Maple	
	• Codes: <a href="#">CAMB</a> , <a href="#">MultiModeCode</a> , <a href="#">PyTransport</a> , <a href="#">CosmicPy</a> , <a href="#">Pyflation</a> , <a href="#">MathGR</a> , <a href="#">xPand</a> , <a href="#">MESA</a>	