

Cyril Creque-Sarbinowski

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Education

Johns Hopkins University (JHU) <i>Ph.D in Physics & Astronomy</i> Advisor: Marc Kamionkowski	Baltimore, MD 2017-2022
Massachusetts Institute of Technology (MIT) <i>B.S. in Physics and Mathematics</i>	Cambridge, MA 2013-2017

Positions Held

Center for Computational Astrophysics (CCA) <i>Flatiron Research Fellow</i>	New York, NY Aug. 2022-Present
New York University (NYU) <i>Visiting Scholar</i>	New York, NY Sep. 2022-Present

Teaching

PHYS 111: Introductory Physics <i>Virtual Guest Lecturer, Slides</i>	Moravian University Spring 2022
PHYS2300: Quantum Theory of Fields I <i>Guest Lecturer, Lecture Notes</i>	Brown University Spring 2022
AS.171.107 General Physics for Physical Science Majors <i>Teaching Assistant</i> Lecturer: Prof. Robert Leheny & Prof. Rosemary Wyse	JHU Fall 2017
AS.173.111 General Physics Laboratory I <i>Section Head</i>	JHU Fall 2017

Awards, Scholarships, Fellowships

National Science Foundation <i>Graduate Research Fellow</i>	2019-2022
Gates Millenium Scholars Program <i>Scholar</i>	2013-2022
Kelly Miller Fellowship <i>Fellow</i>	2017-2019

Conferences, Workshops, Seminars

* = *Invited*, Hyperlinks to PDF of slides on topic

Seminar* : Joint Tufts/MIT Cosmology Seminar	Feb. 2023
Seminar* : Brown University IDEA Seminar	Feb. 2023
Conference : National Society of Black Physicists Annual Conference	Nov. 2022
Workshop* : Guest Expert, Cosmology Talks Parity-Violation Mini-Workshop	Nov. 2022
Seminar* : Imperial College London	Nov. 2022
Talk* : Ohio State University Astroparticle Lunch Talk	Sept. 2022
Talk : Princeton University/Institute of Advanced Study Lunch Series	Sept. 2022
Workshop (Organizer) : NeXus Workshop	Aug. 2022
Workshop : Aspen Center for Physics	May-June 2022
Seminar* : Brown University	March 2022
Workshop : NeXus Workshop	June 2021
Conference : Pheno 2021	May 2021
Conference : XIX International Workshop on Neutrino Telescopes	Feb. 2021
Conference : Neutrino 2020	Jun. 2020
Seminar* : Bowdoin College	Nov. 2019
Conference : National Society of Black Physicists Annual Conference	Nov. 2019
Conference : Cosmic Controversies, Kavli Institute for Cosmological Physics	Oct. 2019
Workshop : Novel Ideas for Dark Matter, Princeton Center for Theoretical Science	Jan. 2019
Conference : National Society of Black Physicists Annual Conference	Nov. 2018
Conference : Identification of Dark Matter, Brown University	Jul. 2018
Workshop : Second Annual Line-Intensity Mapping Workshop (IM@Hopkins), Johns Hopkins University	Jul. 2017
Conference : Neutrinos and Light Particles in Cosmology, Berkeley Center for Cosmological Physics	Jun. 2016
Conference : National Society of Black Physicists Annual Conference	Feb. 2015

Publications

- [1] **C. Creque-Sarbinowski**, S. Alexander, M. Kamionkowski, and O. Philcox, "Parity-Violating Trispectrum from Chern-Simons Gravity," [arXiv:2303.04815 \[astro-ph.CO\]](#).
- [2] B. Zhou, L. Reali, E. Berti, M. Çalışkan, **C. Creque-Sarbinowski**, M. Kamionkowski, and B. S. Sathyaprakash, "Subtracting Compact Binary Foregrounds to Search for Subdominant Gravitational-Wave Backgrounds in Next-Generation Ground-Based Observatories," [arXiv:2209.01310 \[gr-qc\]](#).
- [3] B. Zhou, L. Reali, E. Berti, M. Çalışkan, **C. Creque-Sarbinowski**, M. Kamionkowski, and B. S. Sathyaprakash, "Compact Binary Foreground Subtraction in Next-Generation Ground-Based Observatories," [arXiv:2209.01221 \[gr-qc\]](#).

- [4] S. Alexander and **C. Creque-Sarbinowski**, “Chern-Simons Gravity and Neutrino Self-Interactions,” [arXiv:2207.05094 \[hep-ph\]](#).
- [5] **C. Creque-Sarbinowski**, J. Hyde, and M. Kamionkowski, “High-Energy Astrophysical Neutrinos from Cosmic Strings,” [arXiv:2206.06377 \[hep-ph\]](#).
- [6] **C. Creque-Sarbinowski**, M. Kamionkowski, and B. Zhou, “Seeking neutrino emission from AGN through temporal and spatial cross-correlation,” *Phys. Rev. D* **105** no. 12, (2022) 123035, [arXiv:2111.08012 \[astro-ph.HE\]](#).
- [7] **C. Creque-Sarbinowski**, M. Kamionkowski, and B. Zhou, “AGN variability in the age of VRO,” *Astrophys. J.* **941** (2022) 41, [arXiv:2110.13149 \[astro-ph.GA\]](#).
- [8] **C. Creque-Sarbinowski**, J. Hyde, and M. Kamionkowski, “Resonant neutrino self-interactions,” *Phys. Rev. D* **103** no. 2, (2021) 023527, [arXiv:2005.05332 \[hep-ph\]](#).
- [9] **C. Creque-Sarbinowski**, L. Ji, E. D. Kovetz, and M. Kamionkowski, “Direct millicharged dark matter cannot explain the EDGES signal,” *Phys. Rev. D* **100** no. 2, (2019) 023528, [arXiv:1903.09154 \[astro-ph.CO\]](#).
- [10] **C. Creque-Sarbinowski** and M. Kamionkowski, “Searching for Decaying and Annihilating Dark Matter with Line Intensity Mapping,” *Phys. Rev. D* **98** no. 6, (2018) 063524, [arXiv:1806.11119 \[astro-ph.CO\]](#).
- [11] **C. Creque-Sarbinowski**, S. Bird, and M. Kamionkowski, “Cross-correlation between thermal Sunyaev-Zeldovich effect and the integrated Sachs-Wolfe effect,” *Phys. Rev. D* **94** no. 6, (2016) 063519, [arXiv:1606.00839 \[astro-ph.CO\]](#).