

# Cyril Creque-Sarbinowski

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## Education

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**Johns Hopkins University (JHU)**

*Ph.D in Physics & Astronomy*

Advisor: Marc Kamionkowski

**Baltimore, MD**

*2017-2022*

**Massachusetts Institute of Technology (MIT)**

*B.S. in Physics and Mathematics*

**Cambridge, MA**

*2013-2017*

## Positions Held

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**Center for Computational Astrophysics (CCA)**

*Flatiron Research Fellow*

**New York, NY**

*Aug. 2022-Present*

**New York University (NYU)**

*Visiting Scholar*

**New York, NY**

*Sep. 2022-Present*

## Teaching

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**PHYS 111: Introductory Physics**

*Virtual Guest Lecturer, [Slides](#)*

**Moravian University**

*Spring 2022*

**PHYS2300: Quantum Theory of Fields I**

*Guest Lecturer, [Lecture Notes](#)*

**Brown University**

*Spring 2022*

**AS.171.107 General Physics for Physical Science Majors**

*Teaching Assistant*

Lecturer: Prof. Robert Leheny & Prof. Rosemary Wyse

**JHU**

*Fall 2017*

**AS.173.111 General Physics Laboratory I**

*Section Head*

**JHU**

*Fall 2017*

## Awards, Scholarships, Fellowships

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**National Science Foundation**

*Graduate Research Fellow*

*2019-2022*

**Gates Millenium Scholars Program**

*Scholar*

*2013-2022*

**Kelly Miller Fellowship**

*Fellow*

*2017-2019*

## Conferences, Workshops, Seminars

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

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

## Publications

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- [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 \[astro-ph.CO\]](#).