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# Leah Jenks

Kavli Institute for Cosmological Physics • ljenks@uchicago.edu

## Academic Appointments

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University of Chicago	2022 - 2025
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- KICP Postdoctoral Fellow

## Education

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Brown University	2018-2022
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- PhD in Physics
- Advisor: Dr. Stephon Alexander

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University of Edinburgh	2017-2018
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- MSc in Theoretical Physics
- Advisor: Dr. James Lucietti

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Colgate University	2013-2017
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- BA in Astronomy/Physics, *Magna Cum Laude*
- Research Advisors: Dr. Patrick Crotty, Dr. Thomas Balonek

## Honors and Awards

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• Anthony Houghton Award for Excellence in Theoretical Physics	2022
• Sigma Xi Scientific Research Honor Society	2020
• Physics and Astronomy Department Founders Award	2017
• Departmental Honors in Astronomy/Physics	2017
• Michael S. '73 and Linda A. Walsh Endowed Scholarship	2016 - 2017
• Dean's Award for Academic Excellence	2014 - 2017

## Publications

Author lists denoted with a \* are alphabetical, per convention in theoretical particle physics

11. C. Capanelli, **L. Jenks\***, E.W. Kolb, and E. McDonough, “Cosmological Implications of Kalb-Ramond Fields,” *arXiv:2309.02485*, (2023)
10. **L. Jenks**, M. Lagos, L. Choi, and N. Yunes, “Parameterized Parity Violation in Gravitational Wave Propagation,” *Physical Review D* 108, 4, 044023 (2023)
9. **L. Jenks**, K. Koutrolikos, E. McDonough, S. Alexander, and S.J. Gates, “Towards a Direct Detection of the Spin of Dark Matter,” *Physics Letters B* 842, 137956 (2023)
8. S. Alexander, G. Gabadadze, **L. Jenks\***, and N. Yunes, “Black Hole Superradiance in Dynamical Chern-Simons Gravity,” *Physical Review D*, 107, 8, 084016 (2023)
7. S. Alexander, G. Gabadadze, **L. Jenks\***, and N. Yunes, “The Chern-Simons Caps for Rotating Black Holes,” *Physical Review D*, 104, 6, 064033 (2021)

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6. S. Alexander, **L. Jenks\***, and E. McDonough, "Higher Spin Dark Matter," *Physics Letters B*, 819, 136436 (2021)
  5. **L. Jenks**, K. Yagi, and S. Alexander, "Probing Noncommutative Gravity with Gravitational Waves and Binary Pulsar Observations," *Physical Review D*, 102, 084022 (2020)
  4. S. Alexander, **L. Jenks\***, P. Jirousek, J. Magueijo, and T. Zlosnik, "Gravity Waves in Parity Violating Copernican Universes," *Physical Review D*, 102, 4, 044039 (2020)
  3. S. Alexander, S. J. Gates Jr., **L. Jenks\***, K. Koutrolikos, and E. McDonough, "Higher Spin Supersymmetry at the Cosmological Collider: Sculpting SUSY Rilles in the CMB," *Journal of High Energy Physics*, 10, 156 (2019)
  2. Z. R. Weaver, T. J. Balonek, S. G. Jorstad, et al., "The June 2016 Optical and Gamma-Ray Outburst and Optical Micro-Variability of the Blazar 3C 454.3," *The Astrophysical Journal*, 875, 15 (2019)
  1. B. G. Elmegreen, D. M. Elmegreen, B. Tompkins, and **L. G. Jenks**, "Thick Disks in the Hubble Space Telescope Frontier Fields," *The Astrophysical Journal*, 847, 14 (2017)

## Invited Talks

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### Conferences & Workshops

4. The Early Universe: A Window into New Physics Workshop *TBA*, October 2023
3. Parity Violation from Home Conference: *TBA*, October 2023
2. UIUC ICASU Modified Gravity Workshop: *Gravitational Wave Probes of Parity Violation*, May, 2023
1. ICERM Workshop: Advances in Chern-Simons Classical and Quantum Gravity: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, May 7, 2022

### Colloquia

3. LSU Physics Colloquium: *TBA*, October 2023
2. Colgate Physics & Astronomy Colloquium: *Higher Spin Dark Matter*, October 19, 2021
1. UMass Dartmouth Physics Colloquium: *Higher Spin Dark Matter*, December 3, 2020

### Seminars & Group Meetings

15. Sydney-CPPC Seminar: *Cosmological Probes of Higher Spin Fields*, March 8, 2023
14. UIUC Astrophysics, Cosmology, and Gravitation Seminar: *Cosmological Probes of Higher Spin Fields*, October 5, 2022
13. University of Hawaii Cosmology Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, April 7, 2022
12. Perimeter Institute Cosmology Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, December 14, 2021
11. McGill University HEP Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, November 29, 2021
10. Imperial College London Theory Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, November 16, 2021
9. UVA Gravity Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, November 8, 2021

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8. BSM PANDEMIC Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, October 26, 2021
  7. MIT/Tufts Cosmology Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, October 19, 2021
  6. NYU HEP Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, October 8, 2021
  5. Brown Theoretical Physics Center Seminar: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, October 7, 2021
  4. Columbia Theory Group Meeting: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, October 5, 2021
  3. CCA Lunch Seminar: *The Chern-Simons Caps for Rotating Black Holes*, April 22, 2021
  2. PACMAN Group Meeting: *Higher Spin Dark Matter*, November 10, 2020
  1. NYU/CCA, Cosmology x Data Science Group Meeting: *Probing Noncommutative Gravity with Gravitational Waves and Binary Pulsar Observations*, October 16, 2020

## Contributed Posters and Presentations

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13. Talk: *Gravitational Wave Probes of Parity Violation*, COSMO Conference, September 2023
12. Talk: *Gravitational Wave Probes of Parity Violation*, Amaldi15 Conference, July 2023
11. Talk: *Probing the Spin of Dark Matter with Directional Direct Detection*, American Physical Society April Meeting, April 2023
10. Talk: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, Testing Gravity, January 2023
9. Talk: *Aspects of Rotating Black Holes in Dynamical Chern-Simons Gravity*, Midwest Relativity Meeting, November 2021
8. Talk: *Higher Spin Dark Matter*, American Physical Society April Meeting, April 2021
7. Poster Presentation: *The First Law of Black Hole Mechanics in Higher Dimensions*, Brown University Young Scholars Conference, October 2018
6. Poster Presentation: *Thick Disks and Galaxy Morphology in the Hubble Space Telescope Frontier Fields*, American Astronomical Society Meeting, January 2017
5. Poster Presentation: *The Optical Variability of the Blazar 3C 454.3 over Three Decades from the Colgate University Foggy Bottom Observatory*, American Astronomical Society Meeting, January 2017
4. Talk: *WIMPzilla Production in the Inflationary Epoch of the Early Universe*, Syracuse University Undergraduate Research Day, November 2016
3. Talk & Proceedings Paper: *High Redshift Galaxy Morphology in the Hubble Space Telescope Frontier Fields*, Keck Northeast Astronomy Consortium Symposium, October 2016
2. Poster Presentation: *The 2013-2015 Optical Outburst and Light Curve of the Blazar 3C 454.3*, American Astronomical Society Meeting, January 2016

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1. Talk & Proceedings Paper: *The Historic Light Curve of the Blazar 3C 454.3*, Keck Northeast Astronomy Consortium Symposium, October 2015

## Teaching

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<b>Summer@Brown Pre-College Instructor</b>	<b>Summer 2019, 2021-2023</b>
• Origins of the Universe: From the Big Bang to Black Holes	2023
• Quantum Mechanics and the Nature of Reality	2019, 2021-22
<b>Graduate Teaching Assistant (Brown University)</b>	<b>2018 - 2020</b>
• PHYS 220 (Astronomy)	
• PHYS 270 (Astronomy & Astrophysics)	
<b>Undergraduate Teaching Assistant &amp; Tutor (Colgate University)</b>	<b>2015 - 2016</b>
• ASTR 101 (Solar System Astronomy)	
• ASTR 102 (Stars, Galaxies & the Universe)	
• PHYS 111 (Fundamental Physics I)	

## Service

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<b>Departmental</b>	
• Co-organizer of KICP seminar series	2023 - Present
• Organizer of KICP particle cosmology journal club	2022 - Present
• Co-organizer of KICP Funch journal club	2022-2023
<b>Professional</b>	
• Referee for <i>JCAP</i> , <i>Physics Letters B</i> , <i>EPL</i> ,	
• Subject matter expert reviewer in NASA peer review	

## Diversity, Inclusion, and Equity

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• UChicago Women in STEM (member)	2023 - Present
• Brown Graduate Women in Physics (Co-Leader)	2019 - 2022
• Brown CUWiP Organizing Committee	2020 - 2022
• Brown Physics Department Diversity and Inclusion Committee	2019 - 2021
• APS IDEA Participant	2020
• Colgate Women in Physics Club (Founder)	2015 - 2017

## Media

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- Theorygirls.com Blog Post: *The Cosmological Constant Problem* May 2020

## Outreach

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- NeXXus invited guest speaker April 2023

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- UIC Physics & Astronomy Club invited guest speaker April 2023
  - Lifelong Learning guest speaker March 2023
  - ‘Weekly Space Hangout’ Early Career Journalist 2022- 2023
  - “Skype a Scientist” scientist volunteer 2020 - Present
  - Physics Graduate Student Mentor 2019 - 2022
  - Presidential Scholars Graduate Student Mentor 2018 - 2019
  - Providence Waterfire Big Bang Science Fair September 2018, 2019
  - Ho-Tung Visualization Lab Science Outreach Educator 2014 - 2016

## Skills & Interests

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- **Computing:** Mathematica, Maple (including GRTensorII), Python, VPython, MATLAB, LaTeX, IRAF, Image J, Microsoft Office
- **Interests:** Cosmology, general relativity, particle physics, equity in STEM

## Affiliations

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- American Physical Society (APS)