

Nico Cooper

(they/them)

Contact

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Department of Physics & Astronomy
University of Kentucky
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Citizenship: USA

Research interests

Conformal Field Theory, AdS_3/CFT_2 , Quantum Information, Quantum Chaos, Operator Algebras

Education

- 2022 – 2027 **University of Kentucky** – Lexington, KY
PhD
Department of Physics and Astronomy
- 2021 – 2022 **Northwestern University** – Evanston, IL
Causeway Postbaccalaureate Program
Department of Mathematics
Advisor: Prof. Gus Schrader
- 2017 – 2021 **Princeton University** – Princeton, NJ
Bachelor of Arts (AB)
Department of Physics
Advisors: Prof. Silviu Pufu (Thesis), Dr. Sabrina Pasterski (Junior Paper), Prof. Isobel Ojalvo (Junior Paper)
- 2013 – 2017 **Eastern High School** – Louisville, KY

Honors and Awards

- 2023-2027 Lyman T. Johnson Fellowship (University of Kentucky Graduate School)
- 2025 Best Poster Design (UKy Physics & Astronomy Poster Session)
- 2021 Building Bridges Award (Princeton University LGBT Center)

2020 Allen G. Shenstone Prize (Princeton University Department of Physics)

Research

2026 **Holographic Equidistribution**

Preprint (to be submitted to Journal of High Energy Physics)

2022 **Integrability in QFT and CFT**

Advisor: Prof. Gus Schrader (Northwestern University; Causeway)

2021 **Integrated Correlators in $\mathcal{N} = 4$ $SO(2N)$ Supersymmetric Yang-Mills Theory**

Advisor: Prof. Silviu Pufu (Princeton University)

2020 **Frame-Dragging in Chern-Simons Modified Gravity**

Advisor: Prof. Stephon Alexander (Brown University; Simons-NSBP Scholars Program 2020)

2020 **Consequences of the Infrared Triangle In Gauge Theory**

Advisor: Dr. Sabrina Pasterski (Princeton Center for Theoretical Science)

2019 **Machine Learning to Select Trigger Level Vector Boson Fusion Events with the CMS Detector**

Advisor: Prof. Isobel Ojalvo (Princeton University; CMS Collaboration)

Talks

June 2025 Hecke Universality at Large N
(Quantum Gravity at Duluth)

June 2025 Fun with Hecke Operators
(Great Lakes Mathematical Physics Conference at UKy)

January 2025 - Present UKy String Seminars

December 2024 Towards a Code Classification of Orbifold Models
(UKy PhD Qualifying Talk)

May 2023 The KdV Hierarchy: From Water Waves to Conformal Field Theory
(2023 Spectra Survey of Mathematics Conference)

June 2021 Integrated Correlators in $\mathcal{N} = 4$ $SO(2N)$ Supersymmetric Yang-Mills Theory
(NSBP Innovate Seminar Series hosted by KITP)

June 2021 $\mathcal{N} = 4$ Super Yang-Mills Theory and the Topological Recursion
(Nexus Simons Foundation Workshop)

November 2020 Frame-Dragging in Chern-Simons Modified Gravity
(2020 National Society of Black Physicists Conference)

Teaching experience

- Aug. 2022 – Present Graduate Teaching Assistant, Mechanics Lab Courses; Electricity & Magnetism Recitations, Physics for Elementary Educators TA, Graduate Statistical Mechanics Grader (University of Kentucky)
- June 2024 – August 2025 UKy Physics & Astronomy REU mini-courses
- Sept. 2017 – Jan. 2019 Tutor, General Math & Science (Princeton High School)
- Sept. 2017 – Jan. 2018 Teacher, Astrophysics & Pre-Calculus (Princeton Learning Cooperative)

Mentorship and service

- 2024 – 2025 University of Kentucky Physics & Astronomy REU Graduate Assistant
- 2021 – 2022 Evanston Township High School Math Graduate Student Volunteer
- 2020 – 2022 National Society of Black Physicists Student Council
- 2021 National Society of Black Physicists Annual Conference (Organizer)
- 2021 Simons-NSBP Scholars Program (Graduate Mentor)
- 2018 – 2021 Princeton LGBT Center Peer Educator
- 2019 – 2020 Princeton Society of Physics Students (President)
- 2019 – 2020 Princeton Department of Physics Climate and Inclusion Committee (Undergraduate Representative)
- 2018 – 2019 Princeton Society of Physics Students (Events Chair)
- 2018 – 2019 Princeton Undergraduate Women in Physics (Events Chair)
- 2018 Princeton Undergraduate Research Journal (Director of Outreach)