

Ravin Raj

PHD STUDENT · PHYSICS

Department of Physics, Princeton University, Princeton, NJ 08544, USA

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Education

Princeton University

Princeton, NJ

PHD IN PHYSICS

Aug 2021 - present

- Advisor: Gautam Reddy ([Group](#))
- Committee: William Bialek, Mariangela Lisanti
- Field(s): Theoretical Biophysics, Statistical Mechanics, Statistical Learning Theory
- Expected Graduation: End 2026

National University of Singapore (NUS)

Singapore

B.Sc (HONS) (HIGHEST DISTINCTION) IN PHYSICS

Aug 2016 - Jun 2020

- Honors Thesis Advisor: Travis Nicholson ([Group](#))
- Cumulative Average Point: 4.89/5.00
- Major: Physics (with Specialization in Quantum Technologies)
- Academic Programmes: Special Programme in Science (SPS)

Professional Experience

- Aug 2021 – Present **Graduate Research Assistant** Department of Physics, Princeton University
- Jul 2019 – Aug 2021 **Research Assistant** Centre for Quantum Technologies (CQT), NUS
- Jun 2018 – Aug 2018 **Research Intern** Bioinformatics Institute (BII), A*STAR
- Jun 2017 – Dec 2017 **Undergraduate Research Student** Centre for Bio-Imaging Sciences (CBIS), NUS

Publications

- Chee San Tong, Maohan Su, He Sun, Xiang Le Chua, Ding Xiong, Su Guo, **Ravin Raj**, Nicole Wen Pei Ong, Ann Gie Lee, Yansong Miao, Min Wu. Collective dynamics of actin and microtubule and its crosstalk mediated by FHDC1. *Front. Cell Dev. Biol.*, **11**, 1261117. (2024) ([link](#))
- Lysander Christakis, Jason S. Rosenberg, **Ravin Raj**, Sungjae Chi, Alan Morningstar, David A. Huse, Zoe Z. Yan, Waseem S. Bakr. Probing site-resolved correlations in a spin system of ultracold molecules. *Nature* **614**, 64–69. (2023) ([link](#))

Honors & Awards

- 2024 **Graduate Student Teaching Award ([Article](#))**, Graduate School, Princeton University
- 2023 **Teaching Excellence Award**, Department of Physics, Princeton University
- 2020 **Class Valedictorian**, NUS
- Outstanding Undergraduate Researcher Prize ([Article](#))**, NUS
- Singapore Indian Development Association (SINDA) Excellence Award**, SINDA
- Institute of Physics Singapore (IPS) Bronze Medal**, IPS
- 2019 **NUS Science Diamond Jubilee Student Award**, Faculty of Science, NUS
- 2018 **Arthur Rajaratnam Prize**, Faculty of Science, NUS
- 2017 – 2019 **Faculty of Science Dean's List**, Faculty of Science, NUS
- 2017 **A*STAR Undergraduate Scholarship**, A*STAR

Conferences

* *presenting author*

CONTRIBUTED PRESENTATIONS

- * Jason Rosenberg, Lysander Christakis, **Ravin Raj**, Zoe Yan, Youssef Alaoui, Waseem Bakr. 2023. Collisional shielding of a bosonic gas of polar molecules. Oral Presentation: APS Division of Atomic, Molecular and Optical Physics Meeting. Spokane, WA, USA.
- * Jason Rosenberg, Lysander Christakis, **Ravin Raj**, Zoe Yan, Youssef Alaoui, Waseem Bakr. 2023. Strongly correlated 2D ensembles of bosonic polar molecules. Poster: APS Division of Atomic, Molecular and Optical Physics Meeting. Spokane, WA, USA.
- * **Ravin Raj**, Lysander Christakis, Jason Rosenberg, Sungjae Chi, Zoe Yan, Waseem Bakr. 2022. Site-resolved measurements of real and momentum space correlations of ultracold molecules in an optical lattice. Poster: APS Division of Atomic, Molecular and Optical Physics Meeting. Orlando, FL, USA.
- * Lysander Christakis, Jason Rosenberg, **Ravin Raj**, Sungjae Chi, Zoe Yan, Waseem Bakr. 2022. Quantum gas microscopy of polar molecules. Oral Presentation: APS Division of Atomic, Molecular and Optical Physics Meeting. Orlando, FL, USA.

Teaching Experience

TEACHING ASSISTANT – PRINCETON UNIVERSITY

Fall 2023, Fall 2024 **PHY 301 - Thermal Physics**
Spring 2023 **PHY 210 - Experimental Physics Seminar**
Spring 2022 **PHY 304 - Advanced Electromagnetism**
Fall 2022 **PHY 103 - General Physics I**

TEACHING ASSISTANT – NATIONAL UNIVERSITY OF SINGAPORE

Fall 2018 – Spring 2021 **SP2171 - Discovering Science**
Fall 2018 – Fall 2020 **SP2173 - Atoms to Molecules**