

# En-Jui Kuo

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## EDUCATION

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### University of Maryland, College Park

Aug. 2018 – Aug. 2023

*Ph.D. in Physics*

- Awarded the Monroe H. Martin Graduate Research Fellowship (2023).
- Researched quantum computing, information theory, and complexity.
- Studied condensed matter physics and applied machine learning.

### National Taiwan University, Taipei

Feb. 2016 – Jul. 2017

*M.Sc. in Physics, GPA: 3.97*

- Conducted research in string theory.

### National Yang Ming Chiao Tung University, Hsinchu

Sep. 2012 – Jan. 2016

*B.Sc. in Electrophysics, GPA: 3.98*

- Graduated in 3.5 years with academic honors.
- Early research experience in high energy physics.

## ACADEMIC APPOINTMENTS

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### National Yang Ming Chiao Tung University, Hsinchu

Feb. 2025 – Present

*Assistant Professor, Department of Electrophysics*

### National Center for Theoretical Sciences (NCTS)

Jan. 2024 – Jan. 2025

*Postdoctoral Researcher, Quantum Information Group*

- Collaborated on quantum information and complexity theory.
- Explored machine learning techniques in quantum systems.

### Foxconn Technology Group (Hon Hai Research Institute)

Sep. 2022 – Dec. 2023

*Intern, Quantum Research (Remote)*

- Studied quantum algorithms using matrix completion techniques.
- Contributed to quantum oracle separation problems.

## SELECTED PUBLICATIONS

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### Quantum Information, Computing, and Simulation

- Quantum state tomography via non-convex Riemannian gradient descent, **Phys. Rev. Lett.** **132**, 240804 (2024).
- Qubit-oscillator concatenated codes: decoding formalism and comparison, **PRX Quantum** **4**, 020342.
- Efficient quantum computations of molecular properties using wavelet orbitals, **PRX Quantum** **3**, 020360.
- Boson sampling for generalized bosons, **Phys. Rev. Research** **4**, 043096.

### Machine Learning in Condensed Matter

- Unsupervised learning of SPT phase transitions, **Phys. Rev. B** **105**, 235136.
- Decoding CFTs: from supervised to unsupervised learning, **Phys. Rev. Research** **4**, 043031.
- Learning molecular dynamics with LSTM networks, **Nat. Commun.** **11**, 1–11.

## RESEARCH AREAS AND SKILLS

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**Languages:** Python, Julia

**Research Areas:** Quantum Computing, Quantum Information, Complexity Theory, Condensed Matter, Mathematical Physics