

# Stanford

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## David Long

Postdoctoral Scholar, Physics

 Curriculum Vitae available Online

### Bio

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#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Boston University (2023)
- PhD, Boston University , Physics (2023)
- Masters, The University of Sydney , Physics (2023)
- Bachelor of Science (Honours), The University of Sydney , Physics and Mathematics (2017)

#### STANFORD ADVISORS

- Vedika Khemani, Postdoctoral Faculty Sponsor

#### LINKS

- Google Scholar: <https://scholar.google.com/citations?user=Y6oFbLQAAAAJ>

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

David is a theoretical condensed matter physicist with an expertise in systems far from equilibrium. His research focuses on the dynamics of quantum systems, including many-body dynamics, the process of thermalization in nearly-localized systems, and on robust topological effects in driven systems.

### Publications

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#### PUBLICATIONS

- **Absence of disordered Thouless pumps at finite frequency** *PHYSICAL REVIEW B*  
Vuina, D., Long, D. M., Crowley, P. D., Chandran, A.  
2024; 110 (17)
- **Interacting quasiperiodic spin chains in the prethermal regime** *PHYSICAL REVIEW B*  
Tu, Y., Long, D. M., Sarma, S.  
2024; 109 (21)
- **Edge theories for anyon condensation phase transitions** *PHYSICAL REVIEW B*  
Long, D. M., Doherty, A. C.  
2024; 109 (7)
- **Beyond Fermi's golden rule with the statistical Jacobi approximation** *SCIPOST PHYSICS*  
Long, D. M., Hahn, D., Bukov, M., Chandran, A.  
2023; 15 (6)

- **Phenomenology of the Prethermal Many-Body Localized Regime** *PHYSICAL REVIEW LETTERS*  
Long, D. M., Crowley, P. D., Khemani, V., Chandran, A.  
2023; 131 (10): 106301
- **Integrability and quench dynamics in the spin-1 central spin XX model** *SCIPOST PHYSICS*  
Tang, L., Long, D. M., Polkovnikov, A., Chandran, A., Claeys, P. W.  
2023; 15 (1)
- **Coupled layer construction for synthetic Hall effects in driven systems** *PHYSICAL REVIEW B*  
Long, D. M., Crowley, P. D., Chandran, A.  
2022; 106 (14)
- **Boosting the Quantum State of a Cavity with Floquet Driving.** *Physical review letters*  
Long, D. M., Crowley, P. J., Kollár, A. J., Chandran, A.  
2022; 128 (18): 183602
- **Many-body localization with quasiperiodic driving** *PHYSICAL REVIEW B*  
Long, D. M., Crowley, P. D., Chandran, A.  
2022; 105 (14)
- **Nonadiabatic Topological Energy Pumps with Quasiperiodic Driving.** *Physical review letters*  
Long, D. M., Crowley, P. J., Chandran, A.  
2021; 126 (10): 106805
- **Comparing Experiments to the Fault-Tolerance Threshold.** *Physical review letters*  
Kueng, R., Long, D. M., Doherty, A. C., Flammia, S. T.  
2016; 117 (17): 170502
- **Unitarisation of EFT amplitudes for dark matter searches at the LHC** *JOURNAL OF HIGH ENERGY PHYSICS*  
Bell, N. F., Busoni, G., Kobakhidze, A., Long, D. M., Schmidt, M. A.  
2016