# Thomas Schuster

*Curriculum vitae*


CONTACT INFORMATION

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EDUCATION

**University of California, Berkeley** — Berkeley, CA
*Ph.D. Candidate, Physics* — *Aug. 2016 – Expected May 2022*
Advisor: Norman Y. Yao

- National Science Foundation Graduate Research Fellowship (2016-2021)
- Theory Fellowship for "outstanding students", UC Berkeley Physics Department (2016-2017)

**University of California, Berkeley** — Berkeley, CA
*Bachelors of Science, Engineering Physics* — *Aug. 2011 – May 2015*

- Minor in Mathematics

PUBLICATIONS

*: Co-first authors.


[1] **Thomas Schuster***, Bryce Kobrin*, Ping Gao, Iris Cong, Emil Khabiboulline, Norbert Linke, Chris Monroe, Mikhail D. Lukin, Beni Yoshida, and Norman Y. Yao, *Many-body quantum teleportation via operator spreading in the traversable wormhole protocol.* Forthcoming (2021).

[2] Machiel S. Blok*, Vinay V. Ramasesh*, **Thomas Schuster**, Kevin O'Brien, John M. Kreikebaum, Dar Dahlen, Alexis Morvan, Beni Yoshida, Norman Y. Yao, and Irfan Siddiqi, *Quantum Information Scrambling in a Superconducting Qutrit Processor.* arXiv:2003.03307 (2020).

[3] Jiho Noh*, **Thomas Schuster***, Thomas Iadecola, Sheng Huang, Mohan Wang, Kevin P. Chen, Claudio Chamon, and Mikael C. Rechstman, *Braiding photonic topological zero modes.* Nature Physics **16**, 989-993 (2020).
**See also the Phys.org Feature** by Ingrid Fadelli, *The first demonstration of braiding in photonic topological zero modes.*

[4] **Thomas Schuster**, Snir Gazit, Joel E. Moore, and Norman Y. Yao, *Floquet Hopf Insulators.* Phys. Rev. Lett., **123** 266803 (2019).

[5] Kevin Landsman, Caroline Figgatt, **Thomas Schuster**, Norbert M. Linke, Beni Yoshida, Norman Y. Yao, and Chris Monroe, *Verified quantum information scrambling.* Nature **567**, 61-65 (2019).
**See also the Nature News and Views** by Jonathan Home, *Scrambling of quantum information validated by quantum teleportation.*

[6] Quntao Zhuang, **Thomas Schuster**, Beni Yoshida, and Norman Y. Yao, *Scrambling and complexity in phase space.* Phys. Rev. A, **99** 062334 (2019).

[7] **Thomas Schuster**, Felix Flicker, Ming Li, Svetlana Kotochigova, Joel E. Moore, Jun Ye, and Norman Y. Yao, *Realizing Hopf Insulators in Dipolar Spin Systems.* arXiv:1901.08597 (2019).

[8] Rupert A. Croft, Peter E. Freeman, **Thomas S. Schuster**, and Chad M. Schafer, *Prediction of galaxy ellipticities and reduction of shape noise in cosmic shear measurements.* Monthly Notices of the Royal Astronomical Society, **469** 4422-4427 (2017)

[9] Thomas Iadecola, **Thomas Schuster**, and Claudio Chamon, *Non-abelian braiding of light.* Phys. Rev. Lett., **117** 073901 (2016).
**See also the Phys.org Feature** by Lisa Zyga, *Physicists propose method for braiding light.*

[10] **Thomas Schuster**, Thomas Iadecola, Claudio Chamon, Roman Jackiw, and So-Young Pi, *Dissipationless conductance in a topological coaxial cable.* Phys. Rev. B, **94** 115110 (2016).

## Presentations

[1] *Floquet Hopf Insulators.* Invited talk. Condensed Matter Seminar, **Technion - Israel Institute of Technology**, Haifa, Israel, 2019

[2] *Unitary Designs for Continuous Variable Systems.* Contributed talk. **APS March Meeting**, Boston, USA, 2019

[3] *Distinguishing Information Scrambling from Decoherence in a Trapped Ion Quantum Simulator.* Contributed poster. **Annual Meeting of the APS Division of Atomic, Molecular, Optical Physics**, Fort Lauderdale, USA, 2018

[4] *Floquet Hopf Insulator in Dipolar Spin Systems.* Contributed talk. **APS March Meeting**, Los Angeles, USA, 2018

[5] *DNA Unknotting on the Cubic Lattice: Modeling the Enzymatic Action of Type II Topoisomerases.* Contributed poster. **Biology and Mathematics in the Bay Area Meeting**, Berkeley, USA, 2012