

## Jennifer Cano

Assistant Professor of Physics  
Stony Brook University  
[jennifer.cano@stonybrook.edu](mailto:jennifer.cano@stonybrook.edu)

### Employment

- 2018— **Assistant Professor**, Stony Brook University, Department of Physics and Astronomy.
- 2018— **Affiliated Associate Research Scholar**, Flatiron Institute, Center for Computational Quantum Physics.
- 2015— **Postdoctoral Fellow**, Princeton Center for Theoretical Science  
2018

### Education

- 2015 **PhD (Physics)**, University of California Santa Barbara  
Thesis: Surprises at the edge: theoretical investigations at the boundaries of quantum Hall systems  
Advisor: Chetan Nayak
- 2009 **BS (Physics, Math)**, University of Virginia  
Advisor: Paul Fendley

### Awards

- 2022 **Sloan Fellowship**
- 2019 **NSF Early Career**
- 2015 **Princeton Center for Theoretical Science Postdoctoral Fellowship**
- 2009 **NSF Graduate Research Fellowship**
- 2009 **E. J. McShane Prize** (most outstanding graduating math major)
- 2009 **Most Outstanding Undergraduate Physics Major**
- 2007 **Goldwater Scholarship**
- 2005 **Jefferson Scholar**, University of Virginia

### Invited Colloquia

- 2022 **A New Era for Topological Materials**, KITP.
- 2021 **The Search for Topological Materials**, McMaster University
- 2019 **The Search for Topological Materials**, ETH Zurich Theory Colloquium.  
**The Search for Topological Materials**, Aspen Center for Physics.

## Invited Research Talks

- 2022 **Designer meron lattice on the surface of a topological insulator.** Novel Electronic Properties of Two-Dimensional Materials, San Sebastián, Spain.
- Novel physics at smaller magic angles in TBLG.** MRS spring meeting (virtual)
- Novel physics at smaller magic angles in TBLG.** Workshop on Quantum Mechanics at the Moire Scale, Institute for Pure and Applied Mathematics, UCLA.
- Topological twistrionics.** Condensed matter seminar, Case Western University (virtual).
- Designer meron lattice on the surface of a topological insulator.** Topological Materials: from Weak to Strong Correlations, International Focus Workshop, Max Planck Institute for the Physics of Complex Systems.
- Topological twistrionics.** Condensed matter seminar, Purdue University (virtual).
- Topological twistrionics.** Quantum Matter Frontier Seminar Series, Perimeter Institute (virtual).
- Smaller magic angles and topological twistrionics.** Condensed Matter seminar, University of British Columbia (virtual).
- Topological twistrionics.** Condensed matter seminar, Hong Kong University of Science and Technology (virtual).
- Higher magic angles in twisted bilayer graphene and topological twistrionics.** Condensed matter seminar, University of Michigan.
- 2021 **Novel physics at smaller magic angles in TBLG.** Open Challenges in the Theory of Strongly Correlated Electron Systems Workshop, University of Minnesota.
- When do Dirac materials exhibit higher order Fermi arcs?** Rice Center for Quantum Materials: Workshop on Topological Materials and Electron Correlations, Part II.
- A moire superlattice on the surface of a topological insulator.** Condensed matter physics seminar, Nanyang Technical University (virtual).
- Higher magic angles in twisted bilayer graphene and topological twistrionics.** Center for Integrated Quantum Materials seminar at MIT.
- A moire superlattice on the surface of a topological insulator.** Condensed matter seminar, University of California, Los Angeles (virtual).
- Topological twistrionics.** National Academies of Science, Engineering, and Medicine workshop: Frontiers in Synthetic Moiré Quantum Matter (virtual).
- Higher magic angles in twisted bilayer graphene and topological twistrionics.** Caltech condensed matter seminar (virtual).
- Topological Quantum Chemistry.** Rice Center for Quantum Materials: Workshop on Topological Materials and Electron Correlations, Part I (virtual).
- New Insights into Topological Semimetals.** MRS Spring Meeting (virtual).
- New Insights into Topological Semimetals.** APS March Meeting (virtual).

- Revealing Higher Order Topology via Defects.** Ohio State University (virtual).
- 2020 **A Moire Superlattice on the Surface of a Topological Insulator.** Center for Functional Nanomaterials Seminar, Brookhaven National Lab (virtual).  
**Higher Magic Angles in Twisted Bilayer Graphene and Topological Twistrionics.** Virtual Science Forum Long Range Colloquium (virtual).  
**Higher Magic Angles in Twisted Bilayer Graphene and Topological Twistrionics.** Oxford University (virtual).  
**A Moire Superlattice on the Surface of a Topological Insulator.** Dynamics of Emerging Quasiparticles in Topological Dirac Materials, Heraeus Seminar, Bad Honnef, Germany (virtual).  
**A Moire Superlattice on the Surface of a Topological Insulator.** Correlated Systems with Multicomponent Local Hilbert Spaces, KITP (virtual).  
**Lattice Dislocations as a Probe of Higher Order Topological Insulators.** University of Maryland Condensed Matter Theory Center Seminar (virtual).  
**Crystal Symmetry Meets Topological Band Theory.** LASSP Seminar, Cornell University.
- 2019 **Symmetry Protected Topological Semimetals.** Condensed matter physics and materials science seminar, Brookhaven National Lab.  
**Crystal Symmetry Meets Topological Band Theory.** Topological Quantum Matter: Concepts and Realizations, KITP.  
**Topological Quantum Chemistry.** Workshop on Topological Aspects of Condensed Matter, Harvard University.  
**Partial Lattice Dislocations in Higher Order Topological Insulators.** Topological Quantum Matter: from Low-Temperature Physics to Non-equilibrium Dynamics, Nordita, Stockholm, Sweden.  
**Symmetry Protected Topological Semimetals.** Quantum Matter Working Group, Los Alamos National Lab.  
**Partial Lattice Defects in Higher Order Topological Insulators.** University of Illinois at Urbana-Champaign Institute for Condensed Matter Theory seminar.  
**Topological Quantum Materials.** Joint Quantum Symposium. Columbia University.  
**Topological Quantum Chemistry.** PRISM Annual Research Symposium. Princeton University.  
**New Perspectives on Topological Band Theory.** MRSEC Seminar, Columbia University.
- 2018 **Topological Quantum Chemistry.** The Graduate Center, City University of New York.  
**Topological Quantum Chemistry.** Condensed Matter seminar, New York University.  
**Topological Quantum Chemistry.** Condensed Matter seminar, Virginia Tech.  
**Topology of elementary band representations.** "Perspectives in Topological phases: From Condensed Matter to High-Energy Physics," International Center for Interdisciplinary Science and Education, Quy Nhon, Vietnam.

- Higher-order Fermi arcs in Dirac semi-metals.** “Young Research Leaders on Topological Matter,” Weizmann Institute, Rehovot, Israel.
- Topological Quantum Chemistry.** University of Chicago.
- Topological Quantum Chemistry.** University of California, Riverside.
- From local symmetry to band structure topology.** APS March Meeting Invited Session. Los Angeles, CA.
- Topological Semi-metals in Wilson Hamiltonians.** Relativistic Fermions and Nodal Semi-metals from Topology. Banff International Research Station, Canada.
- Topological Quantum Chemistry.** Johns Hopkins University.
- Topological Quantum Chemistry.** Stony Brook University.
- Topological Quantum Chemistry.** McGill University.
- Topological Quantum Chemistry.** Brown University.
- Topological Quantum Chemistry.** Columbia University.
- Topological Quantum Chemistry.** Center for Computational Quantum Physics, Flatiron Institute.
- Topological Quantum Chemistry.** University of Virginia.
- Topological Quantum Chemistry.** Penn State University.
- Topological Quantum Chemistry.** New Directions in Quantum Materials Research Workshop, University of Maryland.
- 2017 **Topological Quantum Chemistry.** Workshop on Chaos, Duality and Topology, University of Illinois at Urbana-Champaign.
- Topological Quantum Chemistry.** University of Illinois at Urbana-Champaign Institute for Condensed Matter Theory seminar.
- Topological Quantum Chemistry.** University of Connecticut Condensed Matter Seminar.
- Topological Quantum Chemistry.** New Horizons in Photovoltaics, University of Pennsylvania.
- Non-symmorphic symmetry-protected topological phases.** Donostia International Physics Center seminar, San Sebastian, Spain.
- Topological Quantum Chemistry.** International Workshop on Strongly Correlated Electron Systems, Prague, Czech Republic.
- Edges and interfaces of chiral Abelian quantum Hall states.** Simons Program: Frontiers in Quantum Hall Physics, Niels Bohr Institute, Denmark.
- Topological Quantum Chemistry.** Nordita Workshop: Frontiers of Topological Quantum Matter, Stockholm, Sweden.
- 2016 **Non-symmorphic Symmetry Protected Topological Phases.** SRITP Workshop, “Strongly Correlated Matter: Present and Future,” Weizmann Institute, Rehovot, Israel.
- Non-symmorphic Symmetry Protected Topological Phases.** Rutgers Condensed Matter Seminar.
- Beyond Dirac and Weyl Fermions.** Topological Quantum Matter Conference, Kavli Institute for Theoretical Physics.
- Surprising new edge phases of quantum Hall states.** Gordon Research Conference on Correlated Electron Systems, Mt Holyoke, MA.

- 2015 **Edge phases of Abelian quantum Hall states.** Symposium on Physics of Topological Phases, Princeton.  
**Chirality protected Majorana zero modes at the edge of gapless Abelian quantum Hall states.** Conference on Strongly Interacting Topological Phases, Banff International Research Station.
- 2014 **Bulk-Edge Correspondence in 2+1-Dimensional Abelian Quantum Hall States.** Harvard Condensed Matter Theory Seminar.  
**Edge Phase Transitions in Chiral Abelian Quantum Hall States.** University of Illinois at Urbana-Champaign Institute for Condensed Matter Theory Seminar.  
**Bulk-Edge Correspondence in 2+1-Dimensional Abelian Topological Phases.** Perimeter Institute Seminar.  
**Bulk-Edge Correspondence in 2+1-Dimensional Abelian Topological Phases.** Caltech IQIM Seminar.

## Publications


- 2022 **Transport signatures of Fermi arcs at twin boundaries in Weyl materials,** Sahal Kaushik, Inigo Robredo, Nitish Mather, Leslie M. Schoop, Song Jin, Maia G. Vergniory, Jennifer Cano. ArXiv: 2207.14109.  
**Chiral Kondo lattice in doped  $\text{MoTe}_2/\text{WSe}_2$  bilayers,** Daniele Guerci, Jie Wang, Jiawei Zang, Jennifer Cano, J. H. Pixley, Andrew Millis. ArXiv: 2207.06476.  
**Recipe for higher-order topology on the triangular lattice,** Philipp Eck, Yuan Fang, Domenico Di Sante, Giorgio Sangiovanni, Jennifer Cano. ArXiv: 2207.01359.  
**Topological and stacked flat bands in bilayer graphene with a superlattice potential,** Sayed Ali Akbar Ghorashi, Aaron Dunbrack, Jiacheng Sun, Xu Du, Jennifer Cano. ArXiv: 2206.13501.  
**3D Analogs of square-net nodal line semimetals: band topology of cubic  $\text{LaIn}_3$ ,** Samuel M. L. Teicher, Jasper F. Linnartz, Ratnadwip Singha, Davide Pizzirani, Sebastian Klemenz, Steffen Wiedmann, Jennifer Cano, Leslie Schoop, *Chemical Materials* DOI: 10.1021/acs.chemmater.2c00175  
**Dynamical mean field theory of moiré bilayer transition metal dichalcogenides: phase diagram, resistivity, and quantum criticality,** Jiawei Zang, Jie Wang, Jennifer Cano, Antoine Georges, Andrew J. Millis, *Phys. Rev. X* **12**, 021064.  
**Tunable stripe order and weak superconductivity in the moire Hubbard model,** Alexander Wietek, Jie Wang, Jiawei Zang, Jennifer Cano, Antoine Georges, Andy Millis, ArXiv: 2204.04229.  
**Designer meron lattice on the surface of a topological insulator,** Daniele Guerci, Jie Wang, J. H. Pixley, Jennifer Cano, ArXiv: 2203.04986.  
**Topology invisible to eigenvalues in obstructed atomic insulators,** Jennifer Cano, L. Elcoro, M. I. Aroyo, B. Andrei Bernevig, Barry Bradlyn, *Phys. Rev. B* **105**, 125115 [Editor's Suggestion].



**Quantum embedding methods for correlated excited state of point defects: case studies and challenges**, Lukas Muechler, Danis I. Badrtdinov, Alexander Hampel, Jennifer Cano, Malte Rösner, Cyrus E. Dreyer, *Phys. Rev. B* **105**, 235104.


**Strain-tuned topological phase transition and unconventional Zeeman effect in ZrTe<sub>5</sub> microcrystals**, Apurva Gaikwad, Song Sun, Peipei Wang, Liyuan Zhang, Jennifer Cano, Xi Dai, and Xu Du, ArXiv: 2201.04049

**Topological semimetal driven by strong correlations and crystalline symmetry**, Lei Chen, Chandan Setty, Hauyu Hu, Maia G. Vergniory, Sarah E. Grefe, Andrey Prokofiev, Silke Paschen, Jennifer Cano, Qimiao Si, *Nature Physics* <https://doi.org/10.1038/s41567-022-01743-4>.

 **Magic angle conditions for twisted 3D topological insulators**, Aaron Dunbrack and Jennifer Cano, *Phys. Rev. B* **106**, 075142 [Editor's Suggestion].

2021 **Staggered pseudo magnetic field in twisted transition metal dichalcogenides: physical origin and experimental consequences**, Jie Wang, Jiawei Zang, Jennifer Cano, Andrew J. Millis, ArXiv: 2110.14570.


**Gapless electronic topology without free electron counterpart**, Haoyu Hu, Lei Chen, Chandan Setty, Sarah E. Grefe, Andrey Prokofiev, Stefan Kirchner, Silke Paschen, Jennifer Cano, Qimiao Si, ArXiv: 2110.06182.

 **When do Dirac points have higher order Fermi arcs?** Yuan Fang and Jennifer Cano, *Phys. Rev. B* **104**, 245101 [Editor's Suggestion].

**Magnetic photocurrents in multifold Weyl fermions**, Sahal Kaushik and Jennifer Cano, *Phys. Rev. B* **104**, 155149.

**Band manipulation and spin texture in interacting moiré helical edges**, Yang-Zhi Chou, Jennifer Cano, J. H. Pixley, *Phys. Rev. B* **104**, L201113.

**Topological materials discovery from nonmagnetic crystal symmetry**, Benjamin J. Wieder, Barry Bradlyn, Jennifer Cano, Zhijun Wang, Maia G. Vergniory, Luis Elcoro, Alexey A. Soluyanov, Claudia Felser, Titus Neupert, Nicolas Regnault, B. Andrei Bernevig, *Nature Review Materials*.

 **Hartree-Fock study of the moiré Hubbard model for twisted bilayer transition metal dichalcogenides**, Jiawei Zang, Jie Wang, Jennifer Cano, Andrew J. Millis, *Phys. Rev. B* **104**, 075150 [Editor's Suggestion].

**Exact Landau level description of geometry and interaction in a flatband**, Jie Wang, Jennifer Cano, Andrew J. Millis, Zhao Liu, Bo Yang, *Phys. Rev. Lett.* **127**, 246403.

**Band engineering of Dirac semimetals using charge density waves**, Shiming Lei, Samuel M. L. Teicher, Andreas Topp, Kehan Cai, Jingjing Lin, Guangming Cheng, Tyger H. Salters, Fanny Rodolakis, Jessica L. McChesney, Saul Lapidus, Nan Yao, Maxim Krivenkov, Dmitry Marchenko, Andrei Varykhalov, Christian R. Ast, Roberto Car, Jennifer Cano, Maia G. Vergniory, N. Phuan Ong, Leslie M. Schoop, *Advanced Materials*, 2101591.

**A moiré superlattice on the surface of a topological insulator**, Jennifer Cano, Shiang Fang, J. H. Pixley and Justin H. Wilson. *Phys. Rev. B* **103**, 155157.

**Chiral approximation to twisted bilayer graphene: exact intra-valley inversion symmetry, nodal structure and implications for higher magic angles**, Jie Wang, Yunqin Zheng, Andrew J. Millis and Jennifer Cano. *Phys. Rev. R* **3**, 023155.

**Tunable chiral symmetry breaking in symmetric Weyl materials**, Sahal Kaushik, Evan John Philip, and Jennifer Cano, *Phys. Rev. B* **103**, 085106.

**Band representations and topological quantum chemistry**, Jennifer Cano and Barry Bradlyn, *Ann. Rev. Cond. Matt. Phys.* **12**, 225-246.

**High temperature quantum anomalous Hall regime in a MnBi<sub>2</sub>Te<sub>4</sub>/Bi<sub>2</sub>Te<sub>3</sub> superlattice**, Haiming Deng, Zhiyi Chen, Agnieszka Wolos, Marcin Konczykowski, Kamil Sobczak, Joanna Sitnicka, Irina V. Fedorchenko, Jolanta Borysiuk, Tristan Heider, Lukasz Plucinski, Kyungwha Park, Alexandru B. Georgescu, Jennifer Cano, and Lia Krusin-Elbaum, *Nature Physics* **17**, 36-42.

**Filling anomaly for general 2D and 3D C<sub>4</sub> symmetric lattices**, Yuan Fang and Jennifer Cano, *Phys. Rev. B* **103**, 165109.

**Identifying the fingerprints of topological states by tuning magnetoresistance in a semimetal: The case of topological half-Heusler Pt<sub>1-x</sub>Au<sub>x</sub>LuSb**, Shouvik Chatterjee, Felipe Crasto de Lima, John A. Logan, Yuan Fang, Hadass Inbar, Aranya Goswami, Connor Dempsey, Shoaib Khalid, Tobias Brown-Heft, Yu-Hao Chang, Taozhi Guo, Daniel Pennacchio, Nathaniel Wilson, Jason Dong, Shaline Chikara, Alexey Suslov, Alexei V. Fedorov, Dan Read, Jennifer Cano, Anderson Janotti, Christopher J. Palmstrom. *Phys. Rev. Mat.* **5**, 124207.

**The role of delocalized chemical bonding in square-net based topological semimetals**, Sebastian Klemenz, Aurland K. Hay, Samuel M. L. Teicher, Andreas Topp, Jennifer Cano and Leslie Schoop. *J. Am. Chem. Soc.* **142**, 13, 6350-6359 [ACS Editor's Choice] [JACS Spotlight]

**Higher-order topological insulators in antiperovskites**, Yuan Fang and Jennifer Cano, *Phys. Rev. B* **101**, 245110.

**Modular arithmetic with nodal lines: drumhead surface states in ZrSiTe**, Lukas Muechler, Andreas Topp, Raquel Queiroz, Maxim Krivenkov, Andrei Varykhalov, Jennifer Cano, Christian R. Ast, Leslie M. Schoop, *Phys. Rev. X* **10**, 011026.

**A systematic study of stacked square nets: from Dirac fermions to material realizations**, Sebastian Klemenz, Leslie Schoop, and Jennifer Cano, *Phys. Rev. B* **101**, 165121.

**Strong and "fragile" topological Dirac semimetals with higher-order Fermi arcs**, Benjamin J. Wieder, Zhijun Wang, Jennifer Cano, Xi Dai, Leslie M. Schoop, Barry Bradlyn, B. Andrei Bernevig, *Nature Comm.* **11**, 627.




**Partial lattice defects in higher order topological insulators**, Raquel Queiroz, Ion Cosma Fulga, Nurit Avraham, Haim Beidenkopf, and Jennifer Cano, *Phys. Rev. Lett.* **123**, 266802.

**Multifold nodal points in magnetic materials**, Jennifer Cano, Barry Bradlyn, and M. G. Verniori, *APL Materials* **7**, 101125. [Featured Article]



2020  


2019




- Disconnected elementary band representations, fragile topology, and Wilson loops as topological indices**, Barry Bradlyn, Zhijun Wang, Jennifer Cano, B. Andrei Bernevig, *Phys. Rev. B* **99**, 045140.
- 2018 **Wallpaper fermions and the nonsymmorphic Dirac insulator**, Benjamin J. Wieder\*, Barry Bradlyn\*, Zhijun Wang\*, Jennifer Cano\*, Youngkuk Kim, Hyeong-Seok D. Kim, A. M. Rappe, C. L. Kane and B. Andrei Bernevig, *Science* **361**, 246.
-  **Topology of disconnected elementary band representations**, Jennifer Cano, Barry Bradlyn, Zhijun Wang, L. Elcoro, M. G. Vergniory, C. Felser, M. I. Aroyo and B. Andrei Bernevig, *Phys. Rev. Lett.* **120**, 266401. [Editor's Suggestion]
- Symmetry-protected topological interfaces and entanglement sequences**, Luiz Santos, Jennifer Cano, Michael Mulligan, Taylor Hughes. *Phys. Rev. B* **98**, 075131.
- Band connectivity for topological quantum chemistry: band structures as a graph theory problem**, Barry Bradlyn, L. Elcoro, M. G. Vergniory, Jennifer Cano, Zhijun Wang, C. Felser, M. I. Aroyo, B. A. Bernevig. *Phys. Rev. B* **97**, 035138.
- Building blocks of topological quantum chemistry: elementary band representations**, Jennifer Cano, Barry Bradlyn, Zhijun Wang, L. Elcoro, M. G. Vergniory, C. Felser, M. I. Aroyo, B. Andrei Bernevig, *Phys. Rev. B* **97**, 035139.
- Structure of the entanglement entropy of (3+1)-dimensional gapped phases of matter**, Yunqin Zheng, Huan He, Barry Bradlyn, Jennifer Cano, Titus Neupert, and B. Andrei Bernevig, *Phys. Rev. B* **97**, 195118.
- 2017 **Double crystallographic groups and their representations on the Bilbao Crystallographic Server**, Luis Elcoro, Barry Bradlyn, Zhijun Wang, Maia G. Vergniory, Jennifer Cano, Claudia Felser, B. Andrei Bernevig, Daniel Orobengoa, Gemma de la Flor, Mois I. Aroyo, *Journal of Applied Crystallography* **50**, 1457.
- Graph theory data for topological quantum chemistry**, M. G. Vergniory, L. Elcoro, Zhijun Wang, Jennifer Cano, C. Felser, M. I. Aroyo, Andrei Bernevig, Barry Bradlyn, *Phys. Rev. E* **96**, 023310.
-  **Topological quantum chemistry**, Barry Bradlyn\*, L. Elcoro\*, Jennifer Cano\*, M. G. Vergniory\*, Zhijun Wang\*, C. Felser, M. I. Aroyo and B. Andrei Bernevig, *Nature* **547**, 298.
-  **The Chiral anomaly factory: Creating Weyl fermions with a magnetic field**, Jennifer Cano, Barry Bradlyn, Zhijun Wang, Max Hirschberger, N. P. Ong, B. A. Bernevig, *Phys. Rev. B* **95**, 161306(R) [Editor's Suggestion]
- 2016 **Beyond Dirac and Weyl fermions: Unconventional quasiparticles in conventional crystals**, Barry Bradlyn\*, Jennifer Cano\*, Zhijun Wang\*, M. G. Vergniory, C. Felser, R. J. Cava and B. Andrei Bernevig, *Science* **353**, aaf5037.
- Interactions along an entanglement cut in 2+1D Abelian topological phases**, Jennifer Cano, Taylor L. Hughes, and Michael Mulligan, *Phys. Rev. B* **92**, 075104.



- 2015  **Chirality-protected Majorana zero modes at the gapless edge of Abelian quantum Hall states**, Jennifer Cano, Meng Cheng, Maissam Barkeshli, David J. Clarke and Chetan Nayak, *Phys. Rev. B* **92**, 195152. [Editor's Suggestion]  
**Unexpected tunneling from downstream neutral modes**, Jennifer Cano and Chetan Nayak, *Phys. Rev. B* **90**, 235109.
- 2014 **Bulk-Edge correspondence in 2+1-dimensional Abelian topological phases**, Jennifer Cano, Meng Cheng, Michael Mulligan, Chetan Nayak, Eugeniu Plamadeala, Jon Yard, *Phys. Rev. B* **89**, 115116.
-  **Microwave absorption by a mesoscopic quantum Hall droplet**, Jennifer Cano, Andrew C. Doherty, Chetan Nayak, and David J. Reilly, *Phys. Rev. B* **88**, 165305. [Editor's Suggestion]
- 2012 **Majorana zero modes in semiconductor nanowires in contact with higher-Tc superconductors**, Younghyun Kim, Jennifer Cano and Chetan Nayak, *Phys. Rev. B* **86**, 235429.
- 2010 **Spin Hamiltonians with resonating-valence-bond ground states**, Jennifer Cano and Paul Fendley, *Phys. Rev. Lett.* **105**, 067205.

\*denotes equal contribution

 Editor's Suggestion, Featured Article, or Cover Article

## Conference Organization

- 2023 **A Quantum Universe in a Crystal: Symmetry and Topology Across the Correlation Spectrum**, KITP program (12 weeks), Santa Barbara, CA.
- 2022 **Geometrical Aspects of Topological Phases of Matter: Spatial Symmetries, Fractons, and Beyond**, Program (8 weeks), Simons Center for Geometry and Physics, Stony Brook, NY.
- 2021 **Electronic Topology across the Correlation Spectrum**, Summer program (three weeks), Aspen Center for Physics, CO.  
**New Directions in Topological Phases: from Fractons to Spatial Symmetries**, Virtual workshop, Simons Center for Geometry and Physics, Stony Brook, NY.
- 2019 **Young Research Leaders in Topological Materials and Beyond** Workshop, Flatiron Institute, New York, NY.
- 2017 **Fractional Quantum Hall Effect: Past, Present and Future** workshop, Princeton Center for Theoretical Science, Princeton, NJ.

## Teaching

Solid State Physics (Fall 2022)  
 Graduate Solid State II (Spring 2019, Spring 2020, Spring 2021)  
 Graduate Solid State I (Fall 2021)  
 Classical Physics I Recitation (Spring 2020)  
 Classical Physics II Recitation (Fall 2021)  
 Mathematics for Physics (Fall 2018 Princeton University)

## Students Advised

- (current) Mat Pareles, MA, Stony Brook University
- (current) Jungho Daniel Choi, PhD (New York University)
- (current) Aaron Dunbrack, PhD, Stony Brook University
- (current) Yuan Fang, PhD, Stony Brook University
- 2021 Sahal Kaushik, PhD, Stony Brook University (co-advised Dima Kharzeev)
- 2020 Hanchen Liu, MA, Stony Brook University

## Post Docs Advised

- (current) Sayed Ali Akbar Ghorashi, Stony Brook University
- (current) Daniele Guerci, Flatiron Institute
- 2019–22 Jie Wang, Flatiron Institute

## Dissertation Committees

- (current) Helena von Nieuwenhuizen, PhD Stony Brook University (Advisor: Ken Dill)
- (current) Changcheng Zhang, PhD Stony Brook University (Advisor: Mark Bowen)
- (current) Xiangdong Li, PhD Stony Brook University (Advisor: Francois Meot)
- (current) Xuance Jiang, PhD Stony Brook University (Advisor: Deyu Li)
- (current) Alec Wills, PhD Stony Brook University (Advisor: Marivi Fernandez-Serra)
- (current) Pedro Mercado Lozano, PhD Stony Brook University (Advisor: Qiang Li)
- 2022 Gabriel Jose Goulart Cardoso, PhD Stony Brook University (Advisor: Sasha Abanov)
- 2022 Jason Bennett, MA Stony Brook University (Advisor: Tzu-Chieh Wei)
- 2021 Nicodemos Varnava, PhD Rutgers University (Advisor: David Vanderbilt)
- 2020 Zijian Song, MA Stony Brook University (Advisor: Tzu-Chieh Wei)
- 2019 Scott Mills, PhD Stony Brook University (Advisor: Xu Du)

## Committee Service

- 2022 YITP Quantum Information Search Committee
- 2021– CAS Working Group on Broader Impacts in Quantum Information Science
- 2022
- 2020 Provost Search Committee, Stony Brook University
- 2019– APS Abstract sorting (Captain 2021)
- 2019– Committee on Diversity, Equity, and Inclusion, Flatiron Institute
- 2018– Diversity Committee, Stony Brook Department of Physics and Astronomy Chair (starting 2022)
- 2016– Climate and Inclusion Committee, Princeton Physics Department.
- 2018

## Referee Service

Referee for Physical Review Letters, Physical Review B, Physical Review X, Nature, Nature Communications, Nature Physics, Scipost, Journal of Statistical Mechanics.  
Grant reviewer for DOE and NSF.

## Invited Pedagogical Lectures

- 2022 *Quantum Science Summer School*, University of California, Santa Barbara.  
2021 *Topological Matter School*, San Sebastian, Spain (virtual).  
*Magnetic High Field Lab Theory Winter School*, National High Magnetic Field Lab, Tallahassee, FL (virtual).  
2019 *New Developments in Topological Condensed Matter Physics*, Les Houches Summer School, France.  
*Topological Matter School*, San Sebastian, Spain.  
*International School on Crystallographic Groups and Their Representations and Workshop on Topological Insulators*, International Centre for Quantum and Molecular Structures, Shanghai University, China  
*Many Electron Collaboration Summer School*, Simons Center.  
*Magnetic High Field Lab Theory Winter School*, National High Magnetic Field Lab, Tallahassee, FL.  
2018 *Topological Matter School Pre-meeting*, San Sebastian, Spain.

## Outreach

- 2020— **Guest lecturer**, WSE 105 “*Opportunities in STEM and Beyond*”, for undergraduate women in science and engineering, Stony Brook, NY.  
2019— **Panelist**, *Women in Science and Engineering Research Panel*, Stony Brook University, NY.  
2016 **Co-host**, *Physics Café* in Aspen, CO.  
2011— **Co-chair**, Women in Physics at UC Santa Barbara  
2013