

LEO RADZIHOVSKY

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EDUCATION:

- 9/88 - 6/93 **Harvard University**, Cambridge, MA.
Ph.D., Physics, June 1993. GPA: 4.00/4.00.
Thesis Topic: Statistical Mechanics and Geometry of Random Manifolds.
Advisor: Professor David R. Nelson.
- 9/88 - 6/89 **Harvard University**, Cambridge, MA.
A.M., Physics. GPA: 4.00/4.00.
- 9/87 - 5/88 **Rensselaer Polytechnic Institute**, Troy, NY.
M.S., Physics. GPA: 4.00/4.00.
Thesis Topic: Quantum Electron Transport in Metals and Semiconductors.
Advisor: Professor Stephen Nettel.
- 9/84 - 5/88 **Rensselaer Polytechnic Institute**, Troy, NY.
B.S., Physics, Electrical Engineering minor, *valedictorian*. GPA: 4.00/4.00.

HONORS:

Simons Investigator in Physics (2014-)
University of Colorado Faculty Fellowship (2009)
Miller Professor at Berkeley (2008)
Fellow of the American Physical Society (2003)
University of Colorado Faculty Fellowship (2001)
David and Lucile Packard Fellow (1998-2003)
Alfred P. Sloan Research Fellow (1997-2000)
National Science Foundation CAREER Award (1996-2000)
University of Colorado Faculty Development Award (1996)
Russell Physics Graduate Fellowship at Harvard (1989)
Hertz Graduate Fellowship (1988-1993)
National Science Foundation Graduate Fellowship (1988)
Apker National Award for best undergraduate physics research (1988)
Jonsson Valedictorian Prize at Rensselaer Polytechnic Institute (1988)
Hertz Summer Fellowship at Livermore National Laboratory (1987)
D'Amour Fellowship for outstanding undergraduate achievement (1986)

EXPERIENCE:

- 9/95 - present **University of Colorado at Boulder**, Boulder, CO
Professor of Physics (7/03-present)
Associate Professor of Physics (6/01-6/03)
Assistant Professor of Physics (9/95-6/01):
Superconductivity, quantum liquids, quantum Hall effect, degenerate atomic gases, phase transitions, nonequilibrium dynamics, soft condensed matter, disordered systems.
- 8/16 - 7/17 **Kavli Institute for Theoretical Physics**, Santa Barbara, CA
Visiting Professor
- 2/17 - 3/17 **Weizmann Institute of Science**, Rehovot, Israel
Visiting Professor
- 1/17 - 2/17 **Instituut-Lorentz for Theoretical Physics**, Leiden University, Leiden, The Netherlands
DITP Visiting Professor
- 12/16 - 1/17 **Ecole Normale Supérieure**, Paris, France
Visiting Professor
- 8/08 - 12/08 **University of California Berkeley**, Berkeley, CA
Miller Professor

- 7/01 - 6/02 **Harvard University**, Cambridge, MA
Visiting Scholar
- 9/93 - 8/95 **The James Franck Institute**, University of Chicago, Chicago, IL
Postdoctoral Fellow: Strongly correlated systems and high- T_c superconductivity
Advisor: Professor Paul Wiegmann
- 5/90 - 9/90 **Hewlett-Packard Laboratories**, Photonics Technology Department, Palo Alto, CA.
Member of Technical Staff:
Studied electronic transport in quantum resonant devices with the aim of improving the switch-time characteristics; developed a theoretical model that incorporates the effects of phonon and impurity scattering as well as a detailed treatment of thermalized contacts; implemented it numerically with C and FORTRAN and performed extensive simulations.
- 5/89 - 9/89 **Hewlett-Packard Laboratories**, Photonics Technology Department, Palo Alto, CA.
Member of Technical Staff:
Designed and built an autocorrelator used to measure femtosecond optical laser pulses. This involved extensive theoretical, numerical and experimental research. Studied various nonlinear effects in optical polarization preserving fibers with the objective of generating a train of femtosecond pulses via phase modulation effects; these experiments relied heavily on the use of the autocorrelator and its unique versatile design.
- 5/88 - 9/88 **AT&T Bell Laboratories**, Photonic Networks and Components Department, Holmdel, NJ.
Member of Technical Staff:
Studied theoretical and experimental picosecond pulse generation and compression in semiconductor lasers using gain switching techniques; designed, built, and analyzed a grating pulse compressor capable of five-fold compression of 20 picosecond pulses.
- 5/87 - 9/87 **Monsanto Co.**, Springfield, MA.
Chemical Engineer:
Studied theoretically, numerically (FORTRAN), and experimentally a chemical process of a plasticizer production. The model successfully simulated the reactor dynamics, and led to a significant increase in the reactor productivity; also studied the chemistry of silver surface catalytic reactions with the aim of increasing the yield of a formaldehyde converter.
- 5/86 - 9/86 **Monsanto Co.**, Springfield, MA.
Chemical Engineer:
Studied theoretically and numerically (FORTRAN) the kinetics of a class of chemical reactions. Developed a model to predict the time dependence of the chemical content of formaline solutions. A second project involved detailed modelling of a silver catalytic converter reactor, used for production of formaldehyde. The final model had excellent prediction capability and was used to optimize the reactor operational parameters, e.g. temperature, pressure.

ACTIVITIES: Member At Large of Executive Committee of the APS DCMP (2019-2022)
Chair (2015-16) and Member (2013-17) of the KITP Advisory Board
Chair and Member of Lars Onsager Prize Committee (2008, 2009)
Member of Oliver Buckley Prize Committee (2008, 2009)
Co-founder, Director and annual organizer of Boulder School for Condensed Matter and Materials Physics (2000-)
Member of Editorial Board of Annual Reviews of Condensed Matter Physics (2015-)
Member of Editorial Board of Annals of Physics (2001-2012)
Author of liquid crystal section for Physics 2000 educational website
Saturday Physics Series at University of Colorado
Science Wizard Liquid Crystals Show at University of Colorado
Science Judge for science contests for Boulder Valley schools
Material science presentations at Bear Creek Elementary
RET, REU and Honors thesis advisor at University of Colorado
Mentor for Science Research Program for middle- and high-school students

REFERENCES:

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Dr. Tom C. Lubensky, Professor of Physics, University of Pennsylvania, Philadelphia, PA 19104 (215)898-7002, tom@lubensky.physics.upenn.edu.

Dr. Daniel S. Fisher, Professor of Physics, Department of Applied Physics, Stanford University, Palo Alto, CA 94305, (650) 723-4643, dsfisher@stanford.edu.

PUBLICATIONS: 131

INVITED 252

TALKS:

RESEARCH SUPPORT:

- Simons Investigator, \$500,000, 08/1/14-07/31/24, PI.
- NSF DMR-1560837, “Boulder School in Condensed Matter and Materials Physics”, \$1,575,000, 01/01/17-12/31/21, PI, with 3 other co-PI’s.

ADVISOR TO:

Ph.D. students: B. Ward, M. Ettouhami, B. Jacobsen, X. Xing, Q. Zhang, S. Choi, X. Yin, K. Ke, H. Ma, Z. Zhai, T-C. Hsieh

Postdoctoral fellows: J. Kyriakidis, D. Sheehy, M. Veillette, Q. Zhang, G. Chen, A. Essin, S. Syzranov, S. Moroz, Y. Chou, M. Pretko, J. Marino, I. Kimchi, J. Iaconis

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Publications:

1. L. Radzihovsky and S. Nettel, “Cameron-Martin-Wiener Expansions and One-electron Quantum Transport”, *American Journal of Physics*, **58**, 252 (1990).
2. M. Kuznetsov, J. M. Wiesenfeld, and L. Radzihovsky, “Compression of Picosecond Pulses from Diode Lasers Using Modified Grating-pair Compressor”, *Optics Letters*, **15**, 180 (1990).
3. D. R. Nelson and L. Radzihovsky, “Polymerized Membranes with Quenched Random Internal Disorder”, *Europhysics Letters*, **16**, 79 (1991).
4. L. Radzihovsky and D. R. Nelson, “Statistical Mechanics of Randomly Polymerized Membranes”, *Physical Review A*, **44**, 3525 (1991).
5. L. Radzihovsky and P. Le Doussal, “Crumpled Glass Phase of Randomly Polymerized Membranes in the Large d Limit”, *Journal de Physique I*, **2**, 599 (1991).
6. P. Le Doussal and L. Radzihovsky, “Self-Consistent Theory of Polymerized Membranes”, *Physical Review Letters*, **69**, 1209 (1992).
7. D. R. Nelson and L. Radzihovsky, “Grain Boundary Instabilities and Buckling in Partially Polymerized Membranes”, *Physical Review A*, **46**, 7474 (1992).
8. P. Le Doussal and L. Radzihovsky, “Flat Glassy Phases and Wrinkling of Polymerized Membranes with Long Range Disorder”, *Physical Review B*, **R48**, 3548 (1993).
9. L. Radzihovsky and E. Frey, “Kinetic Theory of Flux Line Hydrodynamics: Liquid Phase with Pinning Disorder”, *Physical Review B*, **48**, 10357 (1993).
10. D. Huse and L. Radzihovsky, “Statistical Mechanics of Vortices in Type-II Superconductors”, Proceedings of Altenberg Summer School, *Fundamental Problems in Statistical Mechanics*, 48 (1993).
11. L. Radzihovsky, “Self-Consistent Theory of Normal-to-Superconducting Transition in Arbitrary Dimension”, *Europhysics Letters*, **29**, 227 (1995).
12. L. Radzihovsky, “Magnetization Relaxation via Quantum and Classical Vortex Motion in a Bose Glass Superconductor”, *Physical Review Letters*, **74**, 4919 (1995).
13. L. Radzihovsky, “Resurrection of the Melting Line in the Bose Glass Superconductor”, *Physical Review Letters*, **74**, 4923 (1995).
14. L. Radzihovsky, “A Continuous H_{c2} Normal-to-Superconducting Transition”, *Physical Review Letters*, **74**, 4722 (1995).
15. K.M. Beauchamp, L. Radzihovsky, L. Shung, T.F. Rosenbaum, U. Welp, and G.W. Crabtree, “Local Probe of Vortex Pinning Energies in the Bose Glass Superconductor”, *Physical Review B*, **52**, 13025 (1995).
16. L. Radzihovsky and J. Toner, “A New Phase of Tethered Membranes: Tubules”, *Physical Review Letters*, **75**, 4752 (1995).
17. L. Balents and L. Radzihovsky, “Continuous 3d Freezing Transition in Layered Superconductors”, *Physical Review Letters*, **76**, 3416 (1996).
18. L. Radzihovsky, “Radzihovsky Replies”, *Physical Review Letters*, **76**, 4451 (1996).
19. D. R. Nelson and L. Radzihovsky, “Longitudinal Currents Dissipation in a Bose-glass Superconductor”, *Physical Review B*, **54**, R6845 (1996).
20. L. Radzihovsky, “Entropically Driven Reentrant SmC-SmA-SmC Phase Transition in Polymer Dispersed Liquid Crystals”, *Europhysics Letters*, **36**, 595 (1996).

21. V. V. Ginzburg, L. Radzihovsky, and N. A. Clark, “Self-Consistent Model of Annihilation-Diffusion Reaction with Long-Range Interactions”, *Physical Review E*, **55**, 1 (1997).
22. L. Balents, M. C. Marchetti, and L. Radzihovsky, “Comment on: Moving Glass Phase of Driven Lattices”, *Physical Review Letters*, **78**, 751 (1997).
23. L. Radzihovsky and J. Toner, “Dirt Softens Soap: Anomalous Elasticity of Disordered Smectics”, *Physical Review Letters*, **78**, 4414 (1997).
24. L. Radzihovsky and J. Toner, “Nematic-to-Smectic-A Transition in Aerogel”, *Physical Review Letters*, **79**, 4214 (1997).
25. L. Radzihovsky and J. Toner, “Elasticity, Shape Fluctuations and Phase Transitions in the New Tubule Phase of Anisotropic Tethered Membranes”, *Physical Review E*, **57**, 1832 (1998).
26. L. Balents, M. C. Marchetti, and L. Radzihovsky, “Nonequilibrium Steady States of Driven Periodic Media”, *Physical Review B*, **57**, 7705 (1998).
27. L. Radzihovsky and J. Toner, “Transversely Driven Charge Density Waves and Striped Phases of High- T_c Superconductors: The Current Effect Transistor”, *Physical Review Letters*, **81**, 3711 (1998).
28. M.C. Marchetti and L. Radzihovsky, “Interstitials, Vacancies and Dislocations in Flux-Line Lattices: A Theory of Vortex Crystals, Supersolids and Liquids”, *Physical Review B*, **58**, 12001 (1999).
29. L. Radzihovsky and J. Toner, “Smectic Liquid Crystals in Random Environments”, *Physical Review B*, **58**, 206 (1999).
30. B. Jacobsen, K. Saunders, L. Radzihovsky, and J. Toner, “Two New Topologically Ordered Phases of Smectics Confined in Anisotropic Random Media”, *Physical Review Letters*, **83**, 1363 (1999).
31. E. Frey, D. R. Nelson, and L. Radzihovsky, “Light Induced Melting of Colloidal Crystals in Two Dimensions”, *Physical Review Letters*, **83**, 2977 (1999).
32. D. R. Link, L. Radzihovsky, G. Natale, J. E. MacLennan, N. A. Clark, M. Walsh, S. S. Keast, and M. E. Neubert, “Ring-Pattern Dynamics in Smectic- C^* and Smectic- C_A^* Freely Suspended Liquid Crystal Films”, *Physical Review Letters*, **84**, 5772 (2000).
33. K. Saunders, B. Jacobsen, L. Radzihovsky, and J. Toner, “Topologically Ordered Phases of Smectics Confined in Anisotropic Random Media: Smectic Bragg Glasses”, *Journal of Physics-Condensed Matter*, **8A**, 215 (2000).
34. K. Saunders, L. Radzihovsky, and J. Toner, “A Discotic Disguised as a Smectic: A Hybrid Columnar Bragg Glass”, *Physical Review Letters*, **85**, 4309 (2001).
35. L. Radzihovsky, E. Frey, and D. R. Nelson, “Novel Phases and Reentrant Melting of Two Dimensional Colloidal”, *Physical Review E*, **63**, 31503 (2001).
36. L. Radzihovsky and T. C. Lubensky, “Fluctuation-Driven 1st-Order Isotropic-to-Tetrahedric Phase Transition”, *Europhysics Letters*, **54**, 206 (2001).
37. L. Balents and L. Radzihovsky, “Interlayer tunneling in double-layer quantum Hall pseudo-ferromagnets”, *Physical Review Letters*, **86**, 1825 (2001).
38. J. Kyriakidis and L. Radzihovsky, “Persistent Currents and Dissipation in Narrow Bilayer Quantum Hall Bars”, *Physical Review B* **64R**, 201314 (2001).
39. L. Radzihovsky, E. Ettouhami, K. Saunders, and J. Toner, “‘Soft’ Anharmonic Vortex Glass in Ferromagnetic Superconductors”, *Physical Review Letters*, **87**, 27001 (2001).
40. T. Bellini, L. Radzihovsky, J. Toner, and N. Clark, “Universality and Scaling in the Disorder of a Smectic Liquid Crystals”, *Science* **294**, 1074 (2001).

41. L. Radzihovsky, "Pseudo-spin canting transition in bilayer quantum Hall ferromagnets: a self-charging capacitor", *Physical Review Letters*, **87**, 236802 (2001).
42. D. Coleman, S. Bardon, L. Radzihovsky, and N. Clark, "Transition Between Antiferroelectric and Ferroelectric Liquid Order at the Liquid Crystal-Solid Interface", *Physical Review E*, **66**, 061709 (2002).
43. L. Radzihovsky and A. Dorsey, "Theory of Quantum Hall Nematics", *Physical Review Letters*, **88**, 216802 (2002).
44. M. Abolfath, L. Radzihovsky and A. H. MacDonald, "Global phase diagram of bilayer quantum Hall ferromagnets", *Physical Review B* **65**, 233306 (2002).
45. T. Lubensky, R. Mukhopadhyay, L. Radzihovsky, and X. Xing, "Symmetries and Elasticity of Nematic Gels", *Physical Review E* **66**, 011702 (2002).
46. T. Lubensky and L. Radzihovsky, "Theory of Banana Liquid Crystal Phases and Phase Transitions", *Physical Review E* **66**, 031704 (2002).
47. A.M. Ettouhami and L. Radzihovsky, "Velocity-force characteristics of an interface driven through a periodic potential", *Physical Review B* **67**, 115412 (2003).
48. X. Xing, R. Mukhopadhyay, T. Lubensky, and L. Radzihovsky, "Fluctuating Nematic Elastomer Membranes", *Physical Review E* **68**, 021108 (2003).
49. X. Xing and L. Radzihovsky, "Universal Elasticity and Fluctuations of Nematic Gels", *Physical Review Letters* **90**, 168301 (2003).
50. X. Xing and L. Radzihovsky, "Thermal fluctuations and anomalous elasticity of homogeneous nematic elastomers", *Europhysics Letters* **61**, 769 (2003).
51. L. Radzihovsky and N. A. Clark, "Comment on 'Freezing by heating in a driven mesoscopic system'", *Physical Review Letters* **90**, 189603 (2003).
52. M. Abolfath, A. H. MacDonald, and L. Radzihovsky, "Critical Currents of Ideal Quantum Hall Superfluids", *Physical Review B* **68**, 155318 (2003).
53. L. Radzihovsky, J. Park, and P. Weichman, "Superfluid transition in bosonic atom-molecule mixtures near Feshbach resonance", *Physical Review Letters* **92**, 160402 (2004).
54. L. Radzihovsky, "Anisotropic and Heterogeneous Polymerized Membranes", in the *Statistical Mechanics of Membranes and Surfaces*, edited by D.R. Nelson, T. Piran and S. Weinberg, World Scientific (2003).
55. Daniel E. Sheehy and L. Radzihovsky, "Vortex Lattice Inhomogeneity in Spatially Inhomogeneous Superfluids", *Physical Review A* **70**, 051602(R) (2004).
56. Xiangjun Xing and Leo Radzihovsky, "Phases and Transitions in Phantom Nematic Elastomer Membranes", *Physical Review E*, **71**, 011802 (2004).
57. A. V. Andreev, V. Gurarie and L. Radzihovsky, "Nonequilibrium dynamics and thermodynamics of a degenerate Fermi gas across a Feshbach resonance", *Physical Review Letters* **93**, 130402 (2004).
58. Daniel E. Sheehy and L. Radzihovsky, "Vortices in Spatially Inhomogeneous Superfluids", *Physical Review A* **70**, 063620 (2004).
59. J. Alicea, L. Balents, M.P.A. Fisher, A. Paramekanti, and L. Radzihovsky, "Transition to zero resistance in a two dimensional electron gas driven with microwaves", *Physical Review B* **71**, 235322 (2005).
60. V. Gurarie, L. Radzihovsky, A. V. Andreev, "Quantum phase transitions across p-wave Feshbach resonance", *Physical Review Letters*, **94**, 230403 (2005).
61. A. M. Ettouhami, Karl Saunders, L. Radzihovsky, John Toner, "Elasticity, fluctuations and vortex pinning in ferromagnetic superconductors: columnar elastic glass", *Physical Review B* **71**, 224506 (2005).

62. Daniel E. Sheehy and L. Radzihovsky, “Quantum decoupling transition in a one-dimensional Feshbach-resonant superfluid”, *Physical Review Letters* **95**, 130401 (2005).
63. L. Radzihovsky, “Thermal depinning and transverse-field tilting transitions in a planar vortex array pinned by a columnar defect”, *Physical Review B* **73**, 104504 (2006).
64. Daniel E. Sheehy and L. Radzihovsky, “BEC-BCS crossover in ‘magnetized’ Feshbach-resonantly paired superfluids”, *Physical Review Letters* **96**, 060401 (2006).
65. M. Y. Veillette, D. E. Sheehy, L. Radzihovsky, and V. Gurarie, “Superfluid transition in a rotating resonantly-interacting Fermi gas”, *Physical Review Letters* **97**, 250401 (2006).
66. D. E. Sheehy and L. Radzihovsky, “BEC-BCS crossover, phase transitions and phase separation in polarized resonantly-paired superfluids”, *Annals of Physics* **322**, 1790 (2007).
67. D. E. Sheehy and L. Radzihovsky, “Comment on ”Superfluid stability in the BEC-BCS crossover” by C.-H. Pao, S.-T. Wu, and S.-K.-Yip”, *Physical Review B* **75**, 136501 (2007).
68. X. Xing, P. Goldbart and L. Radzihovsky, “Thermal Fluctuations and Rubber Elasticity”, *Physical Review Letters* **98** 075502 (2007).
69. V. Gurarie and L. Radzihovsky, “Zero modes of two-dimensional chiral p-wave superconductors”, *Physical Review B* **75**, 212509 (2007).
70. M. Y. Veillette, D. E. Sheehy and L. Radzihovsky, “ Large-N expansion for unitary superfluid Fermi gases”, *Physical Review A* **75** 043614 (2007).
71. V. Gurarie and L. Radzihovsky, “Resonantly-paired fermionic superfluids”, *Annals of Physics* **322**, 2-119 (2007).
72. X. Xing and L. Radzihovsky “Nonlinear Elasticity, Fluctuations and Heterogeneity of Nematic Elastomers”, *Annals of Physics* **323**, 105-203 (2008).
73. L. Radzihovsky, P. Weichman, and J. Park, “Superfluidity and phase transition in a resonant Bose gas”, *Annals of Physics* **323**, 2376-2451 (2008).
74. M. Veillette, E. G. Moon, A. Lamacraft, L. Radzihovsky, S. Sachdev, D. E. Sheehy, “Radio frequency spectroscopy of a strongly imbalanced Feshbach-resonant Fermi gas”, *Physical Review A* **78**, 033614 (2008).
75. L. Radzihovsky and Q. Zhang, “Conical soliton escape into a third dimension of a surface vortex”, *Physical Review E* **79**, 041702 (2009).
76. L. Radzihovsky and A. Vishwanath, “Quantum liquid crystals in imbalanced Fermi gas: fluctuations and fractional vortices in Larkin-Ovchinnikov states”, *Physical Review Letters* **103**, 010404 (2009).
77. L. Radzihovsky and S. Choi, “p-Wave Resonant Bose Gas: A Finite-Momentum Spinor Superfluid”, *Physical Review Letters* **103**, 095302 (2009).
78. L. Radzihovsky and Q. Zhang, “Liquid crystal cells with ”dirty” substrates”, *Physical Review Letters* **103**, 167802 (2009).
79. L. Radzihovsky and D. Sheehy, “Imbalanced Feshbach-resonant Fermi gases”, *Reports on Progress in Physics* **73**, 076501 (2010).
80. L. Radzihovsky, V. Gurarie, “A note on a relation between ac Josephson effect and double-well BEC oscillations”, *Physical Review A* **81**, 063609 (2010).
81. Q. Zhang, L. Radzihovsky, “Stability and distortions of liquid crystal order in a cell with a heterogeneous substrate”, *Physical Review E* **81**, 051701 (2010).
82. L. Radzihovsky, T. C. Lubensky, “Nonlinear smectic elasticity of a helical state in cholesterics and helimagnets”, *Physical Review E* **83**, 051701 (2011).

83. J. von Stecher, V. Gurarie, L. Radzihovsky, A. M. Rey, “Lattice Induced Resonances in One Dimensional Bosonic Systems”, *Physical Review Letters* **106**, 235301 (2011).
84. L. Radzihovsky, “Fluctuations and phase transitions in Larkin-Ovchinnikov liquid crystal states of population-imbalanced resonant Fermi gas”, *Physical Review A* **84**, 023611 (2011).
85. S. Choi, L. Radzihovsky, “Finite-momentum superfluidity and phase transitions in a p-wave resonant Bose gas”, *Physical Review A* **84**, 043612 (2011).
86. D. Parshall, G. Chen, L. Pintschovius, D. Lamago, Th. Wolf, L. Radzihovsky, D. Reznik, “Competition between commensurate and incommensurate magnetic ordering in Fe_{1+y}Te ”, *Physical Review B* **85**, 140515(R) (2012).
87. L. Radzihovsky, “Quantum liquid-crystal order in resonant atomic gases” (invited review) *Physica C* **481**, 189-206 (2012).
88. Q. Zhang, L. Radzihovsky, “Smectic-glass transition in a liquid crystal cell with a ”dirty” substrate”, *Europhysics Letters* **98**, 56007 (2012).
89. G. Chen, M. Hermele, L. Radzihovsky, “Frustrated quantum critical theory of putative spin-liquid phenomenology in $6\text{H-B-Ba}_3\text{NiSb}_2\text{O}_9$ ”, *Physical Review Letters* **109**, 016402 (2012).
90. Z. Shen, L. Radzihovsky, V. Gurarie, “Reentrant BCS-BEC crossover and a superfluid-insulator transition in optical lattices”, *Physical Review Letters* **109**, 245302 (2012).
91. Quan Zhang, L. Radzihovsky, “Smectic order, pinning, and phase transition in a smectic liquid crystal cell with a random substrate”, *Physical Review E Phys. Rev. E* **87**, 022509 (2013).
92. E. V. Herland, E. Babaev, P. Bonderson, V. Gurarie, C. Nayak, L. Radzihovsky, A. Sudb, “Freezing of an unconventional two-dimensional plasma”, *Physical Review B* **87**, 075117 (2013).
93. G. Chen, S. Choi, L. Radzihovsky, “Magnetic orders, excitations, and phase transitions in Fe_{1+y}Te ”, *Physical Review B* **88**, 165117 (2013).
94. X. Yin, L. Radzihovsky, “Quench dynamics of a strongly interacting resonant Bose gas”, *Phys. Rev. A* **88**, 063611 (2013).
95. S.V. Syzranov, L. Radzihovsky, V. Gurarie, “Critical transport in weakly disordered semiconductors and semimetals”, *Phys. Rev. Lett* **114**, 166601 (2015).
96. S.V. Syzranov, V. Gurarie, L. Radzihovsky, “Unconventional localisation in high-dimensions”, *Phys. Rev. B* **91**, 035133 (2015).
97. S. Moroz, C. Hoyos, L. Radzihovsky, “Galilean invariance at quantum Hall edge”, *Phys. Rev. B* **91**, 195409 (2015).
98. M. Garttner, S.V. Syzranov, A.M. Rey, V. Gurarie, L. Radzihovsky, “Disorder-driven transition in a chain with power-law hopping”, *Phys. Rev. B* **92**, 041406(R) (2015).
99. L. Radzihovsky, “Anomalous energetics and dynamics of moving vortices”, *Phys. Rev. Lett.* **115**, 247801 (2015).
100. S. Moroz, C. Hoyos, L. Radzihovsky, “Chiral $p \pm ip$ superfluid on a sphere”, *Phys. Rev. B* **93**, 024521 (2016).
101. X. Yin, L. Radzihovsky, “Post-quench dynamics and prethermalization of a resonant Bose gas”, *Phys. Rev. A* **93**, 033653 (2016).
102. Michael R. Tuchband, Min Shuai, Keri A. Graber, Dong Chen, Leo Radzihovsky, Arthur Klitnick, Lee Foley, Alyssa Scarbrough, Jan H. Porada, Mark Moran, Eva Korblova, David M. Walba, Matthew A. Glaser, Joseph E. Maclennan, Noel A. Clark, “The twist-bend nematic phase of bent mesogenic dimer CB7CB and its mixtures”, arXiv:1511.07523 University of Colorado preprint (2015).

103. S.V. Syzranov, P.M. Ostrovsky, V. Gurarie, L. Radzihovsky, “Critical exponents at the unconventional disorder-driven transition in a Weyl semimetal”, *Phys. Rev. B* **93**, 155113 (2016).
104. S. V. Syzranov, V. Gurarie, L. Radzihovsky, “Multifractality at non-Anderson disorder-driven transitions in Weyl semimetals and other systems”, *Annals of Physics* **373**, 694 (2016).
105. X. Yin, L. Radzihovsky, “Quench dynamics of spin-imbalanced Fermi-Hubbard model in one dimension”, *Phys. Rev. A* **94**, 063637 (2016).
106. S. Moroz, A. Prem, V. Gurarie, L. Radzihovsky, “Topological order, symmetry, and Hall response of two-dimensional spin-singlet superconductors”, *Phys. Rev. B* **95**, 014508 (2017).
107. S. V. Syzranov, L. Radzihovsky, “High-Dimensional Disorder-Driven Phenomena in Weyl Semimetals, Semiconductors and Related Systems”, arXiv:1609.05694, invited review article for Annual Reviews of Condensed Matter Physics **9** (2017).
108. Abhinav Prem, Sergej Moroz, Victor Gurarie, Leo Radzihovsky, “Multiply quantized vortices in fermionic superfluids: angular momentum, unpaired fermions, and spectral asymmetry”, *Phys. Rev. Lett.* **119**, 067003 (2017).
109. J. H. Pixley, Y.-Z. Chou, P. Goswami, D. A. Huse, R. Nandkishore, L. Radzihovsky, S. Das Sarma, “Single particle excitations in disordered Weyl fluids”, arXiv:1701.00783, *Phys. Rev. B* **95**, 235101 (2017).
110. Sergej Moroz, Carlos Hoyos, Leo Radzihovsky, “Reply to Comment on ‘Galilean invariance at quantum Hall edge’ “, arXiv:1703.01782, *Phys. Rev. B* **96**, 039902 (2017).
111. Vladyslav Kozii, Jonathan Ruhman, Liang Fu, Leo Radzihovsky, “Ferromagnetic transition in a one-dimensional spin-orbit-coupled metal and its mapping to a critical point in smectic liquid crystals”, *Phys. Rev. B* **96**, 094419 (2017).
112. Michael R. Tuchband, et al., “Double-Helical Tiled Chain Structure of the Twist-Bend Liquid Crystal phase in CB7CB”, arXiv:1703.10787.
113. Matthew P. A. Fisher, Leo Radzihovsky, “Quantum Indistinguishability in Chemical Reactions”, *Proceedings of National Academy of Science* **115** (20) E4551-E4558 (2018)
114. P. Le Doussal, L. Radzihovsky, “Anomalous elasticity, fluctuations and disorder in elastic membranes”, arXiv:1981222. *Annals of Physics* **392**, 340 - 410 (2018).
115. Yang-Zhi Chou, Rahul M. Nandkishore, Leo Radzihovsky “Gapless insulating edges of dirty interacting topological insulators”, *Phys. Rev. B* **98**, 054205 (2018).
116. Michael Pretko, Leo Radzihovsky, “Fracton-Elasticity Duality”, *Phys. Rev. Lett.* **120**, 195301 (2018).
117. Yang-Zhi Chou, Rahul M. Nandkishore, Leo Radzihovsky, “Mott glass from localization and confinement”, *Phys. Rev. B* **97**, 184205 (2018).
118. Michael Pretko, Leo Radzihovsky, “Symmetry Enriched Fracton Phases from Supersolid Duality”, *Phys. Rev. Lett.* **121**, 235301 (2018).
119. Yang-Zhi Chou, Rahul M. Nandkishore, Leo Radzihovsky, “Localized surfaces of three dimensional topological insulators”, *Phys. Rev. B* **99**, 165108 (2019).
120. Zhengzheng Zhai, Leo Radzihovsky, “Two-dimensional melting via sine-Gordon duality”, *Phys. Rev. B* **100**, 094105 (2019).
121. Michael Pretko, Zhengzheng Zhai, Leo Radzihovsky, “Crystal-to-Fracton Tensor Gauge Theory Dualities”, *Phys. Rev. B* **100**, 134113 (2019).
122. Daniel F. Agterberg, J. C. Séamus Davis, Stephen D. Edkins, Eduardo Fradkin, Dale J. Van Harlingen, Steven A. Kivelson, Patrick A. Lee, Leo Radzihovsky, John M. Tranquada, Yuxuan Wang, “The Physics of Pair Density Waves”, arXiv:1904.09687, invited review article for Annual Reviews of Condensed Matter Physics **11** 231 (2020).

123. Itamar Kimchi, Yang-Zhi Chou, Rahul M. Nandkishore, Leo Radzihovsky, “Anomalous localization at the boundary of an interacting topological insulator”, *Phys. Rev. B* **101**, 035131 (2020).
124. Leo Radzihovsky, Michael Hermele, “Fractons from vector gauge theory”, *Phys. Rev. Lett.* **124**, 050402 (2020).
125. Xi Chen, Eva Korblova, Dengpan Dong, Xiaoyu Wei, Renfan Shao, Leo Radzihovsky, Matthew Glaser, Joseph MacLennan, Dmitry Bedrov, David Walba, Noel Clark, “First-Principles Experimental Demonstration of Ferroelectricity in a Thermotropic Nematic Liquid Crystal: Spontaneous Polar Domains and Striking Electro-Optics”, *Proceedings of the National Academy of Sciences*, **117** (25) 14021-14031 (2020).
126. Tzu-Chi Hsieh, Yang-Zhi Chou, Leo Radzihovsky, “Finite-temperature spectroscopy of dirty helical Luttinger liquids”, *Phys. Rev. B* **102**, 085152 (2020).
127. Leo Radzihovsky, “Quantum smectic gauge theory”, *Phys. Rev. Lett.* **125**, 267601 (2020).
128. Marvin Qi, Leo Radzihovsky, Michael Hermele, “Fracton phases via exotic higher-form symmetry-breaking”, *Annals of Physics* **424**, 168360 (2021).
129. Zhengzheng Zhai, Leo Radzihovsky, “Fractonic gauge theory of smectics”, arXiv:2012.02208, Invited for *Annals of Physics* celebrating P. W. Anderson. (2021).

Invited Conference Presentations and Workshops Attended:

1. March Meeting of the American Physical Society, St. Louis, MO, March 1989
“Stability in a Quantum Theory of Electron Transport in Nondegenerate Semiconductors”
Invited talk
2. International Summer School on *Fundamental Problems in Statistical Mechanics VIII*, Altenberg, Germany, June, 1993
“Statistical Mechanics of Vortices in Type-II Superconductors”
Invited lecture notes
3. Institute for Theoretical Physics, UCSB, Workshop, “Physics of Biomembranes”, Santa Barbara, CA, August-October, 1994
Invited
4. Institute for Theoretical Physics, UCSB, Workshop, “Vortex Phases”, Santa Barbara, CA, October-November, 1994
“Fluctuation Effects in Tethered Membranes”
Invited
5. Institute for Scientific Interchange, *Dynamic Properties in Novel Superconductors*, The Euroconference, Torino, Italy, May 1995
“Theory of a Continuous Normal-to-Superconducting Transition”
Invited talk
6. Summer Workshop on *Low-dimensional Correlated Systems*, Aspen Center for Physics, Aspen, CO, August 1996
Invited
7. Winter Workshop on *Topological Defects in Soft Condensed Matter Physics*, Aspen Center for Physics, Aspen, CO, September 1996
Invited
8. Summer Workshop on *High Temperature Superconductivity: Experimental Facts, Modelling and Interpretation*, Telluride Summer Research Center, Telluride, CO, August 1997
Invited talk
9. Winter Workshop on *Disorder in Condensed Matter Systems*, Aspen Center for Physics, Aspen, CO, September 1997
Invited talk
10. March Meeting of the American Physical Society, Los Angeles, March 1998
“Smectic Ordering in Random Media: Theory”
Invited talk
11. Invited visitor at the Institute for Theoretical Physics, UCSB Santa Barbara, CA, March-April, 1998
Invited talk
12. 3rd SIAM Conference on Mathematical Aspects of Materials Science, Philadelphia, PA, May, 2000
“Elasticity, Shape Fluctuations and Phase Transitions in the New Tubule Phase of Anisotropic Membranes”
Invited talk
13. Boulder Summer School for Condensed Matter and Materials Physics: “Superconductivity: Fundamentals and Applications”, Boulder, CO, July, 2000
“Fluctuations, Dissipations and Phase Transitions in Superconductors”
Invited talk
14. Summer Workshop on *2D Correlated Systems*, Aspen Center for Physics, Aspen, CO, July 2000
“Interlayer Tunneling in Bilayer Quantum Hall Pseudo-ferromagnets”
Invited talk

15. 2001 Winter Conference on Condensed Matter *High-Temperature Superconductivity*, Aspen CO, January 2001
Invited
16. Winter School on Many-Body Physics in Low Dimensional Systems, Korea Institute for Advanced Study, Korea, February 2001
“The Double-layer Quantum Hall Effect” and “Nonequilibrium Vortex Dynamics”
Invited lectures
17. March Meeting of the American Physical Society, Seattle, WA, March 2001
“Tunneling and Fluctuations in Bilayers Quantum Hall Pseudo-ferromagnets”
Invited talk
18. Superconductivity and High Magnetic Fields, Technion-Israel Institute of Technology, Haifa, April 2001
“Novel Vortex Phases and Continuous Freezing Transitions in Layered Superconductors”
Invited talk
19. Soft Condensed Matter Physics Conference, Sante Fe, NM, May 2001
“Nonequilibrium Dynamics of Pinned Elastic Lattices: Moving Smectic and Transversely Driven Charge-Density Waves”
Invited talk
20. Liquid Crystal Gordon Conference, Colby-Sawyer College in New London, New Hampshire, June 2001
“Topologically Ordered Glass Phases of Liquid Crystals in Random Environments”
Invited talk
21. Summer School in “Low-D Quantum Systems”, ICTP, Trieste, Italy, July 2001
“The Double-layer Quantum Hall Effect”
Invited talk
22. ”Frontiers for Synchrotron Research on Soft and Biomaterials” Tarrytown, NY, April 2002
“Novel Liquid-Crystal Orders in Unusual Contexts”
Invited talk
23. ”Dynamics of Complex and Macromolecular Fluids”, workshop at the Institute for Theoretical Physics, UCSB Santa Barbara, CA, May, 2002
Invited
24. ”Collective Phenomena in Disordered Insulators and Glassy Systems”, summer workshop at Aspen, CO, August, 2002
Invited
25. Workshop on Opportunities in Materials Theory, National Science Foundation, October, 2002
“Quantum Hall Liquid Crystals”
Invited talk
26. Winter workshop on Complex Quantum Order, Aspen, CO, February, 2003
“Quantum Hall Liquid Crystals”
Invited talk
27. March Meeting of the American Physical Society, Austin, TX, March 2003
“Quantum Hall Liquid Crystals”
Invited talk
28. Lucile and David Packard Foundation’s 15-year reunion, Vancouver, BC, September 2003
”Strange Elasticity of Liquid Crystal Rubber”
Invited talk
29. “Exotic Quantum Order”, Institute for Theoretical Physics, Santa Barbara, CA, June 2004
”Critical Phases”
Invited talk

30. “March Meeting of the American Physical Society”, Los Angeles, CA, March 2005
“Tetrahedral Order and Banana Liquid Crystals”
Invited talk
31. Workshop on “Strongly Interacting Quantum Gases”, Ohio State University, April 2005
“Resonantly-paired p-wave superfluids”
Invited talk
32. “Non-Equilibrium and Correlation Effects in Low-Dimensional Structures”, University of Minnesota, May 2005
“Nonequilibrium Transitions to Zero-resistance State”
Invited talk
33. “Dynamic properties of liquid crystal elastomers”, University of Minnesota, May 2005
Invited
34. “Strong Correlations in Ultra-Cold Fermi Systems”, Aspen Center for Physics, Aspen, CO, January, 2006
“Phase separation, transitions and BEC-BCS crossover in ‘magnetized’ resonantly paired superfluids”
Invited talk
35. Workshop on “Strongly correlated phases in condensed matter and degenerate atomic systems”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, January 29 - June 15, 2007
Organizer
36. Conference on “Correlated states in degenerate atomic gases”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, April 23 - April 27, 2007
Organizer
37. “Condensed matter physics with cold atomic gases: oxymoron or a new frontier”, Director’s lunch seminar at the Kavli Institute for Theoretical Physics, Santa Barbara, CA, February 9, 2007
Invited talk
38. “Current problems and new directions in cold atomic gases”, seminar at the Kavli Institute for Theoretical Physics, Santa Barbara, CA, February 9, 2007
Invited talk
39. “P-wave resonant superfluidity”, seminar and discussion leader at the “Quantum Gases” conference at the Institut Henri Poincare, Paris, June 28, 2007
Invited talk
40. “Cold atomic Gases”, workshop at the Institut Henri Poincare, Paris, June 13 - July 6, 2007
Invited
41. “Strange elasticity of liquid crystal rubber: critical phases”, Workshop on disordered systems at Laboratoire de Physique Theorique et Hautes Energies, Jussieu, Paris, June 20, 2007
Invited talk
42. “Strange elasticity of liquid crystal rubber: critical phases”, Symposium in honor of Thomas Nattermann’s 60th birthday, Cologne, Germany, January 11, 2008
Invited talk
43. “Superfluidity and phase transitions in a resonant Bose gas”, at the “Superconductivity and Superfluidity in Finite Systems” workshop at the University of Wisconsin, Madison, May 27 - 29, 2008
Invited talk
44. “Degenerate atomic gases”, Gordon Research Conference on Correlated Electron Systems at the University of New England, Biddeford, Maine, June 8 - 13, 2008
Invited discussion leader

45. “Resonantly interacting degenerate atomic gases”, lectures at the Boulder School on “Strongly correlated materials”, University of Colorado, Boulder, CO, July 1, 2008
Invited lecturer
46. “Resonantly interacting degenerate atomic gases”, workshop on “Strong correlation in materials and atom traps” at International Center for Theoretical Physics, Trieste, Italy, August 4 - 15, 2008
Invited talk
47. “Fluctuations and stability of LO/FF states: quantum liquid crystals”, International Conference on Frontiers of Degenerate Quantum Gases at the Center of Advanced Study of Tsinghua University, Beijing, China, October 20-24, 2008
Invited talk
48. “Science Frontiers”, Miller Institute Interdisciplinary Symposium, Point Reyes, CA, June 4-7, 2009
Invited
49. “Soft’ meets bio”, Gordon Conference, Colby-Sawyer College in New London, New Hampshire, August 10-14, 2009
Invited
50. “BEC 2009”, Conference on cold atomic gases, Sant Feliu, Spain, September 6-11, 2009
Invited
51. “Condensed matter physics of cold atoms”, workshop on Degenerate Quantum Gases at the Kavli Institute for Theoretical Physics in China, Beijing, China, October 19-30, 2009
Invited talk
52. “p-wave resonant superfluids”, Quantum solids, liquids, and gases workshop Nordita, Stockholm, Sweden, August 8 - August 18, 2010
Invited talk
53. “Five lectures on resonant atomic gases”, at Condensed Matter Winter School, International Center for Theoretical Science, Mysore, India, December 11-22, 2010
Invited lecturer
54. “Materials and the Imagination”, Winter 2011 Aspen Workshop, Aspen, CO, 3-7 January 2011, and David Nelson’s 60th Symposium, ”From epsilon to delta-hedra”
Invited and discussion Chair
55. A workshop on “Physics of Polydomain Liquid Crystal Elastomers”, Shanghai, China, June 7 - 11, 2011
Invited
56. “Few- and Many-Body Physics in Cold Quantum Gases near Resonances”, Aspen Summer workshop, June 11-24, 2011
Invited talk
57. “Finite-momentum superfluidity and phase transitions in a p-wave resonant Bose gas ”, workshop on “Non-standard superfluids and insulators” at International Center for Theoretical Physics, Trieste, Italy, July 18 - 22, 2011
Invited talk
58. “Soft Matter Far from Equilibrium”, Gordon Conference, Colby-Sawyer College in New London, New Hampshire, August 14-19, 2011
Invited
59. “Disequilibrium workshop on cold atomic gases”, Fine Institute, University of Minnesota, May 15, 2012
“Fluctuations, stability, and phase transitions of Larkin-Ovchinnikov states: quantum liquid crystals”
Invited talk

60. Frontiers of Soft Matter Symposium, tutorial on “Liquid crystal elastomers”, University of Colorado, Boulder, CO, May 16 - 18, 2012
Invited talk
61. A workshop on “Recent progress on Coulomb Many-body systems”, Shanghai Jiao Tong University, China, May 28 - June 14, 2012
Invited
62. Gordon Research Conference “Correlated Electron Systems”, Mount Holyoke College, MA, June 24 - 29, 2012
Invited
63. A workshop on “Modern Perspectives on Thin Sheets: Geometry, Elasticity, and Statistical Physics” Lorentz Center, Leiden, The Netherlands, September 3 - 7, 2012
Invited talk
64. Simons Workshop on “Facets of Integrability: random patterns, stochastic processes, hydrodynamics, gauge theories and condensed matter systems”, Stony Brook, Simons Institute, January 21-27, 2013,
Invited participant
65. NewSpin3 Conference, “Spin-phenomena: from model systems to complex matter”, Mainz, Germany, April 2-5, 2013
Invited talk
66. Hangzhou Workshop on Quantum Matter, “Reentrant BCS-BEC crossover and a superfluid-insulator transition in optical lattices”, Zhejiang University, Hangzhou, China, April 22-25, 2013
Invited talk
67. Conference on Majorana Physics in Condensed Matter, “Topological superconductivity in a p-wave resonant atomic gas”, Erice, Italy, July 12-18, 2013
Invited talk
68. Aspen Summer workshop on Optical Lattices, June 23 - July 7, 2013
Invited
69. Aspen Summer workshop on Multi-Component Many-Body Systems, August 24 - September 10, 2013
Organizer
70. Aspen Winter Conference on “Unconventional Order in Strongly Correlated Electron Systems”, January 5 - 11, 2014
Invited participant
71. Aspen Winter Conference on New Perspectives on Thermalization: Condensed Matter, Quantum Information, QCD and String Theory, March 16-22, 2014, “Quench dynamics of a strongly interacting resonant Bose gas”
Invited talk
72. Workshop on “Emergent Phenomena in the Dynamics of Quantum Matter: Disorder, quenches, simulations, and experiment”, The City University of New York, April 14-17, 2014
Invited
73. Quantum Criticality in Correlated Materials and Model Systems, “Critical transport in weakly disordered semiconductors and semimetals”, St. Petersburg, Russia, June 21 - 27, 2014
Invited talk
74. Boulder School for Condensed Matter and Materials Physics: Superconductivity, “BCS-BEC crossover and phase transitions in resonant Fermi gases” (3 lectures), Boulder, CO July, 2014
Invited lecturer
75. Quantum Criticality in Correlated Materials and Model Systems, “Critical transport in semiconductors and Weyl semimetals”, Natal, Brazil, July 21-Aug 1, 2014
Invited talk

76. Conference on Electronic Crystals “Fluctuations and phase transition in FFLO superconductor: quantum liquid crystals”, Cargese, Corsica, France, August 12 - 24, 2014
Invited talk
77. Workshop on “Avalanches, Intermittency, and Nonlinear Response in Far-From-Equilibrium Solids”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, September 22 - October 22, 2014
Invited participant
78. Superstripes 2015, “Nonlinear Goldstone modes and Higgs mechanism in chiral helical states”, Ischia, Naples, Italy, June 12 - 18, 2015
Invited talk
79. “Closing the entanglement gap”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, May 24 - June 6, 2015
Invited
80. Superstripes 2016, “Disorder-driven quantum phase transition and transport in Dirac semimetals and semiconductors”, Ischia, Naples, Italy, June 23 - 28, 2016
Invited talk
81. Workshop on Intertwined Orders in Strongly Correlated Systems, presentation on “Magnetic orders, excitations, and phase transitions in iron telluride”, Laguna Beach, CA, January 29-31, 2016.
Invited presenter/participant
82. Workshop on “Synthetic Quantum Matter”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, September 12 - December 9, 2016
Organizer
83. Workshop on “Chirality, symmetry breaking and topological defects”, Advanced Light Source at Lawrence Berkeley National Laboratory, Berkeley, CA, October 5 - 6, 2016
Invited speaker
84. 19th Conference on Recent Progress in Many-Body Theories, “Disorder-driven transition in Dirac semimetals and semiconductors”, APCTP, Pohang, South Korea, June 25-30, 2017
Invited speaker
85. Workshop on “Intertwined Order and Fluctuations in Quantum Materials”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, July 31 - August 18, 2017
Scientific advisor
86. Lubensky Fest “Quantum Indistinguishability in Chemical Reactions”, University of Pennsylvania, Philadelphia, PA, November 4-5, 2017
Invited speaker
87. 118th Statistical Mechanics Conference, “Disorder-driven transition in Dirac semimetals and semiconductors”, Rutgers University, December 17 - 19, 2017.
Invited speaker
88. Aspen Winter Conference Field Theory Dualities and Strongly Correlated Matter, “Fracton-Elasticity Duality”, Aspen Center for Physics, March 18 - 24, 2018
Invited speaker
89. Quantum Brain Initiative, “Quantum Indistinguishability in Chemical Reactions”, UCSB, Santa Barbara, CA, April 9 - 11, 2018
Invited speaker
90. Conference on Statistical Mechanics Out of Equilibrium, “Vortices”, Princeton Center for Theoretical Science, Princeton, NJ, April 30 - May 2, 2018
Invited speaker

91. Geometry of Soft Matter, “Fracton-Elasticity Duality”, International Institute of Physics (IIP) in Natal, Brazil, May 21 - 25, 2018
Invited speaker
92. Conference on Low Energy Challenges for High Energy Physicists, “Fracton-crystals duality”, Perimeter Institute, Waterloo, CA, June 18 - 22, 2018.
Invited speaker
93. UMass Summer School on Complex Fluids and Soft Solids, Univ of Massachussets, Amherst, MA, May 27 - 31, 2018, 4 lectures on “Emergent Higgs Mechanism and Critical Soft Matter” *Invited lecturer*
94. Summer International Workshop on Localization, Interaction, and Superconductivity, “Fracton-elasticity duality”, Landau Institute, Chernogolovka, Russia, June 30 - July 4, 2018.
Invited speaker
95. Simons Workshop, “Ultra Quantum Matter”, Simons Foundation, New York, August 22-24, 2018,
Invited participant
96. Jin Fest conference in celebration of Deborah Jin’s science, “BEC-BCS Explorations: following in the footsteps of a scientific giant”, JILA, University of Colorado, Boulder, CO, September 7-9, 2018.
Invited speaker
97. Follow-on Workshop on “Intertwined Order and Fluctuations in Quantum Materials”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, October 6 - 13, 2018
Invited participant
98. Simons MPS Annual Symposium, James Simons Foundation, New York, October 17-19, 2018,
Invited participant
99. Princeton Conference on Fractons and Crystalline Topological Insulators, “Fractonicity from Elasticity”, Princeton Center for Theoretical Science, Princeton, NJ, December 2-5, 2018
Invited speaker
100. 120th Statistical Mechanics Conference, “Critical, chiral, soft matter”, Rutgers, NJ, December 16 - 19, 2018
Invited speaker
101. Nonequilibrium Phenomena Conference at CUNY, “Fractons from vector gauge theory and elasticity duality”, CUNY, NY, 11-13 March, 2019
Invited speaker
102. CECAM workshop on Condensed matter and topology, “Fractons-elasticity duality”, Tel Aviv, Israel, April 1-5, 2019
Invited speaker
103. Effective field theories workshop at Nordita, “Fractons-elasticity duality”, Stockholm, May 6-10, 2019
Invited speaker
104. Visiting Professor at Ecole Normale Superior, Paris, 15 May - 11 June, 2019
Invited visitor
105. Superstripes-2019 conference, “Fractons-elasticity duality”, Ischia, Italy, June 21-28, 2019
Invited speaker
106. Quantum Criticality and Topology workshop, “Fractons-elasticity duality” Dresden, Germany, Stockholm, August 11-16, 2019
Invited speaker
107. Simons MPS Annual Symposium, James Simons Foundation, New York, October 17-18, 2019
Invited participant

108. Banff International Research Station for Mathematical Innovation and Discovery, Fractons and Beyond, “Quantum smectic fracton order”, Banff, Alberta, Canada, Jan 26-31, 2020
Invited speaker
109. Aspen Winter Conference on Low dimensional solids in hard and soft condensed matter: mechanics, thermodynamics, and electrons, “Anisotropic critical points in buckling of elastic sheets and PM-FM quantum phase transition”, Aspen Center for Physics, Feb 2-6, 2020
Invited speaker
110. APS March Meeting “Fracton-elasticity duality”, Denver, CO, March 4, 2020 (cancelled due to covid)
Invited speaker
111. Fracton workshop at Simon Center for Topology, “Fractonic gauge theories and elasticity duality”, NY, NY, April 11- June 6, 2020 (cancelled due to covid)
Invited speaker and participant
112. Workshop on “Active Matter”, Kavli Institute for Theoretical Physics, Santa Barbara, CA, April 27 - May 31, 2020
Invited participant
113. Simons Ultra Quantum Matter workshop, Stanford, CA. May 4-5, 2020 (cancelled due to covid)
Invited participant
114. Fracton workshop at University of Chicago, “Fracton gauge theory dualities”, University of Chicago, May 8-10, 2020 (cancelled due to covid)
Invited speaker and participant
115. Stat Phys and 60th Celebration of Erwin Frey, “Membranes and smectics everywhere”, LMU, Munich, Germany, May 8-10, 2020 (cancelled due to covid)
Invited speaker and participant
116. ECRYS-2020, “Smectic vortex glass”, Cargese, Corsica, Aug 17 - 27, 2020 (cancelled due to covid)
Invited planary speaker and participant
117. Simons MPS Annual Symposium, James Simons Foundation, New York, October 15-16, 2020
Invited participant

Invited Seminar and Colloquia at Institutions:

1. Department of Physics, Rensselaer Polytechnic Institute, Troy, NY, February, 1989
“Stability in a Quantum Theory of Electron Transport in Nondegenerate Semiconductors”
2. Department of Physics, Muenchen Institute of Technology, Munich, Germany, June, 1993
“Hydrodynamic Theory of Flux Lines in High- T_c Superconductors”
3. Department of Physics, Muenchen Institute of Technology, Munich, Germany, June, 1993
“Glassy Phases and Wrinkling in Randomly Polymerized Membranes”
4. Bio/Molecular Engineering Department, Naval Research Laboratory, Washington, DC, December, 1993
“Statistical Mechanics of Disordered Polymerized Membranes”
5. Department of Physics, University of Chicago, Chicago, IL, January, 1993
“Glassy Phases and Wrinkling in Randomly Polymerized Membranes”
6. Department of Physics, AT&T Bell Laboratories, Murray Hill, NJ, January, 1993
“Statistical Mechanics of Randomly Polymerized Membranes”

7. Department of Physics, NEC, Princeton, NJ, February, 1993
“Tethered Membranes with Quenched Internal Disorder”
8. Department of Physics, Exxon Corporation, New Brunswick, NJ, February, 1993
“Glassy Phases and Wrinkling in Randomly Polymerized Membranes”
9. General Electric Company, Schenectady, New York, February, 1993
“Statistical Mechanics of Disordered Polymerized Membranes”
10. Department of Physics, Cornell University, Ithaca, NY, February, 1993
“Statistical Mechanics of Disordered Polymerized Membranes”
11. Polaroid Corporation, Cambridge, MA, March, 1993
“Physics of Complex Systems: Polymers and Membranes”
12. Department of Physics, CalTech, Pasadena, CA, October, 1994
“Defects and Fluctuations in Self-Assembled Membranes”
13. Department of Physics, UCLA, Los Angeles, CA, January, 1995
“Nature of the Normal-to-Superconducting Transition”
14. Department of Physics, University of Illinois at Chicago, Chicago, IL, January, 1995
“Fluctuation Phenomena in Self-Assembled Microstructures”
15. Department of Physics, University of Illinois at Urbana, Urbana, IL, January, 1995
“Theory of a Continuous Normal-to-Superconducting Transition”
“Defects and Fluctuations in Polymerized Membranes”
16. Department of Physics, University of Colorado at Boulder, Boulder, CO, February, 1995
“Statistical Mechanics of Fluctuating Membranes”
17. Department of Physics, Johns Hopkins University, Baltimore, MD, February, 1995
“Physics of Fluctuations in Membranes”
18. Department of Physics, AT&T Bell Laboratories, Murray Hill, NJ, March, 1995
“Large N Theory of Finite Field Normal-to-Superconducting Transition”
19. Department of Physics, Notre Dame, South Bend, IN, March, 1995
“Phase Transitions in Tethered Membranes”
20. Department of Physics, University of British Columbia, British Columbia, Canada, March, 1995
“Wrinkling and Crumpling Phenomena in Membranes”
“Large N Theory of the Abrikosov’s Transition”
21. Department of Physics, Northwestern University, Evanston, IL, April, 1995
“New Geometrical Phases in Polymerized Membranes”

22. Department of Physics, University of Syracuse, Syracuse, NY, May, 1996
“Entropically Driven Reentrant SmC-SmA-SmC Phase Transition in Composite Polymer-Liquid Crystal Systems”
23. Department of Physics, Colorado State University, CO, September, 1996
“Fluctuations, Dissipations and Phase Transitions in Superconductors”
24. Department of Physics, University of Oregon, Eugene, OR, November, 1996
“Fluctuation Effects in High Temperature Superconductors”
25. Theoretical Physics Institute and Department of Physics, University of Minnesota, MN, February, 1998
“Theory of Smectic Ordering in Random Media”
26. Department of Physics, University of California, Santa Barbara, CA, April, 1998
“Transversely Driven Charge Density Waves: Current Effect Transistor”
27. Department of Physics, CalTech, Pasadena, CA, April, 1998
“Liquid Crystal Ordering in Porous Environment”
28. Institute for Theoretical Physics, University of California, Santa Barbara, CA, April, 1998
“Elasticity, Shape Fluctuations and Phase Transitions in the New Tubule Phase of Anisotropic Membranes”
29. Department of Physics, University of Pennsylvania, PA, June, 1998
“Randomly Pinned Elastic Media and Transversely Driven Charge Density Waves”
30. Department of Physics, Harvard University, Cambridge, MA, September, 1998
“Theory of Smectic Ordering in Random Media”
31. Department of Physics, University of Colorado at Colorado Springs February, 1999
“Fluctuations, Phase Transitions and Dissipation in Dirty Superconductors”
32. Department of Physics, MIT, Cambridge, MA, March, 1999
“Absence of a Conventional Smectic Order in Quenched Random Environments: How Dirt Softens Soap and Might Help to Keep it Together”
33. Bell Labs, Lucent, Murray Hill, March, 1999
“Absence of a Conventional Smectic Order in Quenched Random Environments: How Dirt Softens Soap and Might Help to Keep it Together”
34. Department of Physics, Princeton, Princeton, NJ, September 27, 1999
“Nonequilibrium Dynamics of Pinned Elastic Lattices: Moving Smectic and Transversely Driven Charge-Density Waves”
35. Department of Physics, Ohio State University, Ohio, February 14, 2000
“Nonequilibrium Dynamics of Pinned Elastic Lattices: Moving Smectic and Transversely Driven Charge-Density Waves”

36. Soft Condensed Matter Seminar, University of Colorado, CO April 24, 2000
“Novel Phases and Light-induced Reentrant Melting of 2d Colloidal Crystals”
37. Department of Physics, University of Pennsylvania, PA, May, 2000
“Light-induced Melting of Two-dimensional Colloidal Crystals”
38. Department of Physics, Colorado State University, CO August, 2000
“Novel Phases and Reentrant Melting in 2d Colloids”
39. Department of Physics, University of Colorado, CO September, 2000
“Laser-induced Reentrant Melting of 2D Colloidal Crystals”
40. Department of Physics, Syracuse University, NY, October, 2000
“Reentrant Melting of 2d Colloids”
41. Department of Physics, University of Florida, FL, November, 2000
“Nonequilibrium Dynamics of Driven Vortex Lattices and Charge Density Waves”
42. Department of Physics, Harvard University, September, 2001
“Interlayer tunneling and phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”
43. Department of Physics, MIT, October, 2001
“Phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”
44. Department of Physics, Yale University, October, 2001
“Nonequilibrium Dynamics of Pinned Elastic Lattices: Moving Smectic and Transversely Driven Charge-Density Waves”
45. Department of Physics, Harvard University, October, 2001
“Nonequilibrium Dynamics of Pinned Elastic Lattices: Moving Smectic and Transversely Driven Charge-Density Waves”
46. University of Illinois, Urbana, October, 2001
“Phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”
47. Squishy Physics Seminar, Department of Physics, Harvard University, October, 2001
“Ring Pattern Dynamics in Smectic-C Films”
48. Department of Physics, Boston University, November, 2001
“Phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”
49. Materials Research Center, University of California, Santa Barbara, November, 2001
“Soliton-Rings Pattern Dynamics in Smectic-C Freely Suspended Liquid Crystal Films”
50. Department of Physics, University of California, Santa Barbara, November, 2001
“Phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”

51. Department of Physics, Brandeis University, December, 2001
“Phase transitions in bilayer quantum Hall ferromagnets: a self-charging capacitor”
52. Department of Physics, University of Toronto, March, 2002
“Tunneling and Phase transitions in bilayer quantum Hall ferromagnets”
53. Department of Physics, Brown University, March, 2002
“Nonequilibrium Dynamics of Driven Vortex Lattices and Charge Density Waves”
54. Department of Physics, State University of New York, March, 2002
“Tunneling and Phase transitions in bilayer quantum Hall ferromagnets”
55. Department of Physics, Johns Hopkins, April, 2002
“Tunneling and Phase transitions in bilayer quantum Hall ferromagnets”
56. Department of Physics, Caltech, April, 2002
“Liquid Crystal Order in Random Environments”
57. Department of Physics, University of Colorado, September, 2002
“Bilayer Quantum Hall Effect: A Self-charging Capacitor”
58. Department of Physics, University of California, Santa Cruz, November, 2003
“Interlayer Charging Transition in Quantum-Hall Bilayers”
59. Department of Physics, University of Colorado, Boulder, November, 2004
“Tilting Transition in Planar Vortex Arrays”
60. Department of Physics, University of Wisconsin, Madison, WI, November, 2006
“BEC-BCS crossover and phase transitions in resonantly-paired superfluids”
61. Department of Physics, University of California, Santa Barbara, CA, June 5, 2007
“Condensed Matter Physics with Atomic Gases”
62. Ecole Normal Superior, Paris, France, June 19, 2007
“Condensed Matter Physics with Cold Atomic Gases”
63. Laboratoire de Physique Theorique et Hautes Energies, Paris, France, June 20, 2007
”Strange elasticity of liquid crystal rubber: critical phases”
64. Colorado School of Mines, September 25, 2007
“Condensed matter physics with cold atomic gases”
65. Applied Math Nonlinear Waves Seminar, University of Colorado, October 3, 2007
“Surface conical soliton”

66. Department of Physics, California Institute of Technology, Pasadena, CA, November 15, 2007
“Condensed Matter Physics with Atomic Gases”
67. Department of Physics, California Institute of Technology, Pasadena, CA, November 16, 2007
“P-wave resonant superfluids”
68. Department of Physics, Syracuse University Syracuse, NY, December 6, 2007
“Condensed Matter Physics with Atomic Gases”
69. Department of Physics, Syracuse University Syracuse, NY, December 7, 2007
“P-wave resonant superfluids”
70. Department of Physics, University of Utah Salt Lake City, UT, January 29, 2008
“P-wave resonant superfluids”
71. Department of Physics, Rutgers University, Piscataway, NJ, September 23, 2008
“Condensed matter physics of resonant atomic gases”
72. Condensed matter seminar, Department of Physics, University of California, Davis, CA, October 2, 2008
“Resonantly-paired superfluids”
73. Department of Physics, University of California, Berkeley, CA, October 13, 2008
“Resonant atomic gases”
74. Miller Institute Lunch Seminar, University of California, Berkeley, CA, November 4, 2008
“Condensed matter physics: a theory of ‘everything’ “
75. 290F Seminar, Department of Physics, University of California, Berkeley, CA, November 12, 2008
“P-wave resonant superfluids”
76. Condensed matter seminar, Department of Physics, Stanford University Palo Alto, CA, December 11, 2008
“Resonantly-paired superfluids”
77. Joint Quantum Institute seminar at the Department of Physics, University of Maryland, MD, May 4, 2009
“Fluctuations and stability of Larkin-Ovchinnikov states: quantum liquid crystals”
78. Colloquium at the Department of Physics, University of Texas, Dallas September 16, 2009
“Resonant Fermi gases”
79. Seminar, Los Alamos National Laboratory, November 9, 2009
“P-wave resonant superfluids”
80. Nano Systems Seminar Series, University of California, Los Angeles December 1, 2009
“Condensed matter physics with resonant Fermi gases”

81. Seminar, Department of Physics, University of California, Los Angeles December 2, 2009
“Striped superfluids”
82. Colloquium at MIT/Harvard Center for Ultracold Atoms (CUA), Cambridge, MA, May 4, 2010
“Larkin-Ovchinnikov superfluid: quantum smectic”
83. Condensed matter theory seminar, Department of Physics, Harvard University, Cambridge, MA, May 3, 2010
“p-wave resonant bosonic superfluids”
84. Colloquium at the Department of Physics, University of Oregon, Eugene, November 11, 2010
“Condensed matter physics with cold atomic gases”
85. Seminar at JILA, University of Colorado at Boulder, Boulder, CO, April 13, 2011
“Fluctuations, stability, and phase transitions of Larkin-Ovchinnikov states: quantum liquid crystals”
86. Colloquium at the Department of Physics, University of Massachusetts, Worcester, MA, April 20, 2011
“Strange Elasticity of Liquid-Crystalline Rubber”
87. Colloquium at the Department of Physics, Shanghai Jiao Tong University, Shanghai, China, June 11, 2011, “Condensed matter physics with cold atomic gases”
88. Saturday Physics Series, University of Colorado, Boulder, April 7, 2012, “ $1+1=3$, order from disorder and strange elasticity of liquid crystal rubber”
89. Seminar at the Department of Physics, University of Cincinnati, May 3, 2012 “Condensed matter physics with cold atomic gases”
90. Colloquium at the Department of Physics, University of Cincinnati, May 4, 2012 “Fluctuations, stability, and phase transitions of Larkin-Ovchinnikov states: quantum liquid crystals”
91. Seminar series - I at the C.N. Yang’s Advanced Studies Institute, Tsinghua University, Beijing, China, May 27, 2012, “Fluctuations, stability, and phase transitions in Larkin-Ovchinnikov states: quantum liquid crystals”
92. Seminar series - II at the C.N. Yang’s Advanced Studies Institute, Tsinghua University, Beijing, China, May 28, 2012, “P-wave superfluidity”
93. Colloquium at the C.N. Yang’s Advanced Studies Institute, Tsing Hua, Beijing, China, May 29, 2012, “Strange Elasticity of Liquid-Crystalline Rubber”
94. Condensed Matter Seminar at the Department of Physics, City University of New York, November 15, 2013, “Quench dynamics of a strongly interacting resonant Bose gas”
95. Condensed Matter Seminar at Nordita and Stockholm University, Stockholm, Sweden, December 18, 2013, “Quench dynamics of a strongly interacting resonant Bose gas”

96. Condensed Matter Seminar at Northwestern University, Evanston, IL, February 20, 2014, “Quench dynamics of a strongly interacting resonant Bose gas”
97. Colloquium at UCLA, Los Angeles, CA, October 15, 2015, “Emergent Higgs Mechanism and Critical Soft Matter”
98. Condensed Matter seminar at University of Utah, Salt Lake City, Utah, May 07, 2015, “Disorder driven transition and critical transport in Weyl semimetals and semiconductors”
99. Condensed Matter seminar at University of Michigan, January 7, 2016, “Disorder-driven quantum phase transition and transport in Dirac semimetals and semiconductors”
100. Colloquium at University of Minnesota, March 3, 2016 “Critical matter, chiral symmetry breaking and emergent Higgs mechanism”
101. Colloquium at Brown, Providence, RI, March 21, 2016 “Critical matter, chiral symmetry breaking and emergent Higgs mechanism”
102. Colloquium at Louisiana State University, Baton Rouge, LA, RI, April 7, 2016 “Critical matter, chiral symmetry breaking and emergent Higgs mechanism”
103. Colloquium at University of Oregon, Eugene, OR, May 9, 2016 “Critical matter, chiral symmetry breaking and emergent Higgs mechanism”
104. Colloquium at Kent State University, Kent, OH, October 27, 2016 “Fluctuations, stability, and phase transitions in quantum liquid crystal superfluids”
105. Condensed Matter seminar at Stanford University, Palo Alto, CA, November 10, 2016 “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”
106. Condensed Matter seminar at Boston University, November 4, 2016, “Disorder-driven quantum transition in Dirac semimetals and semiconductors”
107. Condensed Matter physics seminar at Ecole Normal Superior, Paris, France, December 14, 2016, “Disorder-driven quantum transition in Dirac semimetals and semiconductors”
108. Joan van der Waals colloquium at the Lorentz Institute, Leiden, NL, January 20, 2017, “Fluctuations, stability, and phase transitions in quantum liquid crystal superfluids”
109. Paul Ehrenfest colloquium at the Lorentz Institute, Leiden, NL, February 1, 2017, “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”
110. Condensed matter physics seminar at Lorenz Center, Leiden University, Leiden, NL, February 4, 2017, “Disorder-driven transition in Weyl semimetals”
111. Condensed matter physics seminar at Munich Technical University, Garching, Germany, February 6, 2017, “Disorder-driven transition in Dirac semimetals and semiconductors”
112. Arnold Sommerfeld Colloquium at Ludwig Maximilians Universiteit, Munich, Germany, February 8, 2017, “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”
113. Condensed Matter seminar, Technion University, Haifa, Israel, February 19, 2017, “Disorder-driven transition in Dirac semimetals and semiconductors”
114. Statistical Mechanics seminar, Weizmann Institute, Rehovot, Israel, February 22, 2017, “Chiral critical soft matter”
115. Condensed matter physics seminar at Oxford University, Oxford, England, March 10, 2017, “Disorder-driven transition in Dirac semimetals and semiconductors”
116. Physics colloquium at Columbia, New York, NY, April 3, 2017, “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”

117. Condensed matter physics seminar at City University of New York, New York, NY, April 5, 2017, “Disorder-driven transition in Dirac semimetals and semiconductors”
118. Physics colloquium at University of California, Santa Barbara, CA April 11, 2017, “Chiral critical matter”
119. Physics colloquium at Cal Poly, San Luis Obispo, CA, May 3, 2017, “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”
120. Physics colloquium at University of California, San Diego, CA, June 8, 2017, “Chiral helical phases”
121. Physics colloquium at University of Waterloo, Waterloo, CA, February 13, 2018, “Quantum Indistinguishability in Chemical Reactions”
122. Condensed Matter Seminar, University of Colorado, Boulder, CO February 15, 2018, “Quantum Indistinguishability in Chemical Reactions”
123. Applied Math colloquium at University of Colorado, Boulder, CO, April 13, 2018, “Critical matter”
124. Physics colloquium at University of California, UCLA, Los Angeles, CA, June 7, 2018, “Quantum Indistinguishability in Chemical Reactions”
125. Physics colloquium at Boston University, Boston, MA, March 26, 2019, “Chiral symmetry breaking, emergent Higgs mechanism, and critical matter”
126. Physics seminar at Technion University, Haifa, Israel, March 31, 2019, “Fracton-elasticity duality”
127. Physics colloquium at Hebrew University, Jerusalem, Israel, April 7, 2019, “Fracton order and its elasticity dual”
128. Physics colloquium at Emory University, Atlanta, GA, April 23, 2019, “Chiral critical matter”
129. Physics colloquium at University of California Riverside, CA, May 1, 2019, “Chiral critical matter”
130. Physics seminar at Ecole Normale Superior, Paris, France, May 15, 2019, “Fracton-elasticity duality”
131. Physics seminar at Oxford University, Oxford, England, May 20, 2019, “Fracton order and its elasticity dual”
132. Physics seminar at Orsay, Paris, France, June 7, 2019, “Fracton-elasticity duality”
133. Physics colloquium at Caltech, Pasadena, CA, October 3, 2019, “Fracton order and its elasticity dual”
134. Physics colloquium at UC Santa Cruz, CA, October 31, 2019, “Fracton-elasticity duality”
135. Physics seminar at University of Okinawa, Japan February 12, 2020, “Fracton-elasticity duality”
136. Physics colloquium at Stanford University, Palo Alto, CA, February 18, 2020 “Fracton - elasticity duality”
137. Physics colloquium at Colorado State University, Fort Collins, CO, February 24, 2020 “Fractonicity from elasticity” (cancelled due to covid)
138. Condensed matter seminar at Department of Physics, University of Maryland, October 27, 2020 “Smectic gauge duality”
139. Condensed matter seminar at Department of Physics, Oxford University, October 30, 2020 “Quantum smectic gauge theory”
140. Kadanoff seminar at Department of Physics, University of Chicago, December 7, 2020 “Quantum smectic gauge duality”
141. Physics colloquium at Department of Physics, Harvard University, Cambridge, MA, February 1, 2021 “Fractonicity from elasticity”
142. Physics colloquium at Department of Physics, Brandeis University, Waltham, MA, February 23, 2021 “Fractonic gauge theory to elasticity duality”.