

Arvind Murugan

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Appointments

Associate Professor

PHYSICS + JAMES FRANCK INSTITUTE

University of Chicago

2023 -

Assistant Professor

PHYSICS + JAMES FRANCK INSTITUTE

University of Chicago

2015 - 2023

Postdoctoral fellow

APPLIED MATH (MICHAEL BRENNER GROUP)

Harvard University

2012 - 2015

Visiting researcher

STANISLAS LEIBLER GROUP

Rockefeller University

2009 - 2012

Member

SIMONS CENTER FOR SYSTEMS BIOLOGY

Institute for Advanced Studies

2009 - 2012

Education

Princeton University

PH.D IN PHYSICS

Princeton, NJ

09/2004 - 07/2009

- Thesis: Gauge-gravity duality with renormalization group flow and reduced supersymmetry
- Advisor: Igor R. Klebanov

California Institute of Technology

B.S. IN MATHEMATICS W/ HONORS

Pasadena, CA

09/2000 - 06/2004

- Advisor: Anton Kapustin

Awards

- 2025 **Schmidt Polymath Award**, Schmidt Sciences
- 2025 **International Prize in Biophysics**, Tel Aviv
- 2023 **National Science Foundation CAREER Award**, NSF
- 2017 **Simons Investigator**, Simons Foundation
- 2010 **Addie and Harold Broitman Member in Biology**, Institute for Advanced Study
- 2004 **Princeton University Graduate Centennial Fellowship**, Princeton University

Service

- 2025 - 28 **Advisory Board**, Kavli Institute for Theoretical Physics *Santa Barbara, CA*
- 2023 - 28 **Deputy Director**, U Chicago Center for Living Systems, NSF Physics Frontier Center *Chicago, IL*
- 2026 **Organizer**, KITP summer workshop *Santa Barbara, CA*
- 2025 - 27 **Chair line**, Gordon Conference Stochastic Physics in Biology *Ventura, CA*
- 2024 - 25 **Chair line**, APS Delbruck prize committee
- 2025 **Planning committee**, National Academies Workshop on Frontiers of Living Materials *Washington D.C*
- 2025 **Panelist**, NSF Panel Review *Alexandria, VA*
- 2025 **Site Visit Panel**, NSF Panel Review *Alexandria, VA*
- 2024 **Organizer**, Aspen Institute for Physics, Winter workshop *Aspen, CO*
- 2024 **Panelist**, NSF Panel Review *Alexandria, VA*
- 2024 **Selection committee**, New IBD chair, UChicago *Chicago, IL*
- 2022 - **Reviewing Editor**, eLife
- 2018 - 21 **Program committee**, Annual q-Bio meeting
- 2017 - 23 **Organizer**, APS March meeting sessions

Teaching

Ph 490	Principles of Biological Physics	Fall 2015
Ph 330	Mathematical Methods for Physicists	Fall 2016
Ph 490	Principles of Biological Physics	Fall 2017
Ph 330	Mathematical Methods for Physicists	Fall 2017
Ph 255	Biological Physics	Spring 2018
Ph 330	Mathematical Methods for Physicists	Winter 2019
Ph 121	General Physics	Fall 2019
Ph 330	Mathematical Methods for Physicists	Winter 2020
Ph 121	General Physics	Fall 2020
Ph 121	General Physics	Fall 2021
Ph 490	Biological Physics	Fall 2022
Ph 121	General Physics	Fall 2023
Ph 255	Biological Physics	Winter 2023
Ph 121	General Physics	Fall 2024
Ph 490	Biological Physics	Winter 2024
Ph 131	General Physics	Fall 2025

Support

2025 - 30	Schmidt Sciences , Schmidt Polymath Award - PI
2023 - 28	National Institute of Health , R35 award - PI
2023 - 27	National Science Foundation , Physics of Living Systems - PI
2023 - 27	National Science Foundation , CAREER award - PI
2023 - 28	National Science Foundation , Physics Frontier Center (Center for Living Systems) - Deputy Director
2023 - 24	Chan Zuckerberg Initiative , Theory Initiative - PI
2024 - 29	National Science Foundation + Simons , National Instit. for Theory and Math in Biology - Sr. Personnel
2023 - 27	Sloan Foundation , Matter-to-life - Co-PI
2022 - 27	Moore Foundation , Matter-to-life - Co-PI
2020 - 23	National Science Foundation , UChicago Materials Research Science and Eng Center - Sr. Personnel
2017 - 23	Simons Foundation , Simons Investigator, MMLS - PI

Trainees

POSTDOCS

2020 -	Riccardo Ravasio	<i>Yen Fellow</i>
2019 -	Martin Falk	<i>Schmidt Futures Fellow</i>
2023 -	Yoshiya Matsubara	<i>Origins Initiative</i>
2024 -	Mason Rouches	<i>CLS Postdoctoral Fellow</i>
2023 - 24	Maryn Carlson , Currently: NITMB fellow	
2018 - 23	Kabir Husain , Currently: Faculty, Physics, University College London (2024)	<i>James McDonnell Fellow</i>
2017 - 19	Zhiyue Lu , Currently: Faculty, Chemistry, UNC Chapel Hill (2024)	

GRADUATE STUDENTS

2025 -	Serena Debesai	<i>NSF GRFP</i>
2025 -	Ruby Wen	
2024 -	Rio Ondo	
2024 -	Kristina Trifonova	<i>NSF GRFP</i>
2023 -	Darren Liu	
2022 -	Milena Chakraverti-Wuerthwein	<i>Hertz Fellow</i>
2022 -	LaNijah Flagg	
2020 -	Christopher Russo	
2018 - 25	Eric Rouviere , Currently: Postdoc, JHU (2025)	
2020 - 24	Rudy Mendez Reina	
2017 - 22	Vedant Sachdeva , Currently: Evozyne (biotech startup) (2023)	<i>Harper Dissertation Fellow</i>
2016 - 21	Jackson O'Brien , Currently: Lincoln Park Capital (biotech VC) (2023)	

2016 - 21 **Weerapat Pittayakanchit**, Currently: Krungthai Bank, Thailand (2023)
2018 - 20 **Chukowunso Arinze**, Currently: Kaoshi (founder) (2022)
2016 - 19 **Menachem Stern**, Currently: Faculty, AMOLF (2024)

APS GSNP award, Bloomenthal prize

UNDERGRADUATES

HuiYi Mei	<i>2025 - present</i>
Leon Zhou	<i>2022 - present</i>
Aidan Etterer	<i>2024 - 2025</i>
Michele Peruzzo	<i>2022 - 2025</i>
Sumana Turimella	<i>2022 - 2024</i>
Sedona Kessler , Now: Undergrad, Harvard	<i>2023 - 2024</i>
Shiv Seshan , Now: Grad Student, Caltech (2025)	<i>2023 - 2024</i>
Finn Roach	<i>2021 - 2022</i>
Sophia Smith , Now: Grad Student, UT Austin Applied Math (2022)	<i>2020 - 2021</i>
Sophia Chiang , Now:	<i>2020 - 2021</i>
Viraj Jayaram , Now: Grad Student, Yale Physics (2022)	<i>2017 - 2019</i>
Leron Perez , Now: Grad Student, Stanford (2022)	<i>2018 - 2019</i>
Jon Kutasov , Now: Optiver (fintech) (2021)	<i>2019 - 2019</i>
Amber Bourdier , Now: ESILV, Paris (2019)	<i>2017 - 2018</i>
Ryan Thiermann , Now: Grad Student, UC San Diego Physics (2022)	<i>2015 - 2017</i>
Weishun Zhong , Now: Grad Student, MIT Physics (2022)	<i>2016 - 2017</i>
Alexandra Carruthers Ferrero , Now: Grad Student, Univ Puerto Rico (2018)	<i>2016 - 2016</i>

Publications

Articles

1. Alston, H., Rouches, M., Murugan, A., Walczak, A. M. & Mora, T. Optimal sensing through phase separation. *arXiv preprint arXiv:2507.19021* (2025).
2. Crocker, K., Skwara, A., Kannan, R., Murugan, A. & Kuehn, S. Timescale of environmental change modulates metabolic guild cohesion in microbial communities. *The ISME Journal* **19**, wraf186 (2025).
3. Dhanuka, A., Flamholz, A. I., Murugan, A. & Goyal, A. Ecosystems as adaptive living circuits. *bioRxiv*, 2025.06.27.661910 (2025).
4. Falk, M. J., Strupp, A. T., Scellier, B. & Murugan, A. Temporal Contrastive Learning through implicit non-equilibrium memory. *Nature Communications* **16**, 2163 (2025).
5. Floyd, C., Dinner, A. R., Murugan, A. & Vaikuntanathan, S. Limits on the computational expressivity of non-equilibrium biophysical processes. *Nature Communications* **16**, 7184 (2025).
6. Murugan, A., Zwicker, D., Lorenz, C. & Dufresne, E. R. Could Living Cells Use Phase Transitions to Process Information? *arXiv preprint arXiv:2507.23384* (2025).
7. Russo, C. J., Husain, K., Ranganathan, R., Pincus, D. & Murugan, A. Simple biological controllers drive the evolution of soft modes. *arXiv preprint arXiv:2507.11973* (2025).
8. Zentner, A., Halingstad, E. V., Chalk, C., Brenner, M. P., Murugan, A., Winfree, E. & Shrinivas, K. Information processing driven by multicomponent surface condensates. *arXiv preprint arXiv:2509.08100* (2025).
9. Chalk, C., Buse, S., Shrinivas, K., Murugan, A. & Winfree, E. *Learning and Inference in a Lattice Model of Multicomponent Condensates 5: 1–5: 24 DNA 30* (Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2024).
10. Evans, C. G., O'Brien, J., Winfree, E. & Murugan, A. Pattern recognition in the nucleation kinetics of non-equilibrium self-assembly. *Nature* **625**, 500–507 (2024).
11. Falk, M. J., Roach, F. D., Gilpin, W. & Murugan, A. Curiosity-driven search for novel nonequilibrium behaviors. *Physical Review Research* **6**, 033052 (2024).
12. Husain, K., Sachdeva, V., Ravasio, R., Peruzzo, M., Liu, W., Good, B. H. & Murugan, A. Direct and indirect selection in a proofreading polymerase. *bioRxiv* (2024).
13. Jaeger, H. M., Murugan, A. & Nagel, S. R. *Training physical matter to matter* **34**, 6695–6701 (Royal Society of Chemistry, 2024).
14. Mandal, R., Huang, R., Fruchart, M., Moerman, P. G., Vaikuntanathan, S., Murugan, A. & Vitelli, V. Learning dynamical behaviors in physical systems. *arXiv preprint arXiv:2406.07856* (2024).
15. Narla, A., Hwa, T. & Murugan, A. Dynamic coexistence driven by physiological transitions in microbial communities. *bioRxiv*, 2024–01 (2024).
16. Ravasio, R., Husain, K., Evans, C. G., Phillips, R., Ribezzi, M., Szostak, J. W. & Murugan, A. A minimal scenario for the origin of non-equilibrium order. *arXiv preprint arXiv:2405.10911* (2024).
17. Russo, C. J., Husain, K. & Murugan, A. *Soft Modes as a Predictive Framework for Low-Dimensional Biological Systems Across Scales* (Annual Reviews, 2024).

18. Arinze, C., Stern, M., Nagel, S. R. & Murugan, A. Learning to self-fold at a bifurcation. *Physical Review E* **107**, 025001 (2023).
19. Devany, J., Falk, M. J., Holt, L. J., Murugan, A. & Gardel, M. L. Epithelial tissue confinement inhibits cell growth and leads to volume-reducing divisions. *Developmental cell* **58**, 1462–1476. e8 (2023).
20. Falk, M., Strupp, A., Scellier, B. & Murugan, A. Contrastive learning through non-equilibrium memory. *arXiv preprint arXiv:2312.17723* (2023).
21. Falk, M. J., Wu, J., Matthews, A., Sachdeva, V., Pashine, N., Gardel, M. L., Nagel, S. R. & Murugan, A. Learning to learn by using nonequilibrium training protocols for adaptable materials. *Proceedings of the National Academy of Sciences* **120**, e2219558120 (2023).
22. Goyal, A., Flamholz, A. I., Petroff, A. P. & Murugan, A. Closed ecosystems extract energy through self-organized nutrient cycles. *arXiv preprint arXiv:2305.19102* (2023).
23. Stern, M. & Murugan, A. Learning without neurons in physical systems. *Annual Review of Condensed Matter Physics* **14**, 417–441 (2023).
24. Apte, A., Marwaha, K. & Murugan, A. Non-Convex Optimization by Hamiltonian Alternation. *arXiv preprint arXiv:2206.14072* (2022).
25. Falk, M. J., Roach, F., Gilpin, W. & Murugan, A. Curiosity search for non-equilibrium behaviors in a dynamically learned order parameter space. *arXiv preprint arXiv:2211.02589* (2022).
26. Schaffter, S. W., Chen, K.-L., O'Brien, J., Noble, M., Murugan, A. & Schulman, R. Standardized excitable elements for scalable engineering of far-from-equilibrium chemical networks. *Nature Chemistry* **14**, 1224–1232 (2022).
27. Su, C. J., Murugan, A., Linton, J. M., Yeluri, A., Bois, J., Klumpe, H., Langley, M. A., Antebi, Y. E. & Elowitz, M. B. Ligand-receptor promiscuity enables cellular addressing. *Cell systems* **13**, 408–425 (2022).
28. Falk, M. J., Alizadehyazdi, V., Jaeger, H. & Murugan, A. Learning to control active matter. *Physical Review Research* **3**, 033291 (2021).
29. Murugan, A., Husain, K., Rust, M. J., Hepler, C., Bass, J., Pietsch, J. M., Swain, P. S., Jena, S. G., Toettcher, J. E., Chakraborty, A. K., *et al.* Roadmap on biology in time varying environments. *Physical biology* **18**, 041502 (2021).
30. Son, M., Wang, A. G., Tu, H.-L., Metzger, M. O., Patel, P., Husain, K., Lin, J., Murugan, A., Hoffmann, A. & Tay, S. NF- κ B responds to absolute differences in cytokine concentrations. *Science signaling* **14**, eaaz4382 (2021).
31. Son, M., Wang, A. G., Tu, H.-L., Metzger, M. O., Patel, P., Husain, K., Lin, J., Murugan, A., Hoffmann, A. & Tay, S. NF- κ B responds to absolute differences in cytokine concentrations. *Science Signaling* **14**, eaaz4382 (2021).
32. Galstyan, V., Husain, K., Xiao, F., Murugan, A. & Phillips, R. Proofreading through spatial gradients. *Elife* **9**, e60415 (2020).
33. Husain, K. & Murugan, A. Physical constraints on epistasis. *Molecular Biology and Evolution* **37**, 2865–2874 (2020).
34. Sachdeva, V., Husain, K., Sheng, J., Wang, S. & Murugan, A. Tuning environmental timescales to evolve and maintain generalists. *Proceedings of the National Academy of Sciences* **117**, 12693–12699 (2020).
35. Stern, M., Arinze, C., Perez, L., Palmer, S. E. & Murugan, A. Supervised learning through physical changes in a mechanical system. *Proceedings of the National Academy of Sciences* **117**, 14843–14850 (2020).
36. Stern, M., Pinson, M. B. & Murugan, A. Continual learning of multiple memories in mechanical networks. *Physical Review X* **10**, 031044 (2020).
37. Zhong, W., Lu, Z., Schwab, D. J. & Murugan, A. Nonequilibrium statistical mechanics of continuous attractors. *Neural Computation* **32**, 1033–1068 (2020).
38. Husain, K., Pittayakanchit, W., Pattanayak, G., Rust, M. J. & Murugan, A. Kalman-like Self-Tuned sensitivity in biophysical sensing. *Cell systems* **9**, 459–465 (2019).
39. Murugan, A. & Jaeger, H. M. Bioinspired nonequilibrium search for novel materials. *MRS Bulletin* **44**, 96–105 (2019).
40. O'Brien, J. & Murugan, A. Temporal pattern recognition through analog molecular computation. *ACS Synthetic Biology* **8**, 826–832 (2019).
41. Chew, J., Leypunskiy, E., Lin, J., Murugan, A. & Rust, M. J. High protein copy number is required to suppress stochasticity in the cyanobacterial circadian clock. *Nature communications* **9**, 3004 (2018).
42. Pittayakanchit, W., Lu, Z., Chew, J., Rust, M. J. & Murugan, A. Biophysical clocks face a trade-off between internal and external noise resistance. *Elife* **7**, e37624 (2018).
43. Stern, M., Jayaram, V. & Murugan, A. Shaping the topology of folding pathways in mechanical systems. *Nature communications* **9**, 4303 (2018).
44. Thiermann, R., Sweeney, A. & Murugan, A. Information content of downwelling skylight for non-imaging visual systems. *bioRxiv*, 408989 (2018).
45. Murugan, A. & Vaikuntanathan, S. Topologically protected modes in non-equilibrium stochastic systems. *Nature communications* **8**, 13881 (2017).
46. Pinson, M. B., Stern, M., Carruthers Ferrero, A., Witten, T. A., Chen, E. & Murugan, A. Self-folding origami at any energy scale. *Nature communications* **8**, 15477 (2017).
47. Stern, M., Pinson, M. B. & Murugan, A. The complexity of folding self-folding origami. *Physical Review X* **7**, 041070 (2017).
48. Zhong, W., Schwab, D. J. & Murugan, A. Associative pattern recognition through macro-molecular self-assembly. *Journal of Statistical Physics* **167**, 806–826 (2017).
49. Huntley, M. H., Murugan, A. & Brenner, M. P. Information capacity of specific interactions. *Proceedings of the National Academy of Sciences* **113**, 5841–5846 (2016).
50. Murugan, A. Renormalization group flows in gauge-gravity duality. *arXiv preprint arXiv:1610.03166* (2016).
51. Murugan, A. & Vaikuntanathan, S. Biological implications of dynamical phases in non-equilibrium networks. *Journal of Statistical Physics* **162**, 1183–1202 (2016).
52. Zwicker, D., Murugan, A. & Brenner, M. P. Receptor arrays optimized for natural odor statistics. *Proceedings of the National Academy of Sciences* **113**, 5570–5575 (2016).
53. Murugan, A., Zeravcic, Z., Brenner, M. P. & Leibler, S. Multifarious assembly mixtures: Systems allowing retrieval of diverse stored structures. *Proceedings of the National Academy of Sciences* **112**, 54–59 (2015).

54. Murugan, A., Zou, J. & Brenner, M. P. Undesired usage and the robust self-assembly of heterogeneous structures. *Nature communications* **6**, 6203 (2015).
55. Murugan, A., Huse, D. A. & Leibler, S. Discriminatory proofreading regimes in nonequilibrium systems. *Physical Review X* **4**, 021016 (2014).
56. Murugan, A., Huse, D. A. & Leibler, S. Speed, dissipation, and error in kinetic proofreading. *Proceedings of the National Academy of Sciences* **109**, 12034–12039 (2012).
57. Klebanov, I. R., Klose, T. & Murugan, A. AdS4/CFT3 squashed, stretched and warped. *Journal of High Energy Physics* **2009**, 140 (2009).
58. Klebanov, I. R., Kutasov, D. & Murugan, A. Entanglement as a probe of confinement. *Nuclear physics B* **796**, 274–293 (2008).
59. Klebanov, I., Murugan, A., Rodriguez-Gomez, D. & Ward, J. Goldstone bosons and global strings in a warped resolved conifold. *Journal of High Energy Physics* **2008**, 090 (2008).
60. Klebanov, I. R. & Murugan, A. Gauge/gravity duality and warped resolved conifold. *Journal of High Energy Physics* **2007**, 042 (2007).
61. Baumann, D., Dymarsky, A., Klebanov, I. R., Maldacena, J., McAllister, L. & Murugan, A. On D3-brane potentials in compactifications with fluxes and wrapped D-branes. *Journal of High Energy Physics* **2006**, 031 (2006).
62. Kapustin, A. & Murugan, A. Fatgraph expansion for noncritical superstrings. *arXiv preprint hep-th/0404238* (2004).

Invited talks

Jul 25	Molecular Origins of Life 2025	Online
Jul 25	Nordita , Eco-evolutionary Processes in Context	Stockholm, Sweden
Jun 25	ESPCI , Chaire Joliot seminar	Paris, France
Jun 25	Beg Rohu Summer school , Learning with Machines, Physics and Minds	Beg Rohu, France
May 25	Aspen Colloquium , Beyond von Neumann computing	Aspen, CO
May 25	NITMB , Origin of Life and Self-Organized Complexity	Chicago, IL
May 25	EMBL , Theory Transversal Theme retreat	Heidelberg, Germany
May 25	EMBL Symposium , Theory and concepts in biology	Heidelberg, Germany
Apr 25	Johns Hopkins , Materials Science Seminar	Baltimore, MD
Jan 25	UC Berkeley , Annual Berkeley Stat Mech Meeting	Berkeley, CA
Jan 25	National Institute for Theory and Math in Biology , Biological systems that learn	Chicago, IL
Nov 24	Cornell , Soft Matter Hub	Online
Aug 24	Aspen Summer Workshop Data in Biology , Biological Data Analysis	Aspen, CO
Jul 24	MOLINFO 2024 , Molecular Information	Munich, Germany
Jul 24	University of Tokyo , Workshop on Frontiers in Biophysics	Tokyo, Japan
Jun 24	IUPAB congress 2024 , Theory in Biology symposium	Kyoto, Japan
Jun 24	Gordon Research Conference , Systems Chemistry	Portland, ME
Jun 24	University of Pennsylvania , Center for Soft and Living Matter kickoff	Philadelphia, PA
May 24	MIT , Applied Math Seminar	Cambridge, MA
Apr 24	1st Solvay conference in Biology , The organisation and dynamics of biological computation	Brussels, Belgium
Apr 24	Simons Foundation , NITMB Annual Meeting	New York, NY
Mar 24	APS March meeting , Invited talk	Minneapolis, MN
Jan 24	Aspen Institute for Physics , Computation in Physical systems	Aspen, CO
Oct 23	29th Solvay conference on Physics , Structure and Dynamics of Disordered Systems	Brussels, Belgium
Sep 23	American Academy of Arts and Sciences , Life in the Universe II	Boston, MA
Sep 23	University of California, Merced (Remote) , Physics colloquium	Merced, CA
Jul 23	University of Michigan , ICAM Complex Mechanical Metamaterials workshop	Ann Arbor, MI
Jun 23	Gordon Conference on Molecular Mechanisms of Evolution	Stonehill College, MA
Jun 23	Northwestern University , qBio Symposium	Chicago, IL
Mar 23	APS March meeting , Statistical physics Tutorial	Las Vegas, NV
Mar 23	NYU , Physics colloquium	NYC, NY
Feb 23	Harvard Medical School , Theory lunch	Boston, MA
Jan 23	Gordon Research Conference , Stochastic Processes in Biology	Ventura, CA
Nov 22	AMOLF , Physics Colloquium	Amsterdam, NL
Nov 22	AMOLF , Workshop on Information Processing	Amsterdam, NL
Nov 22	TU Eindhoven , Physics/Chemistry Colloquium	Eindhoven, NL
Oct 22	Stanford , Coherent Network Computing	Palo Alto, CA
Sep 22	Cargese Summer School , Summer school	Corsica, France
May 22	Simons Center for Geometry & Physics , Geometry, Topology, Symmetry in Soft & Living Matter	Stony Brook, NY
May 22	Johns Hopkins , Biophysics seminar	Baltimore, MD
Apr 22	Harvard University , Widely Applied Mathematics	Cambridge, MA
Apr 22	Illinois Institute of Technology	Chicago, IL

Mar 22	APS March Meeting , Invited talk	Chicago, IL
Sep 21	University of Michigan , Physics seminar	Ann Arbor, MI
May 21	Cold Spring Harbor (remote)	Cold Spring Harbor, NY
May 21	University of Amsterdam (remote)	Amsterdam, NL
Apr 21	Biological Physics/Physical Biology series (Virtual)	Zoom
Jan 21	qEvo 2021	Zoom
Dec 20	Max Planck Institute (remote)	Gottingen, Germany
Nov 20	Imperial College , Physics of life series	London, UK
Jun 20	Tel Aviv University , Workshop on Pathways, Sequence and Memory	Tel Aviv, Israel
Feb 20	Banff International Research Station , Workshop on gene regulation	Banff, Canada
Jan 20	Massachusetts Institute of Technology , Physics seminar	Cambridge, MA
Jan 20	EPFL , CECAM workshop	Lausanne, Switzerland
Oct 19	University of California, Los Angeles , Physics seminar	Los Angeles, CA
Sep 19	National Science Foundation , MRSEC Directors meeting	Alexandria, VA
Sep 19	University of Pennsylvania , Physics seminar	Philadelphia, PA
Jul 19	Aspen Center for Physics , Information processing in cells	Aspen, CO
Jun 19	Frontiers of Biophysics	Paros, Greece
Mar 19	Chan-Zuckerberg Biohub , Theory in Biology day	San Francisco, CA
Jan 19	Gordon Research Conference , Stochastic Physics and Biology	Ventura, CA
Nov 18	University of Illinois , Physics seminar	Urbana-Champaign, IL
Oct 18	Peking University , Center for Quantitative Biology	Beijing, China
Oct 18	DNA 24 , Plenary Talk	Dajin, China
Oct 18	Penn State , Physics seminar	College Station, PA
Apr 18	Emory University , Physics Colloquium	Atlanta, GA
Apr 18	Simons Foundation , Theory in Biology conference	New York, NY
Apr 18	Rice University , Physics seminar	Houston, TX
Mar 18	APS March Meeting , Invited talk	Los Angeles, CA
Feb 18	KITP , Memories workshop	Santa Barbara, CA
Nov 17	Princeton Center for Theoretical Science , Workshop on frustration	Princeton, NJ
Oct 17	MIT , Physics seminar	Cambridge, MA
Oct 17	University of Texas Southwestern , Systems Biology Seminar	Dallas, TX
Sep 17	Washington University in St. Louis , Physics seminar	St Louis, MO
Jul 17	QBio workshop	New Brunswick, NJ
May 17	Los Alamos National Lab , CNLS Annual workshop	Santa Fe, NM
Mar 17	Harvard University , Widely Applied Math seminar	Cambridge, MA
Jan 17	Northwestern University , Mechanical Engineering,	Chicago, IL
May 16	Harvard University , Workshop on Aging and Failure in biology	Cambridge, MA
Apr 16	Foundations of Nanoscience (FNANO) , Invited speaker	Snowbird, UT
Mar 16	University of Illinois Urbana-Champaign , Urbana cond-mat Symposium	Urbana, IL
Sep 15	Santa Fe Institute , Kinetic Networks workshop	Santa Fe, NM
Apr 15	Rockefeller University , Center for Studies in Physics and Biology	New York, NY
Mar 15	University of Colorado , Physics Colloquium	Boulder, CO
Mar 15	University of Colorado , Physics seminar	Boulder, CO
Mar 15	APS March Meeting , Invited Talk	San Antonio, TX
Mar 15	University of Massachusetts , Physics seminar	Amherst, MA
Feb 15	University of San Diego , Physics seminar	San Diego, CA
Feb 15	MIT , Physics seminar	Cambridge, MA
Feb 15	Aspen Institute for , Unified Concepts in Glass Physics VI,	Aspen, CO
Jan 15	Cornell , LASSP Applied Physics seminar	Ithaca, NY
Jan 15	University of Chicago , James Franck Institute,	Chicago, IL
Dec 14	Princeton University , Department of Chemistry,	Princeton, NJ
Jul 14	Universite Joseph Fourier	Grenoble, France
Jun 14	University of Nice , Laboratory of Condensed Matter Physics seminar	Nice, France
Jun 14	ESPCI	Paris, France
Jun 14	Brandeis , Physics Department	Waltham, MA
May 14	University of Chicago , Computations in Science Seminar	Chicago, IL
Apr 14	University of Maryland , Institute for Physical Science and Technology,	College Park, MD
Jan 14	Northwestern , Applied Math Colloquium	Evanston, IL
Dec 13	Boston Physical Biology Hangout	Cambridge, MA

Nov 13 **Harvard**, Bauer Forum
Dec 08 **Perimeter Institute for Theoretical Physics**, Young Researchers Conference
May 08 **Institute for Nuclear Theory**, String Theory Methods in the Real World,
Apr 08 **Princeton University**, High-energy theory group seminar
Apr 08 **Cornell University**, High-energy theory group seminar
Nov 07 **University of Chicago**, High-energy theory group seminar

Cambridge, MA
Waterloo, ON
Seattle, WA
Princeton, NJ
Ithaca, NY
Chicago, IL