PANKAJ MEHTA

590 Commonwealth Ave
Boston, MA 02215
United States

Phone: +1 617 358 6303
email: pankajm@bu.edu
http://physics.bu.edu/~pankajm

Education

2006-2010 Postdoctoral Scholar, Molecular Biology and Physics, Princeton University (Mentor: Ned Wingreen)

2006 *Ph.D.* in Physics, Hard Condensed Matter Theory, Rutgers University (Mentor: Natan Andrei)

2000 *B.S.* in Mathematics (with honors), California Institute of Technology

Employment

2021- Professor, Dept. of Physics, Boston University

2024- Professor, Faculty of Computing and Data Science, Boston University

2020-2024 Founding faculty, Faculty of Computing and Data Science, Boston University

2015- Affiliate faculty, Dept. of Bioengineering,Boston University

2015- Member, BU Biological Design Center, Boston University

2011- Member, Graduate Program in Bioinformatics, Boston University

2013- Member, Center for Regenerative Medicine, Boston University Medical Center

2015-2021 Associate Professor of Physics, Dept. , Boston University

2010-2015 Assistant Professor, Dept. of Physics, Boston University

Fellowships & Awards

2023 Fellow of the American Physical Society

2023 Chan-Zuckerburg Investigator

2014 Simons Investigator in the Mathematical Modeling of Living Systems

2014 Scialog Fellow, Molecules Come to Life

2014 Gerald and Deanne Gitner Family Innovation in Teaching Award

2013 Hariri Institute for Computing Junior Faculty Fellow

2011 Alfred P. Sloan Research Fellowship (in Physics)

2008 NIH K25 Quantitative Research Career Development Award

Grants

2022- Investigator, Chan Zuckerberg Initiative (Total Cost: $200,000)

2022-2027 NIH R35 MIRA Outstanding Investigator Award: Modeling emergent behaviors in systems biology: a biophysical approach (Renewal) (Total Cost: $1,980,000)

2016-2022 NIH R35 MIRA Outstanding Investigator Award: Modeling emergent behaviors in systems biology: a biophysical approach (Total Cost: $1,581,850)

2016-2018 Scialog Grant from Simons Foundation and Research Corporation: Deriving new ecological principles for the microbial world (Total Cost: $75,000)

2015-2016 Scialog Grant from Research Corporation and Moore Foundation: Rethinking the idea of cell type (Total Cost: $50,000)

2014-2019 Simons Investigator in the Mathematical Modeling of Living Systems (Total Cost: $660,000)

2011-2015 Sloan Research Fellowship in Physics (Total Cost: $50,000)

2008-2013 NIH K25 Award: A Quantitative Study of Cell-to-Cell Communication in Bacteria (Total Cost: $643,644)

Professional Service

Editorial Boards:

2024- Editorial board of Annual Review of Biophysics

2023 Guest Editor, Annual Review of Biophysics

Workshops and Meetings:

2021 Co-organizer, Eco-evolutionary Dynamics, KITP, UCSB 2021

2020-2021 Program Committee, Mathematical and Scientific Machine Learning, Princeton, NJ

2019 Scientific Advisor, Machine Learning for Quantum Many-Body Physics, KITP, UCSB 2020

2018- Founder and organizer, Annual BU Theory in Biology Meeting, Boston MA May 2018, 2019

2015 Organizer, ICTS and ICTP, Winter School on Quantitative Systems Biology, Dec 2015

2013 Organizer of APS March Meeting session on Excitable Systems in Biology, March 2013

2011 Organizer, Aspen Center for Physics Workshop: Computation and Collective Behavior in Biological Systems, June 2011

2009 Co-organizer of APS March Meeting session on Information Theory, March 2009

Miscellaneous:

2024-2026 APS DBio Fellowship Selection Committee

2018 Reviewer, NIH R35 MIRA Award Special Study Section

2014- External Reviewer (multiple times), MABS Study Section, NIH

2007-2010 Founder/Principal Organizer of Biophysics Journal Club, Princeton University

Extramural Appointments

2017- Member, Scientific Advisory Board, UnLearn.AI

Publications

Please see Google Scholar profile for updated list of publications.

Seminars, Schools, and Talks

7/2025 Physical Biology of the Cell Summer School, Heidelberg, Germany
2/2025 Harvard Soft Matter Seminar, Cambridge, MA
1/2025 Gordon Conference, Stochastic Physics in Biology, Venice, CA
5/2024 Tutorial: Hands-on First Tutorial in Machine Learning, Brandeis University, Waltham, MA
5/2024 Mathematics of Life Seminar Series, Northwestern University, Evanston, IL
4/2024 Blackboard seminars, SITP Visiting Scholar, Stanford University, Pao Alto, CA
3/2024 Condensed Matter Seminar, University of Pennsylvania, Philadelphia, PA
12/2023 Keynote Talk, ICAM Annual Conference, Santa Barbara, CA
9/2023 Invited lectures, 17th Granada Seminar of Computational and Statistical Physics, Granada, Spain
8/2023 Invited lectures, NSF IAIFI Summer School, Boston , MA
7/2023 Invited lectures, Les Houches Summer School, Les Houches, France
4/2023 QCB Seminar, Princeton University, Princeton, NJ
3/2023 Invited Talk, APS March Meeting, Las Vegas, NV
2/2023 Widely Applied Math Seminar, Harvard, Cambridge, MA
1/2023 Biophysics and Quantitative Biology in the AI Era, Carnegie Mellow, Pittsburg, PA
12/2022 Biological Physics and Physical Biology Seminar (webinar)
11/2022 Invited Lectures, ICTP-KIAS School on Statistical Physics for Life Sciences, Seoul, Korea
10/2022 Applied Math Seminar, Darthmouth University, Hanover, NH
6/2022 Ned Wingreen 60th Birthday Symposium, Princeton University, Princeton, NJ
4/2022 BiophysTO Lunchtime Talks, University of Toronto, Toronto, ON (online)
4/2022 Center for Theoretical Biological Physics Seminar, Rice University, Houston, TX
4/2022 Quantitative Biology Seminar, Ohio University, Athens OH (online)
2/2022 Physics Colloquium (Machine Learning), Emory University, Atlanta GA
12/2021 Panel, Learning Meaningful Representations of Life, NeuroIPS2021 (online)
12/2021 Physics of Life Network Seminar Series, Imperial College, London, England (online)
12/2021 Physics Colloquium, Brandeis University, Waltham MA
9/2021 Talk, HHMI Janelia Planning Workshop, 4D Cellular Physiology Reimagined: Theory as a Principal Component, Janelia Farms, VA
9/2021 Physics Colloquium (Biophysics), Emory University, Atlanta, GA
7/2021 Lecture, Ecology and Evolution of Microbial Communities, KITP, Santa Barbara, CA
5/2021 Physics Colloquium, University of California Riverside, Riverside, CA
12/2020 Physics Colloquium, Rutgers University, Piscataway, NJ
11/2020 Models, Inference, and Algorithms Seminar, Broad Institute, Cambridge, MA
10/2020 Invited Talk, Physical Concepts in Immunology, Cologne, Germany

4/2020 Physics Theory Seminar, Universite? Paris Diderot
3/2020 Invited Talk, UCSD Physics Department, San Diego, CA
12/2019 Biophysics Seminar, OSU, Columbus, OH
9/2019 Invited Talk, Deep Learning for Physics, PCTS, Princeton, NJ
7/2019 Invited Talk, Information processing in single cells, Aspen Center for Physics, Aspen, CO
5/2019 Invited Talk, Quantitative Biology Initiative, Harvard University, Cambridge, MA
5/2019 Computations in Science Seminars, University of Chicago, Chicago, IL
2/2019 Invited Lectures, Statistical Physics Approaches to Systems Biology, Havana, Cuba
1/2019 Invited Talk, Theoretical Biophysics Workshop at Emory University, Atlanta, GA
12/2018 Invited Talk, PCTS Bridging Theory and Experiment in Microbial Communities, Princeton, NJ
11/2018 Invited Talk, Quantitative Biology Initiative, Harvard University, Cambridge MA
10/2018 Invited Talk, PhysicsNext Workshop on Machine Learning (organized by Physical Review Editors), Long Island, NY
5/2018 Chemical Engineering Seminar, CSU, Fort Collins, CO
4/2018 Invited Talk, Stochastic Models in Ecology and Evolutionary Biology, Venice, Italy
2/2018 Bioinformatics Seminar, UNC, Chapel Hill, NC
12/2017 Invited Talk, Physics and Machine Learning, CUNY, New York, NY
10/2017 Invited Talk, Harnessing Work from Noise Workshop, UMass Amherst, Amherst, MA
9/2017 Keynote Address, MIT Biophysics Retreat, Cape Cod, MA
9/2017 "Science at the Edge" Seminar, Michigan State, East, Lansing, MI
8/2017 Invited Talk, KITP Workshop on Eco-Evolutionary Dnyamics, KITP. Santa Barbara,CA
7/2017 Invited Talk, Q-bio Conference, Rutgers University, New Brunswick, NJ
7/2017 Invited Talk, ICTP Workshop: Microbial Economy of Microbial Communities, Trieste, Italy
5/2017 Condensed Matter Seminar, Syracuse, Syracuse, NY
4/2017 Invited Talk, SCIALOG: Molecules Meet Life, Tuscon, AZ
3/2017 Invited Talk, APS March Meeting, New Orleans, LA
2/2017 Condensed Matter Seminar, Rutgers University, Piscataway, NJ
11/2016 Ecology and Evolutionary Biology Seminar, Yale University, New Haven, CT
9/2016 Computational Neuroscience Seminar, University of Pennsylvania, Philadelphia, PA
9/2016 Physical Mathematics Seminar, MIT, Cambridge, MA
7/2016 Annual Meeting of the International Physics of Living Systems (iPoLS) Network, Cambridge, MA
5/2016 Physics Colloquium, Rensselaer Polytechnic Institute, Troy, NY
4/2016 Scialog: Molecules come to Life, Tuscon, MA
3/2016 Scientific Computing Seminar, Applied Mathematics, Brown University, Providence, RI
2/2016 Channing Network Science Seminar, Brigham Young Hospital, Boston, MA
1/2016 MIT Meeting on Quantitative Biology, Cambridge, MA
1/2016 Physics Inspired Machine Learning Conference, Los Alamos, NM
12/2015 ICTS Winter School on Quantitative Systems Biology, Bangalore, India
11/2015 CIRCS Seminar, Northeastern, Boston, MA
11/2015 Physics Colloquium, UMass Boston, Boston, MA
11/2015 Harvard Widely Applied Math Seminar, Cambridge, MA
9/2015 Purdue Center for Cancer Research, Purdue, IN
8/2015 Biological Distributed Algorithms (BDA) 2015, Cambridge, MA
7/2015 META Symposium on Host-Microbe interactions, Eugene, OR
4/2015 Simon's Conference on Theory in Biology, New York, NY
4/2015 Biological Physics Seminar, UCLA, Los Angeles, CA
3/2015 Presentation, Scialog: Molecules Come to Life, Tuscon, AZ

3/2015 Chez Pierre Condensed Matter Theory Seminar, MIT, Cambridge, MA
2/2015 Theory Lunch, Dept. of Systems Biology, Harvard Medical School, Boston, MA
2/2015 BMSE/Qbio Seminar, UCSB, Santa Barbara, CA
1/2015 Biomedical Engineering Seminar, Boston University, Boston, MA
1/2015 Invited Talk, Dynamics Days, Houston, TX
12/2014 Physics Colloquium,Boston University, Boston, MA
11/2014 Dynamics Seminar, Dept. of Mathematics, Boston University, Boston, MA
11/2014 Hariri Institute for Computing, Boston University, Boston, MA
11/2014 Dynamics Seminar, Dept. of Mathematics, Boston University, Boston, MA
10/2014 Condensed Matter Seminar, Brown University, Providence, RI
6/2014 Invited Talk, ICTP Workshop of Cellular Economics, Trieste, Italy
3/2014 Invited Talk, American Physical Society March Meeting Denver, CO
10/2013 Biophysics Seminar, Princeton University, Princeton, NJ
9/2013 Invited Talk, BANFF Workshop on Stochasticity in Biochemical Networks, Banff, AB, Canada
4/2013 MIT/BU Biophysics Theory Supergroup, MIT, Cambridge, MA
4/2013 Seminar at Center for Physics and Biology, Rockefeller University, New York, NY
11/2012 Physics Colloquium, Brandeis University,Waltham, MA
10/2012 Physics Colloquium, University of Massachusetts Boston, Boston, MA
5/2012 Condensed Matter Seminar, McGill University, Montreal, QC, Canada
2/2012 Networks Seminar, University of Houston, Houston, TX
1/2011 Molecular and Cell Biology Seminar, Boston University, Boston, MA
11/2011 Mathematical Physics Seminar, MIT, Cambridge, MA
5/2011 Bauer Forum, Bauer Center for Systems Biology, Cambridge, MA
1/2011 Systems Biology Seminar, Boston University, Boston, MA
12/2010 MRSEC/Biophysics Joint Seminar, Brandeis, Waltham, MA
11/2010 CSBi Seminar Series, MIT, Cambridge, MA
2/2010 Center for Physics and Biology, Rockefeller University, New York, NY
1/2010 Condensed Matter Seminar, Boston University, Boston, MA
1/2010 Physics Colloquium, Vanderbilt University, Nashville, TN
11/2009 Molecular and Cell Biology Colloquium, University of Arizona, Tuscon, AZ
10/2009 Biophysics Seminar, University of Pennsylvania, Philadelphia, PA
3/2009 Invited Talk, American Physical Society March Meeting, Pittsburg, PA
2/2009 Condensed Matter Seminar, MIT, Cambridge, MA
3/2007 Invited Talk, American Physical Society March Meeting Denver, CO