

Research Appointments

University of Oxford, INET <i>Postdoctoral Research Fellow</i>	Jan 2025-Present
<i>Technology projection, ABM forecasting, supply network reconstruction using complexity economics methods</i>	
University of Chicago, Urban Science Lab/Mansueto Inst <i>PhD Researcher</i>	Aug 2020-Jan 2025
<i>Social and evolutionary dynamics through the intersection of physics, neuroscience and information theory</i>	
Université de Lausanne, Département des Operations <i>Visiting Scholar</i>	Summer 2023
<i>Bayesian modeling of dynamical principal-agent problem</i>	
University of Chicago, Bernien Lab <i>MS. RA, Exper. and Computational Thry.</i>	Oct 2018-Oct 2020
<i>Founding graduate student in experimental atomic quantum computing lab</i>	
MIT, Metric Geometry and Gerrymandering Group <i>RA, Computational Thry.</i>	Summer 2018
<i>Mathematical modeling and data analysis of problems in congressional redistricting</i>	
Tufts University, Surface Physics Lab: <i>RA, Exper. and Computational Thry.</i>	May 2016-May 2018
<i>Theoretical and experimental characterization of surface scattering in thin-metal films</i>	
California Institute of Technology, LIGO: <i>RA, Exper. and Computational Thry.</i>	Mar-Oct 2017
<i>Experimental acoustic characterization of mirror material for LIGO Voyager upgrades</i>	

Relevant Publications

- L. Bettencourt, B. J. Grandison, J. T. Kemp (2025). *Redefining Fitness: Evolution as a Dynamic Learning Process*. arXiv:2503.09057, 2025.
- Kemp, J., Hongler, M. O., & Gallay, O. (2024). *Stochastic pairwise preference convergence in Bayesian agents*. *Physical Review E*, 109(5), 054106.
- Kemp, J. T., Kline, A. G., & Bettencourt, L. M. (2024). *Information synergy maximizes the growth rate of heterogeneous groups*. *PNAS Nexus*, pgae072.
- Kemp, J. T., & Bettencourt, L. M. A. (2023). *Learning increases growth and reduces inequality in shared noisy environments*. *PNAS Nexus*, 2(4), pgad093.
- Kemp, J. T., & Bettencourt, L. M. A. (2022). *Statistical dynamics of wealth inequality in stochastic models of growth*. *Physica A: Statistical Mechanics and its Applications*, 607, 128180.
- Singh, K., Anand, S., Pocklington, A., Kemp, J. T., & Bernien, H. (2022). *Dual-element, two-dimensional atom array with continuous-mode operation*. *Physical Review X*, 12(1), 011040.

Invited Talks

Wealth Inequality Workshop, <i>Stone Center, University of Chicago</i>	Mar 2025
Colloquium, <i>Department of Computer Science, Tufts University</i>	Oct 2024
Complexity Group Seminar, <i>Institute for New Economic Thinking, University of Oxford</i>	Jun 2024
Network Inequality Group Seminar, <i>Complexity Sciences Hub Vienna</i>	Feb 2024
Knowledge Lab Seminar, <i>The University of Chicago</i>	Nov 2023
Quantitative Life Sciences Smnr., <i>The Abdus Salam International Centre for Theoretical Physics</i>	Jul 2023
Masters in Computational Social Science Computation Workshop, <i>The University of Chicago</i>	Mar 2023
Computational and Applied Math Seminar, <i>The University of Chicago</i>	Mar 2023
Seminar, <i>London Mathematical Laboratory</i>	Jun 2021

Teaching Experience

SOSC 26021, <i>Sense, Sensibility, & Science</i> , University of Chicago, Guest lecturer	Spring 2025
SOSC 26021, <i>Sense, Sensibility, & Science</i> , University of Chicago, Co-instructor	Spring 2024
ENST 24600, <i>Introduction to Urban Science</i> , University of Chicago, Teaching Assistant	Fall 2020-2022
Lumiere Education, Secondary School Research Advisor	2021-Present

Awards and Scholarships

<i>ThinkSwiss Research Scholarship</i> , Swiss Federal Government	Jun 2023
<i>Graduate Research Fellowship</i> , National Science Foundation	Apr 2020
<i>Best Speaker in Photonics and Optical Physics</i> , NSBP Annual Conference	Nov 2019
<i>The Class of 1911 Prize Scholarship</i> , Tufts University	Mar 2018
<i>Carl Rouse Fellowship</i> , National Society of Black Physicists (NSBP)	Jul 2017
<i>LIGO Summer Undergraduate Research Fellowship</i> , Caltech	Mar 2017

Outreach

"Beyond Physics: Interdisciplinary Research in Complexity Science", <i>Tufts University</i>	Oct 2024
"Science, from the Surface to Outer Space", <i>Data4All, Chicago Public Schools</i>	Apr 2024

Organizational Leadership

Equity, Diversity, and Inclusion Office, UChicago PSD: <i>Student Advisor</i>	Feb 2018-Present
Tufts Community Union: <i>Class of 2018 Senator</i>	May 2017-May 2018
Club Basketball Team, Tufts University: <i>Founder</i>	May 2017 - May 2018
Society of Physics Students, Tufts University Chapter: <i>Vice President</i>	May 2017 - May 2018