

Norman Y. Yao

CONTACT INFORMATION	Professor Department of Physics Harvard University 17 Oxford St. Cambridge, MA 02138 USA	 Office: (617)-384-9386 E-mail: nyao@fas.harvard.edu Citizenship: USA Group Website
APPOINTMENTS	Harvard University , Cambridge, MA Professor of Physics, 2022 - present University of California, Berkeley , Berkeley, CA Associate Professor of Physics (with tenure), 2020 - 2021 Assistant Professor of Physics, 2017 - 2020 Miller Postdoctoral Fellow, 2014 - 2016	
EDUCATION	Harvard University , Cambridge, MA Ph.D., Physics, May, 2014 • Adviser: Professor Mikhail D. Lukin A.M., Physics, June 2009 A.B., Physics and Mathematics, June 2009 • <i>Summa cum laude</i> with <i>highest honors</i> in physics • Adviser: Professor David A. Weitz	
RESEARCH INTERESTS	Atomic Physics, Quantum Information, Quantum optics, Condensed Matter, Topological Order. Non-equilibrium dynamics, Floquet phases, many-body localization, quantum simulation, disordered systems, scalable quantum architectures, topological phases, ultra-cold quantum gases, verifiable quantum advantage.	
FELLOWSHIPS AND HONORS	2022	Breakthrough Foundation New Horizons in Physics Prize
	2021	Early Career Award for Scientists and Engineers (ECASE-ARO)
	2020	Bakar Fellow
	2020	APS George E. Valley Jr. Prize
	2018	David and Lucille Packard Foundation Fellow
	2018	Alfred P. Sloan Research Fellow
	2017	Kavli Fellow, National Academy of Sciences
	2017 - 2022	NSF CAREER Award
	2015	Deborah Jin Award for Outstanding Thesis Research in AMO Physics
	2014	Miller Institute Fellowship
	2013	Gertrude and Maurice Goldhaber Prize
	2009 - 2014	DOE Computational Science Graduate Fellowship
	2009 - 2014	NSF Graduate Research Fellowship
	2009 - 2010	Purcell Fellowship
	2010	Robbins Prize
	2009	Captain Jonathan Fay Prize (most outstanding research in any field)
	2009	Thomas Temple Hoopes Prize
	2008	Phi Beta Kappa
	2007	Detur Book Prize

2006 - 2007 John Harvard Scholarship
2005 - 2009 Mort Pye Scholarship - Full scholarship to Harvard

PATENTS AND
INVENTIONS

- [1] *Diamond Anvil Cell Having an Integrated Sensor.* **Provisional Application No. 62/782,262**
- [2] *Scalable Architecture for a Room Temperature Solid-State Quantum Information Processor.* **Patent US9317473**
- [3] *High Precision GHz Clock Generation Using Spin States in Diamond.* **Patent US9385654**
- [4] *Room temperature solid-state quantum bit with second-long memory.* **Patent US9361962**
- [5] *Unforgeable Noise-Tolerant Quantum Tokens.* **Prov. App. no. 61/579,805**
- [6] *Quantum metrology based on strongly correlated matter.* **ROI 7228** filed Jan. 2018

ACADEMIC
SERVICE

- [1] **Referee for:** Science, Nature, Nature Physics, Nature Communications, Physical Review Letters, Physical Review A, Physical Review B, New Journal of Physics, Journal of Chemical Physics, Optics Express, Journal of Condensed Matter C, Annals of Physics, Biophysical Journal
- [2] **Grant/Fellowship Review Panels for:** Air Force Office of Scientific Research (AFOSR), Army Research Office (ARO), NSF Graduate Research Fellowship (NSF), Multidisciplinary University Research Initiatives (MURI)
- [3] Author of numerous popular science articles in Physics Today, Nature Physics, etc.
- [4] DOE quantum information science roundtable [Report: Opportunities for Quantum Computing in Chemical and Materials Sciences]

SYNERGISTIC
ACTIVITIES

- [1] Founded the Berkeley–City College of SF research immersion program for community college students
- [2] Co-organizer of the KITP Workshop: “Spatiotemporal Control of Interacting Quantum Gases”
- [3] Co-organized the Aspen Center for Physics Summer Workshop: “Realizations and Applications of Quantum Coherence in Non-Equilibrium Systems”
- [4] Faculty advisor for the Splash@Berkeley program for local high school students
- [5] Lecturer at numerous summer and winter schools: ITAMP/B2 Winter School, Quantum Connections Summer School, IAS Frontiers of Quantum Matters, etc.

SELECT RECENT
INVITED TALKS

- [1] *Time Crystals in Open Systems.* **MIT-Harvard CUA Seminar**, Cambridge, 2021
- [2] *Emergent hydrodynamics in a strongly interacting dipolar spin system.* **Caltech Physics Colloquium**, Pasadena, 2020
- [3] *Quantum sensing and imaging at high pressures.* **Aspen Center for Physics Colloquium**, Aspen, 2019
- [4] *Emergent hydrodynamics and phases of matter in non-equilibrium Floquet systems.* **Atomic Physics Gordon Conference**, Salve Regina University, 2019

- [5] *Realizing intrinsically non-equilibrium phases of matter.* **Bose Einstein Condensation**, Sant Feliu de Guixols Spain, 2019
- [6] *Floquet quantum matter.* **Solvay Workshop on Quantum Simulation**, Brussels, 2019
- [7] *Non-equilibrium phases of matter as a route to solving QIS challenges.* **Physics of the Universe Summit**, Los Angeles, 2019