NORMAN Y. YAO
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EDUCATION

2009 – 2014 **HARVARD UNIVERSITY, CAMBRIDGE, MA**
Ph.D. Physics, June 2014

Advisor: Professor Mikhail D. Lukin

2008 – 2009 **HARVARD UNIVERSITY, CAMBRIDGE, MA**
A.M. Physics, June 2009

2005 – 2009 **HARVARD UNIVERSITY, CAMBRIDGE, MA**
A.B. Physics and Mathematics, *summa cum laude*, with *highest honors*, June 2009

Thesis Title: *Nonlinear Mechanics of Biopolymer Networks*
Advisor: Professor David A. Weitz

EMPLOYMENT

2022 – present **HARVARD UNIVERSITY, CAMBRIDGE, MA**
Professor of Physics

2020 – 2021 **UNIVERSITY OF CALIFORNIA, BERKELEY, CA**
Associate Professor of Physics (*with tenure*)

2017 – 2020 **UNIVERSITY OF CALIFORNIA, BERKELEY, CA**
Assistant Professor of Physics

2014 – 2016 **UNIVERSITY OF CALIFORNIA, BERKELEY, CA**
Miller Institute for Basic Research in Science Fellow (*advisor: J. E. Moore & D.-H. Lee*)

DISCIPLINARY FIELDS & AREAS OF PROFESSIONAL SPECIALIZATION

Atomic, Molecular and Optical (AMO) Physics, Quantum Information, Condensed Matter Physics: Topological phases, non-equilibrium dynamics, Floquet phases, hydrodynamics of quantum systems, quantum sensing, quantum materials, many-body localization, quantum simulation, disordered systems, scalable quantum architectures, verifiable quantum advantage, solid-state defects.

HONORS and AWARDS

2025 Ardentec Prize from the OCPA
"For seminal experimental and theoretical contributions at the interface between condensed matter and atomic, molecular, and optical physics"

2025 Presidential Early Career Award for Scientists and Engineers (PECASE)

2024 APS I.I. Rabi Prize in Atomic, Molecular, and Optical Physics
"For pioneering contributions to broad areas of atomic, molecular, and optical physics, including quantum information, metrology, and many-body physics"

2024 Brown Investigator award from the Brown Institute for Basic Sciences

2023 Simons Investigator award from the Simon's Foundation

2022	Breakthrough Foundation New Horizons Prize *"For pioneering theoretical work formulating novel phases of non-equilibrium quantum matter, including time crystals"*
2022	Bakar Fellow
2020	George E. Valley Jr. Prize *"For the elucidation of non-equilibrium quantum phases of matter, in particular time crystalline order, and for enabling the realization of these phases in quantum optical systems"*
2018	David and Lucile Packard Fellowship in Science and Engineering
2018	A. P. Sloan Foundation Fellow
2017 – 2022	NSF CAREER Award
2017	Kavli Fellow, National Academy of Sciences
2015	Deborah Jin Award for Outstanding Doctoral Thesis Research in AMO Physics
2014 – 2016	Miller Institute Fellowship, U.C. Berkeley
2013	Gertrude and Maurice Goldhaber Prize, Harvard University
2009 – 2014	DOE Computational Science Graduate Fellowship
2009 – 2014	NSF Graduate Research Fellowship
2009	Captain Jonathan Fay Prize, Harvard College (best thesis in graduating class)
2005	Mort Pye Scholarship (full scholarship to Harvard College)

PATENTS and INVENTIONS

- Widefield microscopy of full stress tensors under pressure inside a diamond anvil cell [Provisional App No. 63/890,539]
- A strongly interacting, two-dimensional, dipolar spin ensemble in (111)-oriented diamond for quantum sensing and simulation [Provisional App No. 63/788,651]
- Spin squeezing in Nitrogen-Vacancy centers [Provisional App No. HCU-07861]
- Multimodal imaging apparatus at ultrahigh pressure [Provisional App No. 63/449,508]
- Quantum metrology based on strongly correlated matter [US Patent #10,712,406]
- Solid-state quantum memory based on a nuclear spin coupled to an electronic spin [US Patent #9,361,962]
- Diamond Anvil Cell Having an Integrated Sensor [US Patent #12,013,354]
- High Precision GHz Clock Generation Using Spin States in Diamond [US Patent #9,385,654]
- Scalable Architecture for a Room Temperature Solid-State Quantum Information Processor [US Patent #9,317,473]

DOCTORAL STUDENTS AND POSTDOCTORAL SCHOLARS

PhD Students (graduated):

Thomas Schuster, Sherman Fairchild Postdoctoral Fellow, IQIM, Caltech
Bryce Kobrin, Researcher, Google Quantum
Francisco Machado, Group Leader at QuTech in TU Delft
Prabudhya Bhattacharyya, Postdoctoral Scholar at UC Berkeley in Holger Mueller's Group
Thomas Mittiga, Atom Computing, Berkeley CA
Satcher Hsieh, Abate Lab at UCSF, San Francisco CA
Greg Kahanamoku-Meyer, Postdoctoral Scholar at MIT (Chuang and Shor Groups)
Christopher Olund, Physicist at Northrup Grumman
Maxwell Block, Technical Staff, MIT Lincoln Laboratory
Bingtian Ye, Postdoctoral Scholar at MIT in Soonwon Choi's Group
Kamphol Akkaravarawong, Software Engineer, TSMC

Postdoctoral scholars:

Emily Davis, Assistant Professor, NYU
Andrea Pizzi, Junior Research Fellow, Cambridge University
Soonwon Choi, Assistant Professor, MIT
Shubhayu Chatterjee, Assistant Professor, Carnegie Mellon University
Chong Zu, Assistant Professor, Washington University
Felix Flicker, Senior Lecturer, Bristol University, UK
Snir Gazit, Assistant Professor, Hebrew University, Israel
Quntao Zhuang, Assistant Professor, University of South California
Marin Bukov, Group leader, MPIPIKS Dresden
Thomas Smart, Physicist at Sigray Inc.
Nicholas Rivera, Assistant Professor, Cornell University
Bijuan Chen, Postdoctoral Research Associate, Purdue University
Philip Crowley, Assistant Professor, Michigan State University
Jack Kemp, Postdoctoral Research Associate, Cambridge University