Pei Wu

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
PENNSYLVANIA STATE UNIVERSITY

Positions

2024-PRESENT PENN STATE UNIVERSITY, UNIVERSITY PARK, PA

Assistant Professor

2023-2024 WEIZMANN INSTITUTE OF SCIENCE, REHOVOT, ISRAEL

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Position: Senior Postdoctoral *Supervisor: Thomas Vidick*

SUMMER,2023 SIMONS INSTITUTE FOR THE THEORY OF COMPUTING, BERKELEY, CA

Position: Research Fellow

2021-2023 INSTITUTE FOR ADVANCED STUDY, PRINCETON, NJ

SCHOOL OF MATHEMATICS

Position: Postdoctoral member *Supervisor: Avi Wigderson*

Education

2015-2021 UNIVERSITY OF CALIFORNIA, LOS ANGELES

Ph.D., Computer Science

Thesis title: Communication and Computation

Advisor: Alexander Sherstov

2013-2015 DARTMOUTH COLLEGE

M.S., Computer Science

Thesis advisor: Amit Chakrabarti

2009-2013 NANJING UNIVERSITY, CHINA

Bachelor of Science, Computer Science and Technology

Publications

Optimal interactive coding for insertions, deletions, and substitutions
A. A. Sherstov, P. Wu
The 58th Annual Symposium on Foundations of Computer Science (FOCS 2017)
IEEE Transactions on Information Theory, 65(10):5971–6000, 2019

Near-optimal lower bounds on the threshold degree and sign-rank of AC^0
A. A. Sherstov, P. Wu
The 51st ACM Symposium on Theory of Computing (STOC 2019)
Invited to appear in SIAM Journal on Computing (special issue for STOC 2019)

An optimal separation of randomized and quantum query complexity
A. A. Sherstov, A. A. Storozhenko, P. Wu
The 53rd ACM Symposium on Theory of Computing (STOC 2021)
SIAM Journal on Computing, 52(2):525-567, 2023

The power of unentangled proofs with non-negative amplitudes
F. G. Jeronimo, P. Wu
The 55th ACM Symposium on Theory of Computing (STOC 2023)

An optimal "it ain't over till it's over" theorem
R. Eldan, A. Wigderson, P. Wu
The 55th ACM Symposium on Theory of Computing (STOC 2023)

Dimension independent disentanglers from unentanglement and applications
F. G. Jeronimo, P. Wu
The 39th Computational Complexity Conference (CCC 2024)

Coherance in property testing: quantum-classical separations and collapses

F. G. Jeronimo, N. Magrafta, J. Slote, P. Wu
The 28th Annual Quantum Information Processing Conference (QIP 2025)

Speaking Engagements

"Coherance in property testing: quantum-classical separations and collapses"

08/2024 Center on Frontiers of Computing Studies, Peking University, China

09/2024 Theory Seminar, Penn State University

"Multiple Merlins in the modern era"

03/2024 Theory Lunch, Weizmann Institute of Science, Israel

"The power of unentangled proofs with non-negative amplitudes"

04/2023 Simons Institute, Berkeley, CA

04/2023 Weizmann Institute of Science, Israel

05/2023 University of Texas Austin, TX

05/2023 Nanjing University, China

01/2024 QIP 2024, January 13-19, Taipei

"Polynomial method in communication complexity"

11/2022 CS/DM Seminar, Institute for Advanced Study, Princeton, NJ

"Random restrictions on Boolean functions with small influences"

09/2022 Theory Lunch, Princeton University, Princeton, NJ

09/2022 Discrete Math Seminar, Shandong University, China

10/2022 Theory Seminar, Nanjing University, China

10/2022 DIMACS & Rutgers University, New Brunswick, NJ

11/2022 Discrete Math Seminar, Princeton University, Princeton, NJ

"It ain't over till it's over"

09/2022 Member's short talk, Institute for Advanced Study, Princeton, NJ

06/2023 STOC 2023, June 20-23, Orlando, FL

06/2023 "Analysis and TCS", Simons Institute, Berkeley, CA

"Recent progress on query complexity", two lectures

10/2021 CS/DM Seminar, Institute for Advanced Study, Princeton, NJ

"Black cats, white cats, and Schrödinger's cats"

09/2021 Member's short talk, Institute for Advanced Study, Princeton, NJ

"Optimal separation of randomized and quantum query complexity"

02/2021 QIP 2021, online

04/2021 Algorithm and Complexity Seminar (online), Waterloo University, Canada

06/2021 STOC 2021, online

"Settling the threshold degree and sign rank of AC^0

02/2020 Invited plenary talk, Southern California theory day, UC Riverside, California

"Near-optimal lower bounds on the threshold degree and sign rank of AC^0***"***

07/2019 STOC 2019, June 23-26, 2019 in Phoenix, Arizona

"***Optimal interactive coding for insertions, deletions, and substitutions***"

10/2017 FOCS 2017, October 15-17, 2017 in Berkeley, California

Teaching

Spring 2025 CMPSC 464. Introduction to the Theory of Computation

Other Services

Conference review: STOC/FOCS, CCC, ITCS, ICALP, STACS, QIP, TQC

Journal review: PRX, SICOMP, TIT, Quantum, Algorithmica, JCSS

Penn State theory reading group: 2025 Spring