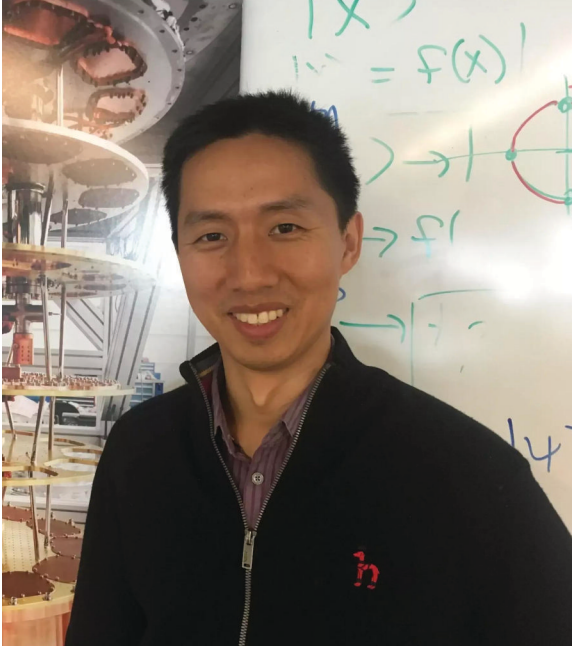


QUANTUM TOPICS SEMINAR

HOW TO BUILD A QUANTUM SUPERCOMPUTER



Alan Ho brings extensive experience from his role as the former Head of Product at Google Quantum AI. At Google, he led the business and product development efforts, contributing to significant advancements in the field of quantum computing. Alan played an integral role in the team that achieved the milestone of quantum supremacy, demonstrating a quantum computer's capability to outperform classical supercomputers in specific tasks. Before founding Qolab, Alan was a Director of Product at Apigee and held senior roles at other tech companies, enhancing his expertise in product management and development.

ALAN HO, CEO & CO-FOUNDER QOLAB

The next important milestone for quantum computing is moving past quantum supremacy, which demonstrated computational power, to quantum utility - solving useful computations much faster than classical computers. To accomplish this, quantum computers must scale up to large size, and most importantly, qubit quality must improve to lower errors to the 10^{-3} to 10^{-4} range. Our consortium has recently published a technical road maps - How to build a quantum supercomputer - that describes a viable path towards scaling.

For superconducting fabrication, I will discuss our strategy to use 300 mm semiconductor fabrication technology to improve the various interfaces and make wafer-scale systems. I will also go over the overall research road map of our consortium including quantum control, error correction, and HPC. Finally, I discuss a new product we are building to enable university researchers and students to participate in our road map.

MARCH 12TH, 2025

1:00 - 2:00 P.M. EASTERN

[HTTPS://PURDUE-EDU.ZOOM.US/J/96030509646](https://PURDUE-EDU.ZOOM.US/J/96030509646)



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