

## **Engineering Quantum Computers**

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The field of quantum computing is currently transitioning from the realm of scientific curiosity to the threshold of technical reality. To realize the promise of quantum computing, a new academic discipline – quantum engineering – is emerging. In this talk, we review qubit modalities and technologies today, the challenges they face moving forward, and the important role quantum engineering will play in educating a quantum workforce that can meet these challenges.

### **Brief bio:**

Will Oliver is a Professor of Physics, Associate Director of the Research Laboratory of Electronics, and Lincoln Laboratory Fellow, all at MIT. His research presently focuses on superconducting qubit implementations and cryogenic classical electronics. Will received his PhD in Electrical Engineering from Stanford University in 2003, where he worked with Yoshihisa Yamamoto on quantum optics with electrons in two-dimensional electron gas systems.