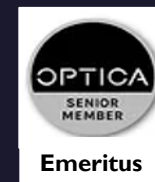




Friday June 12, 2026
DOE Office of Science Advisory Committee (SCAC)
Quantum Information Science Subcommittee
Community Town Hall.



June 10, 2026
Torrance, CA



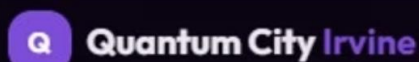
Quantum 2.0: Workforce & Ecosystem Development in Southern California

Donn Silberman

Founding Director
Quantum Optics Institute of Southern California
<http://qoisc.org>

President, Fellow, & Outreach Chair
Optical Society of Southern California
www.oss.org

Three New Quantum Consortiums



Quantum Orange County
Coming soon



Board Member
STEM Outreach



Workforce Development
Technical Advisory Committee

Introduction

Who am I? And Why am I here talking to you?



Summer 1976



December 1976



Fall 1977



THE UNIVERSITY OF ARIZONA



1977

1979

1983

1981

1983



1992

1994

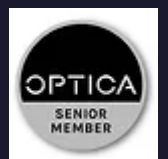
Technology Management

Valley College
1992 - 2007



2009

2026



2019



1981

1984

Society of Physics Students



1992

2026

OptoBoticssm
Robots need eyes too

2012

eLas Americas

2017



2014

2026

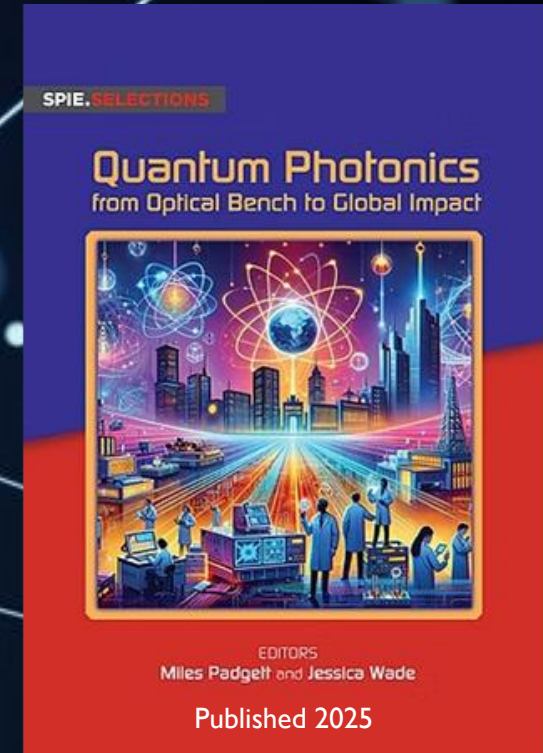


1982

Pathways for College Students & Career Professionals

Students, teachers and researchers can get involved with the Quantum World

1. Get education and training
2. Find jobs
3. Do research & implement quantum in the real world.



Our SPIE paper "Quantum technician skills and competencies for the emerging Quantum 2.0 industry." was selected and is now available in this book.

Published 2022

Outreach

Our relationships with our education partners are critical in helping the OSSC expand its reach to the next generation of optics and photonics professionals.



vital link

Gain hands-on experience, build essential skills, and connect with industry mentors who guide them in exploring potential career paths. Build the confidence and knowledge needed to make informed decisions about their futures in a supportive, real-world learning environment.

Skills Workshops

Engaging Competitions

Internships & Apprenticeships

www.vitalink.org



vital link

INTERESTED IN CAREERS IN ENGINEERING?

Join our NEXT Academy!

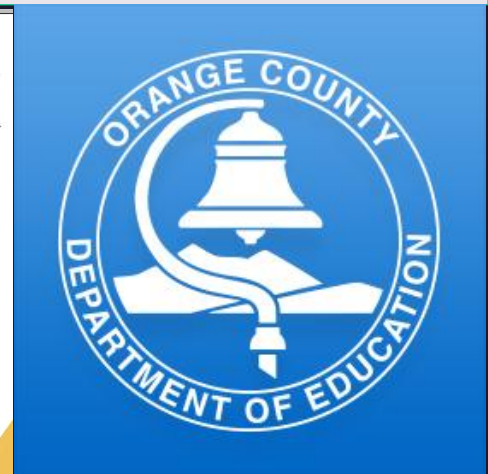
Join us for a week-long career-building academy. This program is designed with hands-on workshops and professional training to help young adults in Orange County discover careers in the Engineering & Manufacturing World and support career paths for life after college!

Academy Details

- Open to all High School or College students interested in careers in Engineering & Manufacturing
- Dates: July 6th - July 10th
- Time: 9:30 am - 1 pm
- Location: Santa Ana College
- NO COST!

Program Sponsored By:

BUILDSUBMARINES.COM



STEM Education

April & May 2026 Board Report

Prepared June 2026

PROGRAM & STUDENT IMPACT

STUDENTS SERVED

4,757

April + May combined

2,188

April

2,569

May

EVENTS RUN

40

April + May combined

25

April

15

May

INDUSTRY PARTNERS

141

Industry participants

38

April

103

May

OUR PROGRAMS INCLUDE

- ✓ Hands On Workshops
- ✓ Information on Interesting Careers
- ✓ Connect with Local Professionals

REGISTER NOW





THE QUANTUM INTERNET IS TAKING SHAPE



APRIL 14, 2026

IonQ demonstrated entanglement across two separate trapped-ion quantum computers using photons



APRIL 23, 2026

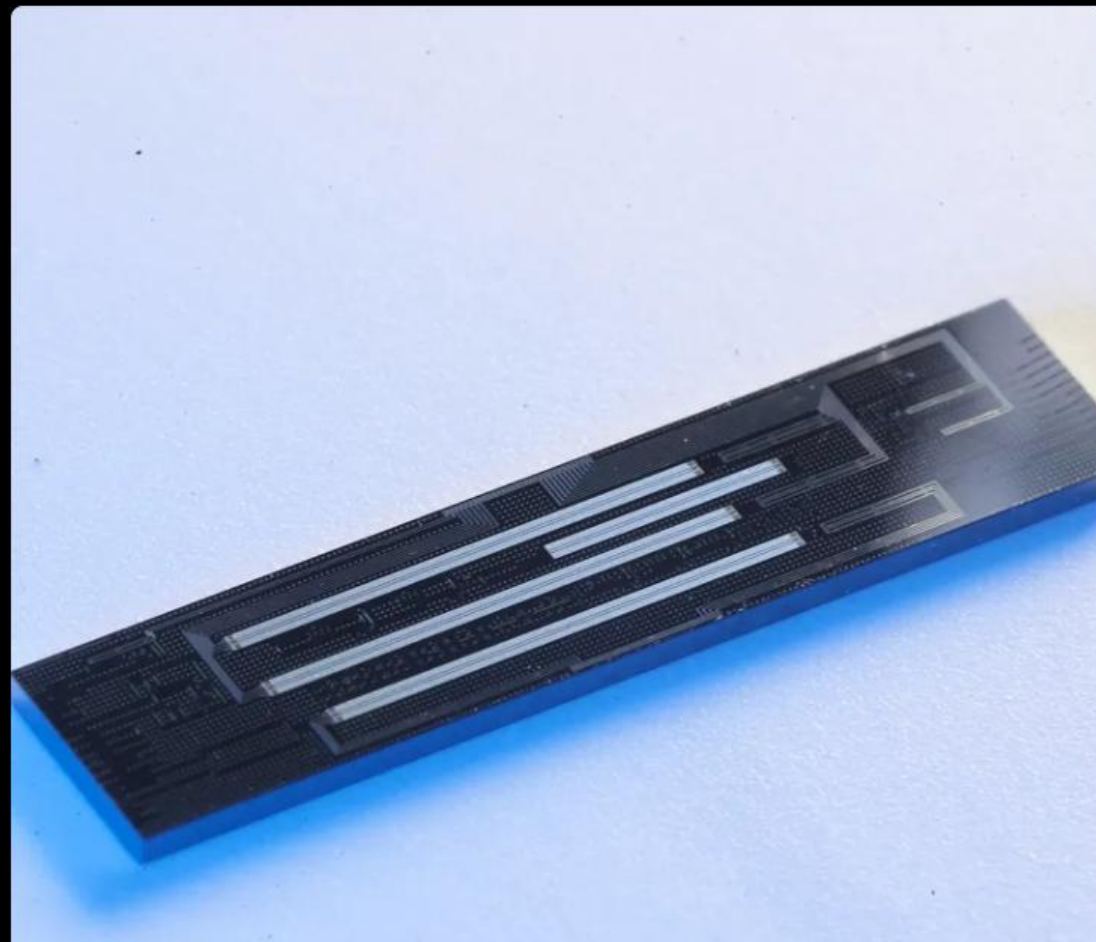
Cisco unveiled a **Universal Quantum Switch**. It translates between all major quantum encoding "languages" at room temperature

<https://outshift.cisco.com/quantum>

Unveiling Cisco's Universal Switch Chip

Enable scalable quantum networking with a switch that preserves quantum information while performing entanglement routing, operates at room temperature over standard telecom fiber, and supports all major quantum computing modalities.

[Learn more](#)



LIVE WEBINAR

Scaling the quantum future: Introducing the Cisco Universal Quantum Switch

Join our live session to learn about the first universal quantum switch prototype that operates at room temperature over standard fiber.

Register Now →



The graphic features the 'outshift by CISCO' logo in the top left, a 'FREE LIVE WEBINAR' badge in the top right, and a circular portrait of Reza Nejabati, Head of Quantum Research & Quantum Labs, Cisco. The title 'Scaling the quantum future: Introducing the Cisco Universal Quantum Switch' is centered, with the date and time 'THURSDAY, MAY 28, 2026 • 10 AM PDT' and a 'Register today' button below it.

outshift
by CISCO

FREE LIVE WEBINAR

Scaling the quantum future:
Introducing the Cisco
Universal Quantum Switch

THURSDAY, MAY 28, 2026 • 10 AM PDT

Register today

Reza Nejabati
Head of Quantum Research
& Quantum Labs, Cisco

<https://research.cisco.com/quantum/cisco-universal-quantum-switch>

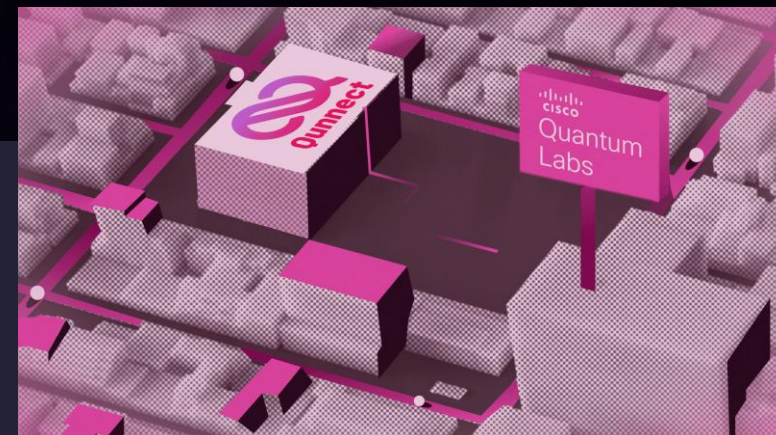


Qunnect and Cisco Demonstrate First Metro-Scale, High-Speed Quantum Entanglement Swapping Over Commercial Fiber

February 18, 2026

From the lab to the city grid: Qunnect and Cisco demonstrate scalable quantum entanglement networking on existing NYC Fiber

<https://outshift.cisco.com/blog/quantum/scalable-quantum-entanglement-networking>



New York QTD Data Center for the Digital Transformation

We make deployments in New York City simpler, faster and more cost effective from one of the most connected buildings in the world.

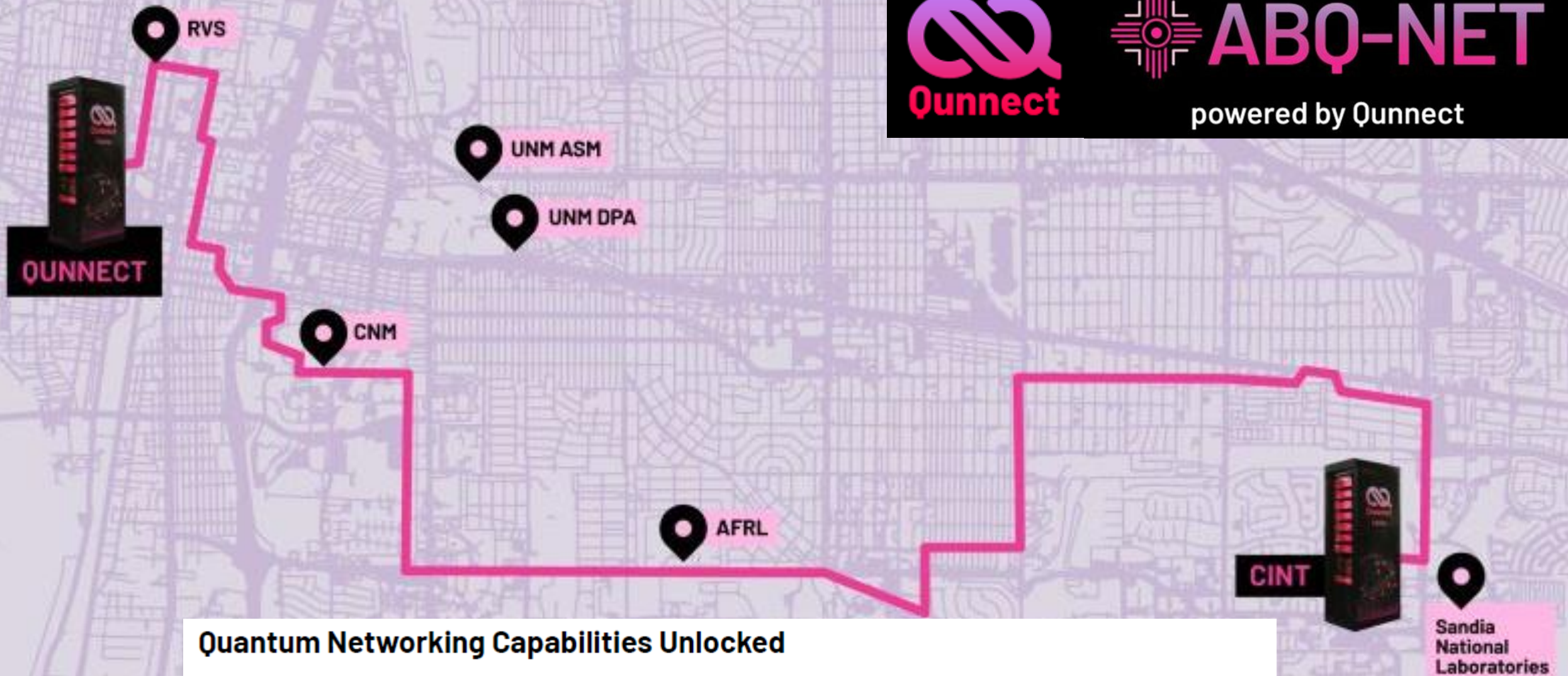


(left) 60 Hudson, home of QTD Systems. (middle) GothamQ map with the new 16km link to QTD Systems. (right) Building 77 at Brooklyn Navy Yard, home of GothamQ hub



ABQ-NET

powered by Qunnect



Quantum Networking Capabilities Unlocked

Quantum Security	Communications & Synchronization	Networked Sensors	Quantum Compute Clusters	Future Internet
Quantum-enabled secure comms protocol development	Atomic clock synchronization and quantum-enhanced timing signals	Networking quantum sensors for navigation, geology, and defense	Connecting processors for distributed quantum computing	Testing for next-generation quantum internet protocols

Industry Use Cases

ABQ-Net serves multiple industries, each with distinct needs that quantum networking:

Quantum/Tech	Telecom	Defense	Energy	Financial Services
Quantum research, protocol development and operational testing	Quantum repeater development and next-gen secure telecom networks	Mission sensitive comms, navigation, C2, and sensor networks	Advanced grid security, precision timing, predictive load balancing	Ultra-secure interbank anti-spoofing, intruder alarming
Algorithm verification & test on real world infrastructure	Quantum clock synchronization for 5G/6G networks	Quantum radar and long-baseline sensing	Quantum-enhanced monitoring of critical infrastructure	Quantum random number generation for cryptography



Mehdi Namazi
Co-founder and Chief Science Officer at Qunnect Inc.





EPB and IonQ Partner to Establish Chattanooga as the First Quantum Computing and Networking Hub in the U.S.

EPB Quantum in the News

06 April 2026



**Understanding Quantum
Networking ...**

[Learn more](#)

<https://epb.com/newsroom/epb-news/understanding-quantum-networking/>

06 March 2026



**Inside Tennessee's Growing
Quantum Ecosystem ...**

[Learn more](#)

<https://epb.com/newsroom/epb-news/inside-tennessees-growing-quantum-ecosystem/>

02 February 2026



**EPB awarded \$4 million
federal grant to boost ...**

[Learn more](#)

<https://epb.com/newsroom/press-releases/epb-awarded-4-million-federal-grant-quantum/>

10 December 2025



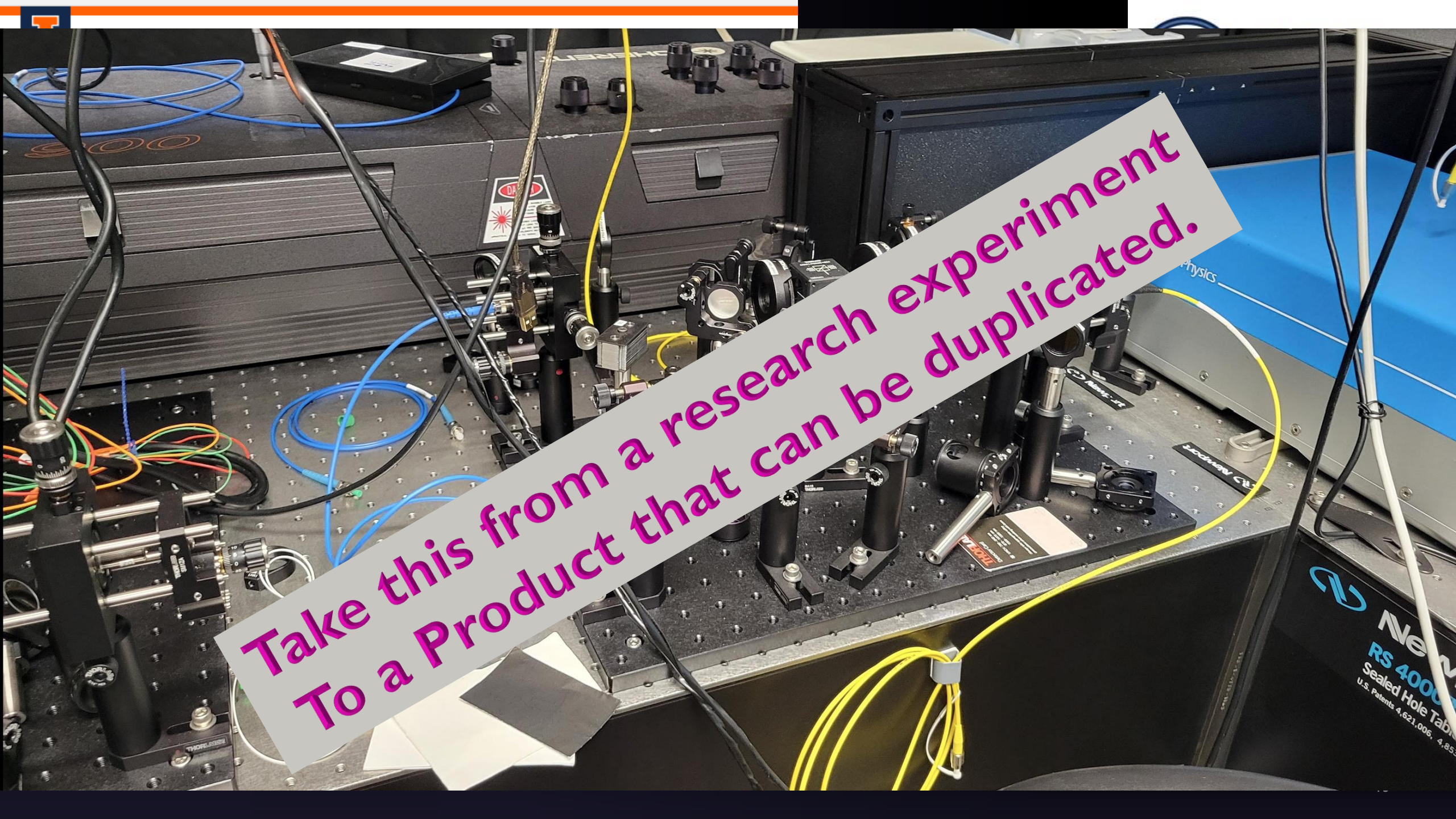
**EPB and Vanderbilt University
launch innovation institute ...**

[Learn more](#)

<https://epb.com/newsroom/press-releases/2025-institute-for-quantum-innovation/>

Established in 1997, [the Corporation for Education Network Initiatives in California](#) (CENIC) operates the [California Research and Education Network](#) ([CalREN](#)), a high-capacity computer network with more than 8,000 miles of optical fiber.





Take this from a research experiment
To a Product that can be duplicated.



Take this from a research experiment
To a Product that can be duplicated.





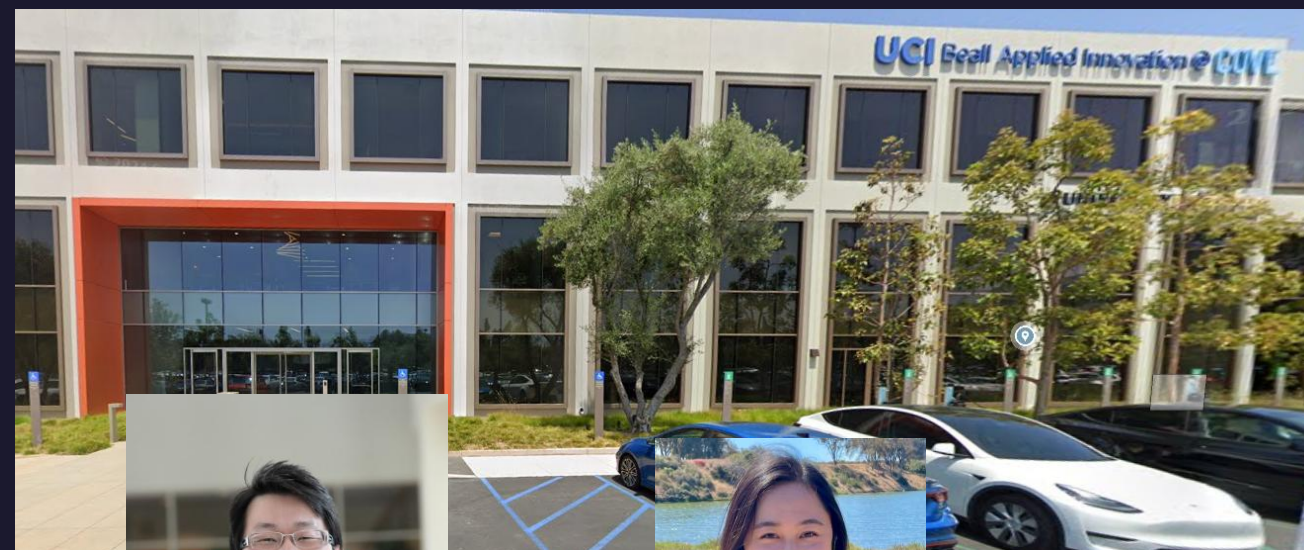
NEWPORT BEACH
PUBLIC LIBRARY

Eddleman Quantum Institute
University of California, Irvine

LEE
NANO-OPTICS LAB

**We can set this up here !!
And other places too.**

UCI Beall
Applied Innovation

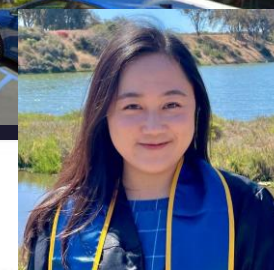


Optical fiber -- same type of
fiber as carries the internet



Prof. Howard (Ho Wai) Lee

Department of Physics & Astronomy,
University of California - Irvine



Quynh Dang
Ph.D. Candidate
Pres. SPIE Chapter



CHAPMAN UNIVERSITY

INSTITUTE OF QUANTUM STUDIES



Managing Director: Andrew Jordan, Ph.D.



Ebrahim Karimi
Professor at Chapman University

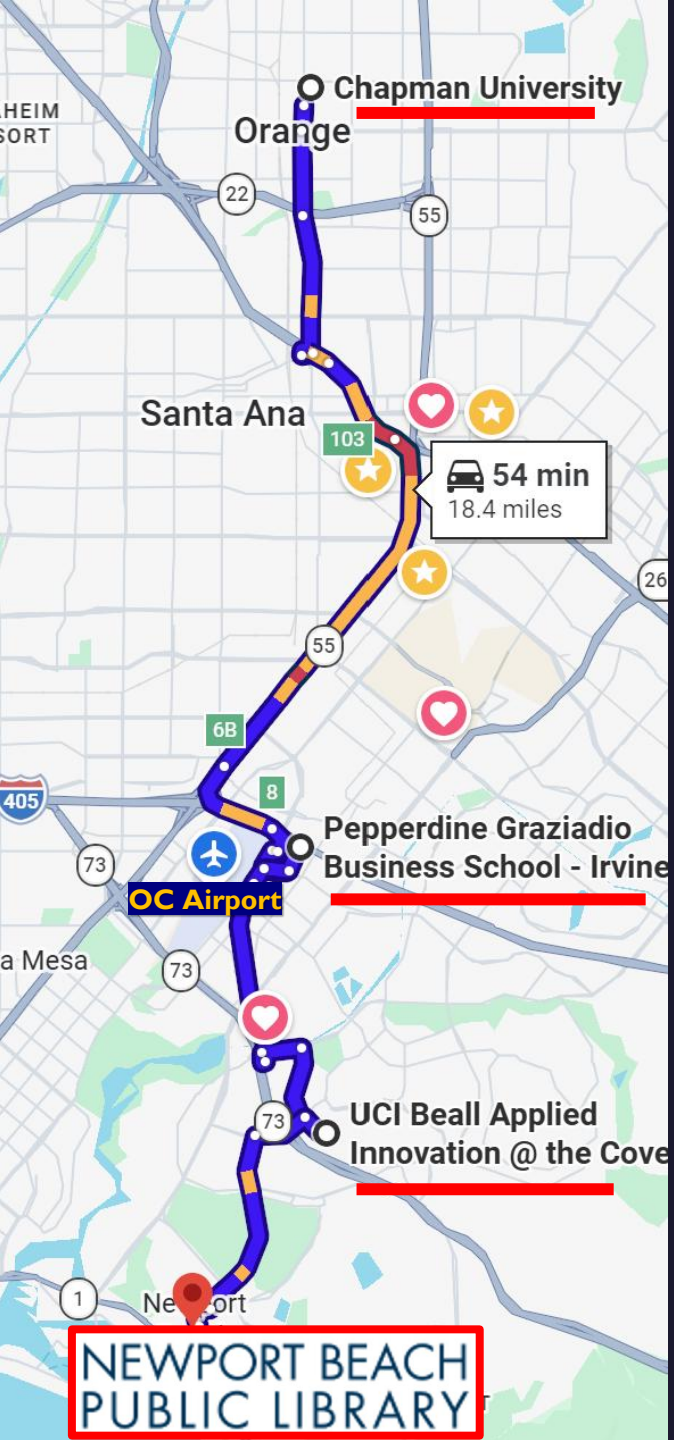


Dr. John Howell
Professor



Public Quantum Network

Educational & Research Facility



Quantum Orange County
Coming soon

F. B. Basset

M. Valeri

+13 authors

R. Trotta

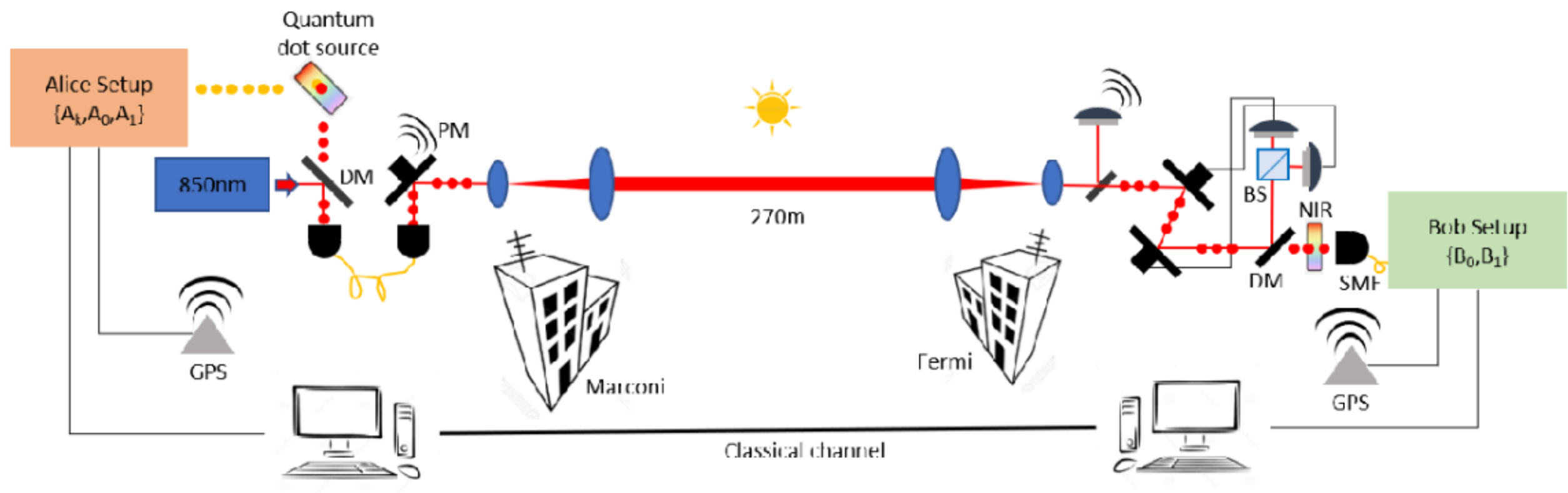
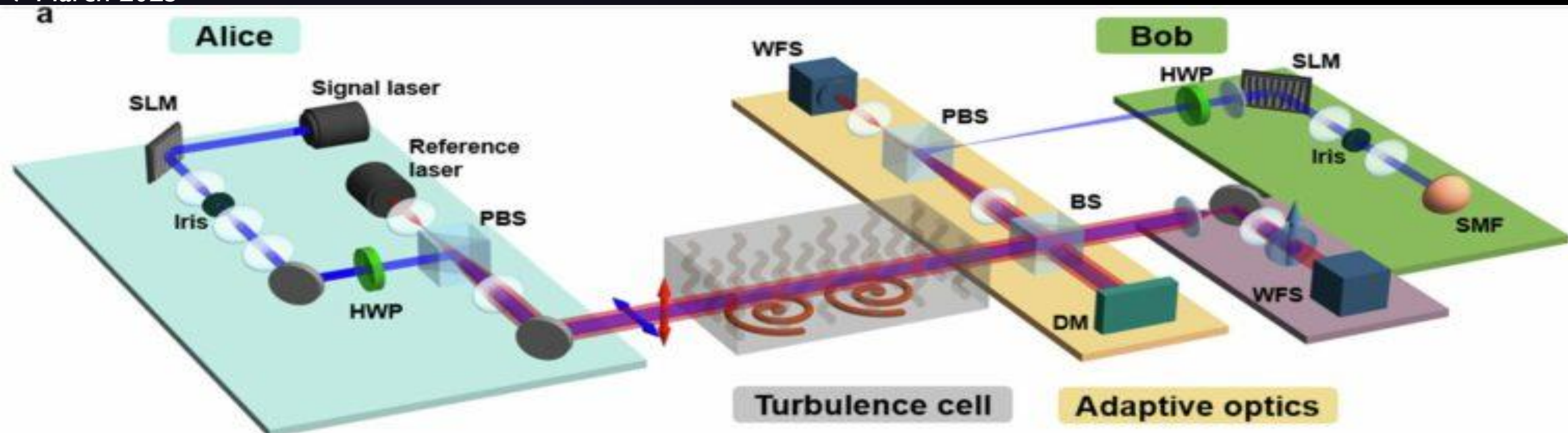


Figure 1: Experimental apparatus. Alice and Bob are placed in two different buildings linked by a free-space optical channel. Pair of entangled photons in polarization are emitted by a quantum dot source in Bob building and prepared in the state $|\varphi+\rangle = \frac{1}{\sqrt{2}}(|H,H\rangle + |V,V\rangle)$, where H (V) indicates the horizontal (vertical) polarization. One photon is received by Bob apparatus, while the other photon is sent through the air link to the Alice station. Here, the photon is coupled into single-mode fiber (SMF) and measured according to the QKD protocol implemented [2]. 50:50 beam splitters (BS); dichroic mirror (DM); drive mirror with piezoelectric adjuster (PM); narrow spectral filter (NIR). [Collapse](#)

AI and adaptive optics propel free-space quantum communication by solving atmospheric turbulence challenges

7 March 2025

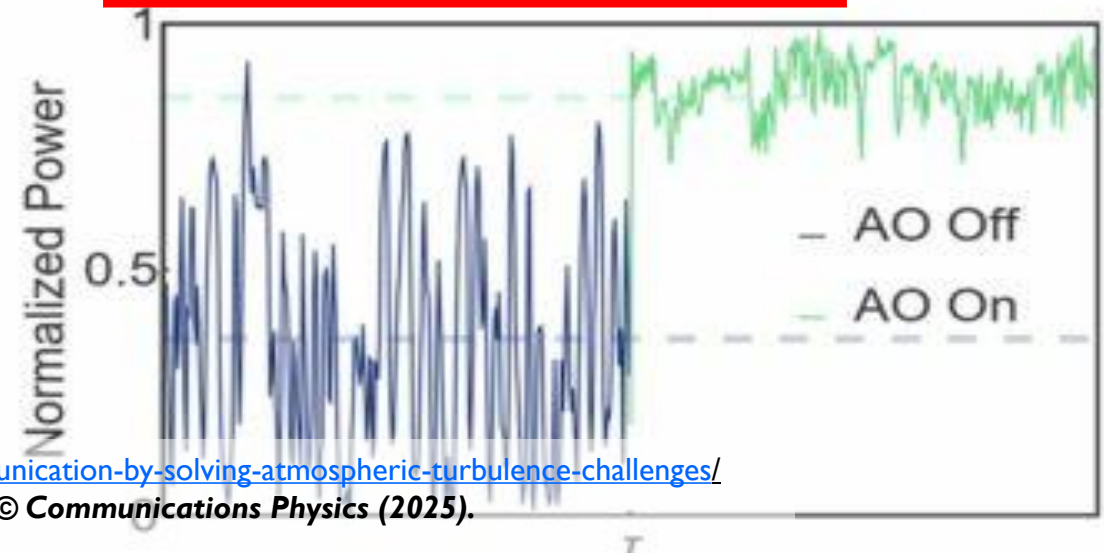


Professor Ebrahim Karimi, the director of Nexus for Quantum Technologies, in collaboration with the National Research Council Canada (NRC) and the Max Planck Institute for the Science of Light (Germany), **Now at Chapman University, Institute of Quantum Studies.**

b



c

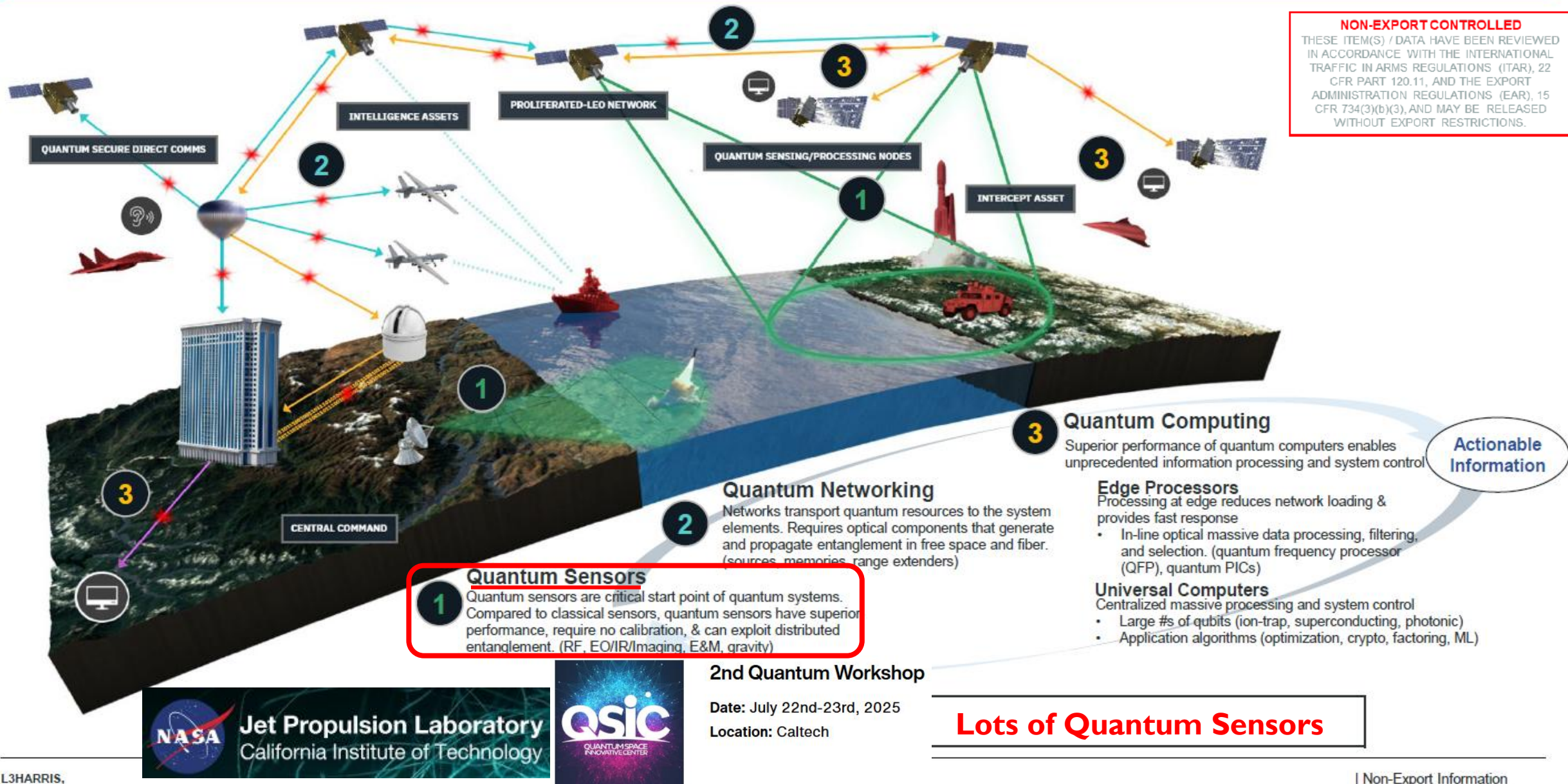


<https://techandsciencepost.com/news/physics/ai-and-adaptive-optics-propel-free-space-quantum-communication-by-solving-atmospheric-turbulence-challenges/>

High-dimensional quantum communication with adaptive optics through a turbulent channel. © Communications Physics (2025).

DOI: 10.1038/s42005-025-01986-6

L3Harris Mission Roadmap for a Quantum Ecosystem

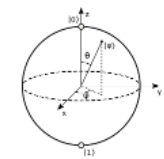


Proposed Orange County Quantum Technology Workforce Training, Education & Research Facility.

Including Quantum Fiber Optic Network Hub.

- Classroom
- Conference Room
- Teaching Lab
- Research Labs
- Quantum + Classic IT
- Student Education
- Teacher Training
- Public Outreach
- Short Term Research





Quantum Computing Report

by GQI

<https://www.global-qi.com/>

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Doug Finke
Chief Content Officer

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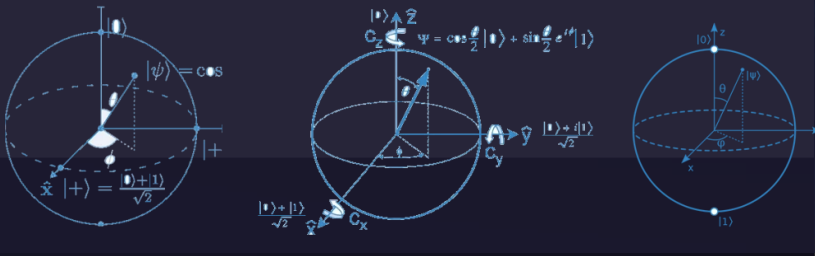
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1

**Quantum PR:
Build Your Brand,
Build Your Business**

with Mike Kilroy
HKA Executive VP



Summary

Quantum 2.0 includes quantum networking as a fundamental technology for quantum computing & sensing.

Orange County stands ready to support this endeavor with workforce & ecosystem development.

Q & A

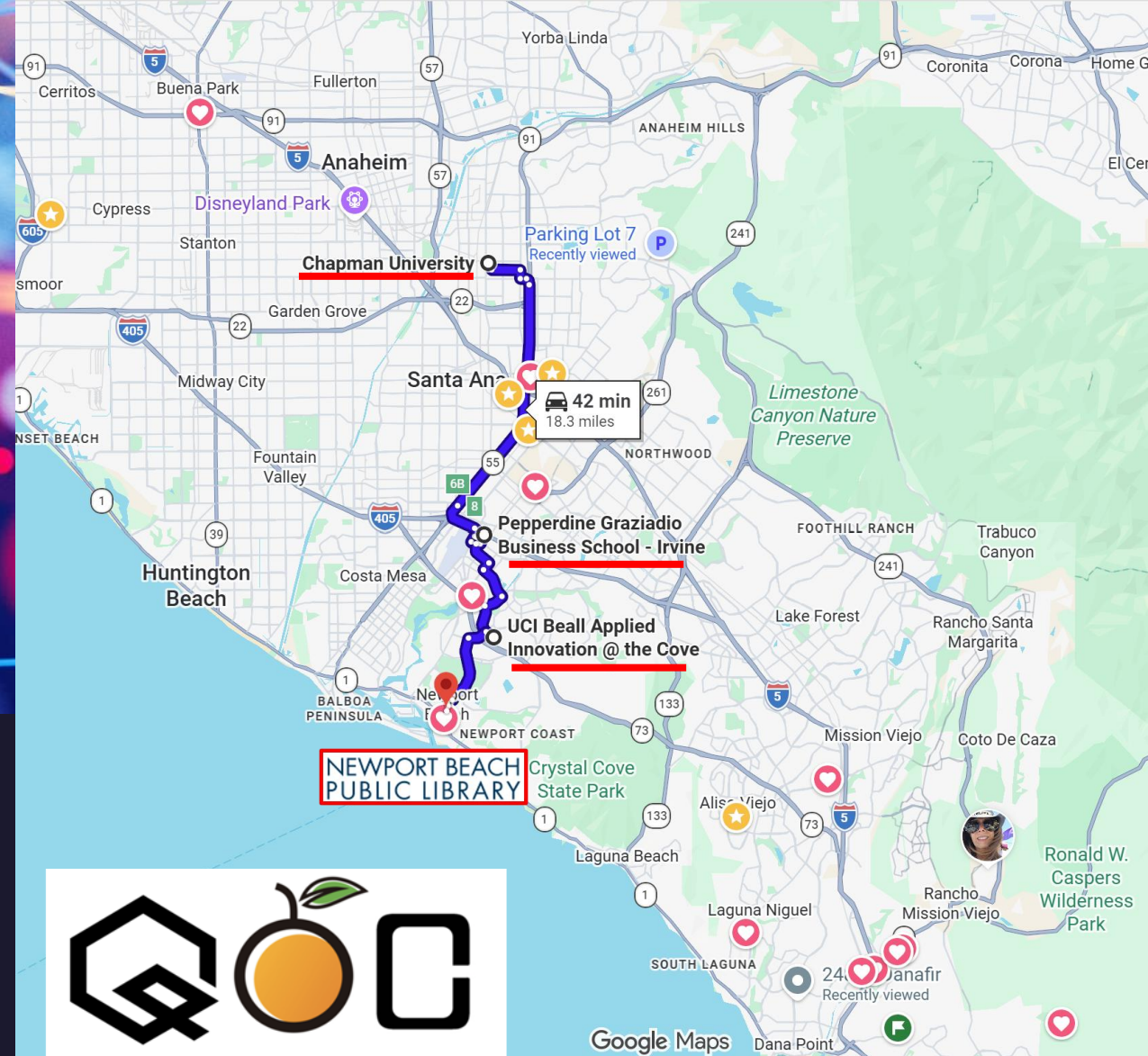
Thank You

Donn Silberman

Quantum Optics Institute of Southern California

<http://qoisc.org>

Donn@qoisc.org



Quantum Orange County
Coming soon

