







Womanium Global Quantum Computing
+ Entrepreneurship Program

	Quantum Training Program					Hackathon
Dates	July 10 - August 5, 2022 4 weeks, 2h/day					August 8 - 26 2.5 weeks
Module	Introduction to Quantum	Quantum Computing Hardware	Quantum Programming I: QBronze	Quantum Programming II: QSilver	Entrepreneurship & Career Opportunities	Hackathon
Contents	<ul style="list-style-type: none">- Keynote "The Possibilities of Quantum Computing"- Crash course Quantum Mechanics- Intro to Quantum Computing- The Quantum Ecosystem	<ul style="list-style-type: none">- Intro to QC- Control and readout of qubits- Dilution Refrigerators- Superconducting QC- Trapped-ion QC- Neutral-atom QC- Photonic QC- Quantum Annealing <p>+ Lab tours!</p>	<ul style="list-style-type: none">- Basics of a quantum program- Quantum operators on a qubit- Entanglement and basics of quantum protocols- Quantum search algorithm: Grover	<ul style="list-style-type: none">- Quantum States and Operators with Complex Numbers- Global and local phase, Bloch sphere- Quantum Fourier Transform- Quantum phase estimation, order finding algorithm- Shor's Algorithm	<ul style="list-style-type: none">- Two career fairs- Pitching & CV Training- Entrepreneurs Panel- Applications of QC- Raising \$\$- Startup mentoring	<ul style="list-style-type: none">- Team up to solve a real-world problem!- Hackathon challenges provided by industry- Present your solutions on Demo Day
Level	★	★★	★★	★★★		
Total Time	5h	12h	16h	18h	10h	Variable
Certificate		 After 4 weeks	 After 2 weeks	 After 4 weeks		



Quantum Training Program: July 10 - August 5, 2022

Watch the recordings [here](#).

Sun July 10	Mon July 11	Tue July 12	Wed July 13	Thu July 14	Fri July 15	Sat July 16	Sun July 17
Launch of the Womanium Quantum Computing Program	Keynote "The Potential of Quantum Computing" <i>Strangeworks, whurley</i>	Womanium Quantum Research Spotlight	Introduction to Quantum Computing <i>MIT, William Oliver</i>	Reaching mK temperatures in a hot field: An Entrepreneur's Journey <i>Maybell Quantum</i>	Quantum Computing for Drug Discovery <i>POLARISqb, Shahar Keinan</i>	Talk "Quantum Games" <i>Google, Ricardo Olenewa</i>	Happy Hour & Q&A
Qiskit Installation <i>QWorld</i> Happy Hour	Crash course Quantum Mechanics <i>Science Melting Pot, Shaeema Zaman</i>	Classical systems and introduction to quantum systems <i>QWorld</i>	Basics of a Quantum Program <i>QWorld</i>	Quantum Operators on a Qubit <i>QWorld</i>	Control and Readout of Qubits <i>Keysight, Anushka Shrivastava</i>	Quantum Game Time & QBronze Mentoring Session	

Watch the recordings [here](#).

Mon July 18	Tue July 19	Wed July 20	Thu July 21	Fri July 22	Sat July 23	Sun July 24
Neutral-Atom Quantum Computing & Women in Quantum <i>Atom Computing, Denise Ruffner & Kristen Pudenz</i>	Cryogenic measurement systems - working at mK temperatures <i>Bluefors, Elina Potanina</i>	Virtual Lab Tour: Superconducting Quantum Computing <i>MIT, Shantanu Jha</i>	The Quantum Ecosystem Needs You <i>QED-C, Celia Merzbacher</i>	The Quantum Internet <i>Aliro Quantum & Harvard University, Prineha Narang</i>	Career Panel: Who is the Quantum Industry looking for? <i>Richard Murray (ORCA Computing), Kiera Peltz (Qubit by Qubit), Tina Brower-Thomas (Center for Integrated Quantum Materials), Chloé Archambault (Sherbrooke Quantique), Moderated by Chris Bishop</i>	Happy Hour & Q&A
Entanglement and basics of quantum protocols <i>QWorld</i>	Superconducting Quantum Computing <i>IBM, Daniela Bogorin</i>	Quantum Search Algorithm: Grover <i>QWorld</i>	Trapped-Ion Quantum Computing <i>Quantinuum, Caroline Figgatt</i>	Quantum Biology - Living Quantum Sensors at the Nanoscale <i>QuBiT Lab UCLA, Clarice D. Aiello</i>		



Watch the recordings [here](#).

Mon July 25	Tue July 26	Wed July 27	Thu July 28	Fri July 29	Sat July 30	Sun July 31
Room-temperature diamond-based quantum computing <i>Quantum Brilliance, Jennifer Harding</i>	Virtual Lab Tour: Neutral-Atom Quantum Computing <i>Princeton University, Jeff Thompson</i>	Virtual Lab Tour: Trapped-Ion Quantum Computing <i>IonQ, Cori Williams, Wen Lin Tan, Monica Gutierrez Galan</i>	Virtual Lab Tour: Photonic Quantum Computing <i>QuiX Quantum, Caterina Taballione</i>	Entrepreneurship Panel: How to go from Idea to IPO? <i>Yan Zheng (In-Q-Tel) Russ Fein (Corporate Fuel Partners) David Dorsey (11.2 Capital) Bill Payne (Duality) Dean Chang (UMD)</i>	Career Training “Pitch Ready”: - Pitching - CV Preparation - How to impress a recruiter <i>QURECA, Araceli Venegas-Gomez Startupalooza, Alan Brody</i>	Happy Hour & Hack Team Finding (no recording)
Quantum States and Operators with Complex Numbers <i>QWorld</i>	Global and local phase, Bloch sphere <i>QWorld</i>	Photonic Quantum Computing <i>Niels Bohr Institute, Stefano Paesani</i>	Quantum Fourier Transform <i>QWorld</i>	Hackathon Introduction	Happy Hour & Hack Team Finding	

Watch the recordings [here](#).

Mon Aug 1	Tue Aug 2	Wed Aug 3	Thu Aug 4	Fri Aug 5
Career Fair - Keynote, <i>Oxford Quantum Circuits, Ilana Wisby</i> - Virtual Career Fair with <i>IQM, Bluefors, Deloitte, Quantum Brilliance, ORCA Computing, Riverlane, QuiX, Quantum Machines, Qblox, Quantum Delta NL, Taqbit, Pasqal, C12QE, Alice & Bob</i>	Virtual Lab Tour: Cryogenic Measurement Systems <i>Maybell Quantum</i>	Quantum phase estimation, order finding algorithm <i>QWorld</i>	Post-quantum cryptography <i>NIST, Dustin Moody</i>	Workshop: Startup Journey
	Quantum Annealing <i>D-Wave Systems, Alex Koszegi & Sara Ejtemaee</i>		Shor’s Algorithm <i>QWorld</i>	



Quantum Hackathon: August 8 - 26, 2022

Hackathon & Special Events *Convert to your timezone [here](#).*

Mon Aug 8	Wed Aug 10	Fri Aug 12	Mon Aug 15	Thu Aug 18	Sat Aug 20
Hackathon Launch & Introduction to Challenges 11am - 1pm ET With Deloitte, IQM, IBM, Quantinuum, ORCA Computing, Strangeworks, QWorld and Womanium	Spotlight 11am-12pm ET <i>Compound VC, Nicole Williams</i> Building a Quantum Community <i>ChemicalQDevice, Kevin Kawchak</i>	Quantum Entrepreneurs & Founders Panel 11am-12pm ET <i>Christopher Savoie (Zapata), Amir Naveh (Classiq), Jan Goetz (IQM), Corban Tillemann-Dick (Maybell), Yudong Cao (Zapata). Moderated by Ethan Hansen (Podcast "Quantum Now")</i>	Quantum Open Source 11am-12pm ET <i>Unitary Fund, Misty Wahl</i>	A Talk with Nobel Laureate William D. Phillips 🏆 11am-12pm ET	Pitch Ready Practice your pitch for the career fair on Aug 26 11am-1pm ET

Hackathon & Special Events *Convert to your timezone [here](#).*

Tue Aug 23	Wed Aug 24	Thu Aug 25	Fri Aug 26
11:59pm ET: Deadline for Github submission	Demo Day Training 11am - 1:30pm ET	Demo Day & Award Session 11am - 1:30pm ET <i>- Present your solution to industry</i> <i>- Win prizes: \$ 750 for each challenge winner and up to \$ 2000 startup seed funding!</i>	Career Fair The biggest Quantum Computing Virtual Career Fair! More than 22 quantum companies: <i>D-Wave, IBM, Quantinuum, IonQ, Keysight, Atom Computing, Maybell Quantum, Strangeworks, Terra Quantum, and more</i>