

V80 — QCE20 — IEEE Quantum Week Advance Program — Monday, October 12, 2020

Mountain Time MDT (UTC-6)	Session Name	Session Type	Session Room	Monday Sessions
08:00–19:45	Mon-ONB-10	Onboard	Discover1	QCE20 Welcome, Onboarding & Quote of the Day
08:00–19:45	Mon-OVE-10	Onboard	Discover2	QCE20 Daily Sessions Overview & Announcements
08:30–10:00	Mon-KEY-11	Keynote	Eagle	Announcements, Awards Keynote: Jerry Chow, IBM Quantum, USA Quantum Circuits: Rocket Fuel for the Future of Quantum Hardware Session Chair: Hausi Müller, University of Victoria
10:00–10:45	Mon-KEY-12	Network	Eagle	Hang out with Keynote Speaker Jerry Chow
10:00–10:45	Mon-EBLU-12	Exhibit	Bluefors	Bluefors — Scheduled Exhibits
10:00–10:45	Mon-EQM-12	Exhibit	QM	Quantum Machines (QM) — Scheduled Exhibits
10:00–10:45	Mon-EPAS-12	Exhibit	Pasqal	Pasqal — Scheduled Exhibits
10:00–10:45	Mon-POS-12	Posters	Bison	Quantum Information Science Tools — Session Chair: Andreas Bergen, engageLively Pos1: Milan Williams, Elisa Zhao Hang, Adinawa Adjagbodjou, Robert Krueger and Johanna Beyer: QuVis: A Quantum Circuit Visualization Tool for Novices Pos2: Alena Mastiukova, Evgeniy Kiktenko, Aleksey Fedorov: Suppressing decoherence in quantum systems with unitary operations
10:00–10:45	Mon-BOF-12	BoF	Hawk	Open BoF Session
10:00–10:45	Mon-NW1-12	Network	WiseOwl1	Networking Session — Meet Quantum Newcomers
10:00–10:45	Mon-NW2-12	Network	WiseOwl2	Networking Session — Meet Quantum Enthusiasts
10:00–10:45	Mon-COL-12	Break	Rockies	Relax in Beautiful Colorado
10:45–11:15	Mon-QIA1-13	Paper	Bighorn1	Paper Session Quantum Information & Algorithms QIA1 — Session Chair: Ojas Parekh, Sandia National Laboratory QIA1: Ewout van den Berg, IBM T.J. Watson Research Center. Quantum phase estimation with optimized sample complexity
11:15–11:45	Mon-QIA1-13	Paper	Bighorn1	QIA1: Hiroshi Yano, Yudai Suzuki, Rudy Raymond, Naoki Yamamoto Keio University and IBM Research Tokyo. Efficient discrete feature encoding for variational quantum classifier
11:45–12:15	Mon-QIA1-13	Paper	Bighorn1	QIA1: William Cappelletti, Rebecca Erbanni, Joaquín Keller, Entropica Labs, Singapore. Polyadic quantum classifier
10:45–11:45	Mon-PAN-13	Panel	Moose	Panel: Building a Fault-Tolerant Quantum Computer from the Ground Up Organizers/Panelists: Sivan, Quantum Machines; Biercuk, Q-CTRL; Peronnin, Alice&Bob
10:45–12:15	Mon-TUT-13	Tutorial	Bear1	Part 1: Introduction to Quantum Computing—Pakin: Los Alamos National Laboratory; Rieffel, NASA Ames Session Chair: Candace Culhane, Los Alamos National Laboratory (LANL)
10:45–12:15	Mon-TUT-13	Tutorial	Bear2	Part 1: Quantum Programming: An Introduction—Asfaw, IBM Quantum Session Chair: Scott Koziol, Baylor University
10:45–12:15	Mon-TUT-13	Tutorial	Bear3	Part 1: Hands-on Simulation of a Quantum Network—Van Meter, Satoh, Keio University Session Chair: Bruce Kraemer, IEEE Quantum Initiative

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10:45–12:15	Mon-WKS-13	Workshop	Elk1	<u>Part 1: Software for Quantum Applications, Algorithms, and Workflows—Scholten: IBM Quantum; Greenberg: Facebook AI</u> Session Chair: Hausi Müller, University of Victoria
10:45–12:15	Mon-WKS-13	Workshop	Elk2	<u>Part 1: Semiconductor-Inspired Engineering for Quantum Computing—Mohiyaddin, Radu: imec, Belgium</u> Session Chair: Erik DeBenedictis, Zettaflops LLC
10:45–12:15	Mon-WKS-13	Workshop	Elk3	<u>Part 1: Applied Quantum Artificial Intelligence—Hamilton, Date: Oak Ridge National Laboratory (ORNL)</u> Session Chair: Travis Humble, Oak Ridge National Laboratory (ORNL)
10:45–12:15	Mon-WKS-13	Workshop	Elk4	<u>Part 1: From Qubits to Quantum Teleportation: A Hands-On Experience for High Schoolers—Angara, Stege, MacLean: University of Victoria; Markham, Knodel: Honeywell Quantum Solutions; Genco: NTIA</u> Session Chair: Ulrike Stege, University of Victoria
12:15–13:00	Mon-EIBM-14	Exhibit	IBM	IBM Quantum — Scheduled Exhibits
12:15–13:00	Mon-ECOQ-14	Exhibit	ColdQuanta	ColdQuanta — Scheduled Exhibits
12:15–13:00	Mon-EQDE-14	Exhibit	Qdevil	QDevil — Scheduled Exhibits
12:15–13:00	Mon-ETQE-14	Exhibit	IEEE-TQE	IEEE TQE — Scheduled Exhibits
12:15–13:00	Mon-POS-14	Posters	Bison	Practical Quantum Computing & Applications — Poster Session Chair: Andreas Bergen: engageLively Pos1: James Cruise, Neil Gillespie and Brendan Reid: Practical Quantum Computing: The value of local computation Pos2: Saasha Joshi: Defence Applications of Quantum Computing
12:15–13:00	Mon-BOF-14	BoF	Hawk	BoF: CREATE Quantum Computing, British Columbia, Canada
12:15–13:00	Mon-NW1-14	Network	WiseOwl1	Networking Session — Meet Quantum Newcomers
12:15–13:00	Mon-NW2-14	Network	WiseOwl2	Networking Session — Meet Quantum Enthusiasts
12:15–13:00	Mon-COL-14	Break	Rockies	Relax in Beautiful Colorado — Hike the Rockies
13:00–13:30	Mon-QIA2-15	Paper	Bighorn1	Paper Session Quantum Information & Algorithms QIA2 — Session Chair: Lukasz Cincio, Los Alamos National Laboratory (LANL) QIA2: Julien Gacon, Christa Zoufal and Stefan Woerner, IBM Research Zürich and ETH Zürich. Quantum-enhanced simulation-based optimization
13:30–14:00	Mon-QIA2-15	Paper	Bighorn1	QIA2: Zsolt Tabi, Ericsson Hungary and Eötvös Loránd University; Kareem H. El-Safty, Wigner Research Centre for Physics; Zsófia Kallus, Ericsson Research Budapest; Péter Hágá, Ericsson Research Budapest; Tamás Kozsik, Eötvös Loránd University; Adam Glos, Polish Academy of Sciences and Zoltán Zimborás, Wigner Research Centre for Physics and Budapest University of Technology. Quantum optimization for the graph coloring problem with space-efficient embedding
14:00–14:30	Mon-QIA2-15	Paper	Bighorn1	QIA2: Nathan Thompson, James Steck and Elizabeth Behrman, Wichita State University. A non-algorithmic approach to “programming” quantum computers via machine learning
13:00–14:30	Mon-PAN-15	Panel	Moose	Panel: Engineering Challenges in Building a Quantum Computer—Organizers: Lee, Markham: Honeywell; Genco: NTIA; Scholten: IBM Moderator: Curcic, DARPA—Panelists: Chen, Google Quantum AI; Chow, IBM Quantum; Langer, Honeywell; Roetteler, Microsoft Quantum
13:00–14:30	Mon-TUT-15	Tutorial	Bear1	Part 2: Introduction to Quantum Computing—Pakin: Los Alamos National Laboratory; Rieffel, NASA Ames
13:00–14:30	Mon-TUT-15	Tutorial	Bear2	Part 2: Quantum Programming: An Introduction—Asfaw, IBM Quantum Session Chair: Scott Koziol, Baylor University
13:00–14:30	Mon-TUT-15	Tutorial	Bear3	Part 2: Hands-on Simulation of a Quantum Network—Van Meter, Satoh, Keio University Session Chair: Bruce Kraemer, IEEE Quantum Initiative
13:00–14:30	Mon-WKS-15	Workshop	Elk1	<u>Part 2: Software for Quantum Applications, Algorithms, and Workflows—Scholten: IBM Quantum; Greenberg: Facebook AI</u>
13:00–14:30	Mon-WKS-15	Workshop	Elk2	<u>Part 2: Semiconductor-Inspired Engineering for Quantum Computing—Mohiyaddin, Radu: imec, Belgium</u> Session Chair: Erik DeBenedictis, Zettaflops LLC
13:00–14:30	Mon-WKS-15	Workshop	Elk3	<u>Part 2: Applied Quantum Artificial Intelligence—Hamilton, Date: Oak Ridge National Laboratory (ORNL)</u> Session Chair: Travis Humble, Oak Ridge National Laboratory (ORNL)

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13:00–14:30	Mon-WKS-15	Workshop	Elk4	<u>Part 2: From Qubits to Quantum Teleportation: A Hands-On Experience for High Schoolers—Angara, Stege, MacLean: University of Victoria; Markham, Knodel: Honeywell Quantum Solutions; Genco: NTIA</u> Session Chair: Ulrike Stege, University of Victoria
14:30–15:15	Mon-EHWE-	Exhibits	Honeywell	Honeywell Quantum Solutions — Scheduled Exhibits
14:30–15:15	Mon-ENCS-16	Exhibits	NC-State	NC State — Scheduled Exhibits
14:30–15:15	Mon-ECMC-16	Exhibits	CMC.ca	CMC.ca — Scheduled Exhibits
14:30–15:15	Mon-ETQC-16	Exhibits	ACM-TQC	ACM TQC — Scheduled Exhibits
14:30–15:15	Mon-POS-16	Posters	Bison	Open Posters
14:30–15:15	Mon-BOF-16	BoF	Hawk	Open BoF Session
14:30–15:15	Mon-NW1-16	Network	WiseOwl1	Networking Session — Meet Quantum Experts
14:30–15:15	Mon-NW2-16	Network	WiseOwl2	Networking Session — Meet Quantum Enthusiasts
14:30–15:15	Mon-COL-16	Break	Rockies	Relax in Beautiful Colorado — Ski the Rockies
15:15–15:45	Mon-QIA3-17	Paper	Bighorn1	<u>Paper Session Quantum Information & Algorithms QIA3 — Paper Session Chair: Stuart Hadfield, NASA Ames</u> <u>QIA3: Andreas Bärttschi and Stephan Eidenbenz. Grover mixers for QAOA, Los Alamos National Laboratory. Shifting complexity from mixer design to state preparation</u>
15:45–16:15	Mon-QIA3-17	Paper	Bighorn1	<u>QIA3: Jeremy Cook, Stephan Eidenbenz and Andreas Bärttschi, Los Alamos National Laboratory. The quantum alternating operator Ansatz on Max-k Vertex Cover</u>
15:15–15:45	Mon-QENG-17	Paper	Bighorn2	<u>Paper Session Quantum Engineering QENG — Session Chair: Luke Govia</u> <u>Sahar Daraeizadeh, Shavindra Premaratne and Anne Matsuura, Intel Labs. Designing high-fidelity multi-qubit gates for semiconductor quantum dots through deep reinforcement learning</u>
15:45–16:15	Mon-QENG-17	Paper	Bighorn2	<u>QENG: Detection-Based Measurement for Quantum Emulation Devices—Lanham, La Cour: UT Austin</u>

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15:15–16:45	Mon-TUT-17	Tutorial	Bear1	<u>Part 3: Introduction to Quantum Computing—Pakin: Los Alamos National Laboratory; Rieffel, NASA Ames</u>
15:15–16:45	Mon-TUT-17	Tutorial	Bear2	<u>Part 3: Quantum Programming: An Introduction—Asfaw, IBM Quantum</u> Session Chair: Scott Koziol, Baylor University
15:15–16:45	Mon-TUT-17	Tutorial	Bear3	<u>Part 3: Hands-on Simulation of a Quantum Network—Van Meter, Satoh, Keio University</u> Session Chair: Bruce Kraemer, IEEE Quantum Initiative
15:15–16:45	Mon-WKS-17	Workshop	Elk1	<u>Part 3: Software for Quantum Applications, Algorithms, and Workflows—Scholten: IBM Quantum; Greenberg: Facebook AI</u>
15:15–16:45	Mon-WKS-17	Workshop	Elk2	<u>Part 3: Semiconductor-Inspired Engineering for Quantum Computing—Mohiyaddin, Radu: imec, Belgium</u> Session Chair: Erik DeBenedictis, Zettaflops LLC
15:15–16:45	Mon-WKS-17	Workshop	Elk3	<u>Part 3: Applied Quantum Artificial Intelligence—Hamilton, Date: Oak Ridge National Laboratory (ORNL)</u> Session Chair: Travis Humble, Oak Ridge National Laboratory (ORNL)
15:15–16:45	Mon-WKS-17	Workshop	Elk4	<u>Part 3: From Qubits to Quantum Teleportation: A Hands-On Experience for High Schoolers—Angara, Stege, MacLean: University of Victoria;</u> <u>Markham, Knodel: Honeywell Quantum Solutions; Genco: NTIA</u> Session Chair: Ulrike Stege, University of Victoria

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16:45–17:30	Mon-EQUA-18	Exhibits	Quantropi	Quantropi — Scheduled Exhibits
16:45–17:30	Mon-EINT-18	Exhibits	IntelLabs	Intel Labs — Scheduled Exhibits
16:45–17:30	Mon-POS-18	Posters	Bison	Open Posters
14:30–15:15	Mon-BOF-18	BoF	Hawk	Open BoF Session
16:45–17:30	Mon-NW1-18	Network	WiseOwl1	Networking Session — Meet Quantum Experts
16:45–17:30	Mon-NW2-18	Network	WiseOwl2	Networking Session — Meet Quantum Enthusiasts
16:45–17:30	Mon-COL-18	Break	Rockies	Relax in Beautiful Colorado — Enjoy Nature
17:30–19:00	Mon-KEY-19	Keynote	Eagle	<u>Announcements, Awards</u> Keynote: Michelle Simmons, Founder, Silicon Quantum Computing, Sydney, Australia Session Chair: Greg Byrd, NC-State University <u>Engineering Qubits in Silicon with Atomic Precision</u>
19:00–19:45	Mon-KEY-20	Network	Eagle	<u>Hang out with Keynote Speaker Michelle Simmons</u>
19:00–19:45	Mon-EXOP-20	Exhibits	Patrons	Open Exhibits
19:00–19:45	Mon-POS020	Posters	Bison	Open Posters
14:30–15:15	Mon-BOFO-20	BoF	Hawk	Open BoF Session
19:00–19:45	Mon-NW1-20	Network	WiseOwl1	Networking Session — Meet Quantum Experts
19:00–19:45	Mon-NW2-20	Network	WiseOwl2	Networking Session — Meet Quantum Enthusiasts
19:00–19:45	Mon-COL-20	Break	Rockies	Relax in Beautiful Colorado — Enjoy Nature