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# Conference on Quantum Annealing/Adiabatic Quantum Computation | (smr 3474)

## Monday 05 October 2020

### Session 1 (EU-Asia) - Online (08:50-10:45)

**Co-host, Moderator: Antonello SCARDICCHIO (ICTP, Italy)**

time	title	presenter
08:50	Welcome session	
09:00	Quantum simulation by quantum annealing	HIDETOSHI NISHIMORI
09:45	Error suppression in adiabatic quantum computing with qubit ensembles	NAEIMEH MOHSENI
09:50	Adiabatic Rydberg parity gate for quantum optimization	GLEN BIGAN MBENG
09:55	Efficient local counter-diabatic driving in adiabatic quantum computing	ANDREAS HARTMANN
10:00	Platform for the experimental characterisation of diabatic quantum annealing	LOUIS FRY-BOURIAUX
10:05	Q&A session	
10:15	Stochastic Cellular Automata Annealing (SCA) and its Non-Quantum Silicon Chip Implementation: Realizing Fully-Parallel Spin-Updates for Fully-Connected Spin Systems	MASATO MOTOMURA

### Session 2 (America-EU) - Online (18:00-21:00)

**Co-host, Moderator: Giuseppe SANTORO (SISSA, Italy)**

time	title	presenter
18:00	Achievements of the IARPA-QEO and DARPA-QAFS programs, and the prospects for quantum enhancement with quantum annealing	DANIEL LIDAR
18:45	Utilizing NISQ devices for evaluating quantum algorithms	ELEANOR RIEFFEL
19:15	Optimal Protocols in Quantum Annealing and QAOA Problems	LUCAS BRADY
19:20	Ferromagnetically shifting the power of pausing	ZOE GONZALEZ IZQUIERDO
19:25	A quantum annealer with fully programmable all-to-all coupling via Floquet engineering	PETER MCMAHON
19:30	Population Transfer Methods on the QREM: a Numerical Study	GIANNI MOSSI
19:35	Q&A session	
19:45	Taking advantage of expanded qubit connectivity in the D-Wave Advantage processor	ANDREW KING
20:15	Quantum simulation by quantum annealing	HIDETOSHI NISHIMORI

# Tuesday 06 October 2020

## **Session 3 (Asia-America) - Online (02:00-05:00)**

***Co-host, Moderator: Hidetoshi NISHIMORI (Tokyo Institute of Technology, Japan)***

time	title	presenter
02:00	Achievements of the IARPA-QEO and DARPA-QAFS programs, and the prospects for quantum enhancement with quantum annealing	DANIEL LIDAR
02:45	The power of adiabatic quantum computation with no sign problem	MATTHEW HASTINGS
03:15	Combined continuous error suppression and error correction for quantum annealing	JUAN ATALAYA
03:20	Open-system Kibble-Zurek Mechanism in a Quantum Annealer	YUKI BANDO
03:25	Anneal paths in capacitively shunted flux qubits	MOSTAFA KHEZRI
03:30	Adiabatic theorem for unbounded Hamiltonians, with applications to superconducting circuits	JENIA MOZGUNOV
03:35	Q&A session	
03:45	The sign problem and its relation to the spectral gap of quantum many-body systems	ELIZABETH CROSSON
04:15	Quantum Annealing and Information Encoding in the Transverse Ising Model	THOMAS ROSENBAUM

## **Session 4 (EU-Asia) - Online (09:00-12:20)**

***Co-host, Moderator: Antonello SCARDICCHIO (ICTP, Italy)***

time	title	presenter
09:00	Quantum Annealing and Information Encoding in the Transverse Ising Model	THOMAS ROSENBAUM
09:45	Parity Quantum Computing	WOLFGANG LECHNER
10:15	Utilizing NISQ devices for evaluating quantum algorithms	ELEANOR RIEFFEL
10:45	Taking advantage of expanded qubit connectivity in the D-Wave Advantage processor	ANDREW KING
11:15	The power of adiabatic quantum computation with no sign problem	MATTHEW HASTINGS
11:45	The sign problem and its relation to the spectral gap of quantum many-body systems	ELIZABETH CROSSON
12:15	Closing	