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Workshop on Theory and Practice of Adiabatic Quantum Computers and Quantum Simulation | (smr 2825)

Monday 22 August 2016

- LB (Budinich Lecture Hall) (08:15-10:00)

time	title	presenter
08:15	Registration	
08:35	Operations/Bank formalities	
09:50	WELCOME ADDRESSES	

Convener: A. Scardicchio - LB (Budinich Lecture Hall) (10:00-12:00)

time	title	presenter
10:00	Entanglement in Adiabatic Quantum Computation	A. GREEN
10:45	Simulating quantum spin systems	R. MOESSNER
11:30	Coffee Break	

Convener: A. Scardicchio - LB (Budinich Lecture Hall) (12:00-16:00)

time	title	presenter
12:00	Application of Quantum Annealing to Training of Deep Neural Networks	S. ADACHI
12:45	Lunch Break	
14:00	Operations/Bank formalities	

Convener: A. Green - LB (Budinich Lecture Hall) (16:00-17:10)

time	title	presenter
16:00	Testing Adiabatic Quantum Computers Using Simple Quantum Simulation	P. LOVE
16:45	High-Tc Josephson junctions for quantum computation	B. CHESCA

Tuesday 23 August 2016

Convener: V. Oganessian - LB (Budinich Lecture Hall) (09:00-11:00)

time	title	presenter
09:00	Quantum Tunnelling & Ergodicity in Quantum Spin Glasses	B.K. CHAKRABARTI
09:45	Phase transitions in quantum error correction	S. MATSUURA
10:30	Coffee Break	

Convener: P. Love - LB (Budinich Lecture Hall) (11:00-14:30)

time	title	presenter
11:00	Adiabatic Evolution of the Random transverse-field Ising Spin Chain	P. MASON
11:25	Hamiltonian engineering for many-body quantum systems by shortcuts to adiabaticity	K. TAKAHASHI
11:50	Quantum-Classical Monte Carlo Algorithm for Simulating AQC	I. HEN
12:35	Lunch Break	

CONVENER: A. Perdomo-Ortiz - LB (Budinich Lecture Hall) (14:30-16:10)

time	title	presenter
14:30	Ground state expansion and the spectral gap of stoquastic Hamiltonians	E. CROSSON
15:15	Computational property of quantum annealing of integer factorization problem	C. NAKAJIMA
15:40	Coffee Break	

CONVENER: I. Hen - LB (Budinich Lecture Hall) (16:10-17:20)

time	title	presenter
16:10	Expansion in large coordination number for the quantum Ising model	P. NAVEZ
16:35	Spin-glass bottlenecks in quantum annealing	S.KNYSH

Wednesday 24 August 2016

Convener: E. Kapit - LB (Budinich Lecture Hall) (09:00-11:00)

time	title	presenter
09:00	Quantum Boltzmann Machine using a Quantum Annealer	M. AMIN
09:45	A quantum-assisted algorithm for sampling applications in machine learning	A. PERDOMO ORTIZ
10:30	Coffee Break	

Convener: E. Crosson - LB (Budinich Lecture Hall) (11:00-14:30)

time	title	presenter
11:00	Fictitious but Efficient Annealing Dynamics, and Role of Quantum Entanglement Therein	K. IMAFUKU
11:25	Parametric excitation of a superconducting qubit due to a nonadiabatic modulation of Lamb shift	V. POGOSOV
11:50	Inhomogeneous quasi-adiabatic driving of quantum critical dynamics in disordered spin chains	M. RAMS
12:35	Lunch Break	

Convener: S. Pilati - LB (Budinich Lecture Hall) (14:30-16:10)

time	title	presenter
14:30	DMRG and Many Body Localized Systems	S. SONDHI
15:15	Photonic Cat States from Strongly Interacting Matter Waves	U. FISCHER
15:40	Coffee Break	

Convener: S. Pilati - LB (Budinich Lecture Hall) (16:10-16:55)

time	title	presenter
16:10	Scaling analysis and instantons for quantum spin tunneling and Quantum Monte Carlo simulations	V. SMELYANSKIY

FLASH TALK SESSION - Leonardo Building - Budinich Lecture Hall (16:55-19:30)

time	title	presenter
16:55	Quantum and Classical in Adiabatic Quantum Computation	P. CROWLEY
17:00	Semi-classical potential for quantum annealing with antiferromagnetic fluctuation	Y. SUSA
17:05	Quantum simulation of the Anderson Hamiltonian with an array of coupled nanoresonators: delocalization and thermalization effects	M. DE OLIVEIRA
17:10	Simulated quantum annealing of double-well and multiwell potentials	E. M. INACK

17:15	On the quantum spin glass transition on the Bethe lattice	G. MOSSI
17:20	Quantum annealing speedup over simulated annealing on random Ising chains	T. ZANCA
17:25	Non-reversal Open Quantum Walks	H. GOOLAM HOSSEN
17:30	Checker-board supersolid phase in the multi-component Bose-Hubbard model on the square lattice	F. HEYDARI-NASAB
18:00	Poster Session and snacks	

Thursday 25 August 2016

Convener: G. Santoro - LB (Budinich Lecture Hall) (09:00-11:00)

time	title	presenter
09:00	Dynamics of Decoherence: Universal scaling of decoherence factors	A. DUTTA
09:45	Classical simulation of open quantum systems	M. ŽNIDARIČ
10:30	Coffee Break/GROUP PHOTO	

Convener: H. Katzgraber - LB (Budinich Lecture Hall) (11:00-14:30)

time	title	presenter
11:00	Universal scaling for a quantum discontinuity critical point and an adiabatic time evolution	S. SUZUKI
11:45	Spin glasses and Adiabatic Quantum Computing	A. YOUNG
12:30	Lunch Break	

Convener: P. Young - LB (Budinich Lecture Hall) (14:30-21:00)

time	title	presenter
14:30	Geometric and counter-diabatic optimization of quantum annealing protocols	A. POLKOVNIKOV
15:15	Quantum vs classical optimization: A status update on the arms race	H. KATZGRABER
19:00	RECEPTION Dinner	

Friday 26 August 2016

Convener: C. Laumann - LB (Budinich Lecture Hall) (09:00-11:00)

time	title	presenter
09:00	Characterizing Quantum Supremacy in Near-Term Devices	S. BOIXO
09:45	Quantum Simulated Annealing and open adiabatic dynamics in Ising ferromagnets	R. FAZIO
10:30	Coffee Break	

Convener: R. Fazio - LB (Budinich Lecture Hall) (11:00-12:20)

time	title	presenter
11:00	Suppression of inhomogeneous broadening of qubit ensemble under optimized driving	S. REMIZOV
11:25	(De)-localization in mean-field quantum glasses	C. LAUMANN
12:10	Closing Remarks	