

**Quantum Computing Thematic Track at ICCS 2020**

**June 10, 2020**

<b>9:00-10:30 Session 1 chair: Marian Bubak</b>					
1	9:00-9:15	quantum algorithms	628	Gustaw Lippa, Krzysztof Makiela and Marcin Kuta	Simulations of Quantum Finite Automata
2	9:15-9:30	quantum algorithms	372	Matthias Möller and Merel Schalkers	A cross-platform programming framework for quantum-accelerated scientific computing
3	9:30-9:45	quantum algorithms	425	Tomasz Arodz	Generalized Quantum Deutsch-Jozsa Algorithm
4	9:45-10:00	quantum annealing	51	Daniel Vert, Renaud Sirdey and Stephane Louise	Revisiting old combinatorial beasts in the quantum age: quantum annealing versus maximal matching
5	10:00-10:15	quantum annealing	95	Christoph Roch, Thomy Phan, Sebastian Feld, Robert Müller, Thomas Gabor, Carsten Hahn and Claudia Linnhoff-Popien	A Quantum Annealing Algorithm for Finding Pure Nash Equilibria in Graphical Games
6	10:15-10:30	quantum annealing	411	Krzysztof Kurowski, Jan Weglarz, Marek Subocz, Rafal Rozycki and Grzegorz Waligora	Hybrid quantum annealing heuristic method for solving Job Shop Scheduling Problem
	10:30-11:00	<i>Coffee break</i>			
<b>11:00-12:30 Session 2 chair: Katarzyna Rycerz</b>					
7	11:00-11:15	quantum annealing	505	Dawid Tomaszewicz, Maciej Pawlik, Maciej Malawski and Katarzyna Rycerz	Foundations for Workflow Application Scheduling on D-Wave System
8	11:15-11:30	quantum annealing	519	Irina Chiscop, Jelle Nauta, Bert Veerman and Frank Phillipson	A Hybrid Solution Method for the Multi-Service Location Set Covering Problem
9	11:30-11:45	quantum annealing	651	Paweł Gora, Michał Borowski, Katarzyna Karnas, Mateusz Błajda, Krystian Król, Artur Matyjasek, Damian Burczyk, Miron Szewczyk and Michał Kutwin	New hybrid quantum annealing algorithms for solving Vehicle Routing Problem
10	11:45-12:00	quantum machine learning	289	Niels Neumann, Paolo de Heer, Irina Chiscop and Frank Phillipson	Multi-agent reinforcement learning using simulated quantum annealing
11	12:00-12:15	quantum machine learning	292	Nicholas Meinhardt, Niels Neumann and Frank Phillipson	Quantum Hopfield neural networks: A new approach and its storage capacity
12	12:15-12:30	quantum machine learning	387	Antonio Macaluso, Luca Clissa, Stefano Lodi and Claudio Sartori	A Variational algorithm for Quantum Neural Networks
	12:30-14:00	<i>Lunch break</i>			
<b>14:00-16:00 Session 3 chair: Bogdan Staszewski</b>					
13	14:00-14:15	quantum information	355	Niels Neumann, Roy van Houte and Thomas Attema	Imperfect Distributed Quantum Phase Estimation
14	14:15-14:30	quantum information	599	Paulina Lewandowska, Ryszard Kukulski and Łukasz Pawela	Optimal representation of quantum channels
15	14:30-14:45	quantum information	683	Ryszard Kukulski, Paulina Lewandowska and Łukasz Pawela	Perturbation of the numerical range of unitary matrices
16	14:45-15:00	quantum information	140	Marco Chiani and Lorenzo Valentini	Design of Short Codes for Quantum Channels with Asymmetric Pauli Errors
17	15:00-15:15	quantum hardware	331	Andrii Sokolov, Dmytro Mishagli, Panagiotis Giounanlis, Imran Bashir, Dirk Leipold, Eugene Koskin, Robert Bogdan Staszewski and Elena Blokhina	Simulation Methodology for Electron Transfer in CMOS Quantum Dots
18	15:15-15:45	<b>Invited talk</b>		<b>Dirk Leipold</b>	<b>Quantum Processor Unit System-on-a Chip (QPU-SOC) Based on Fully Depleted Silicon-on-Insulator (FD-SOI) Technology</b>
19	15:45-16:00	Summary		Marian Bubak, Katarzyna Rycerz	