

## INQA2023 Innsbruck, 6th - 8th November Program

Monday 6th November		
Time	Session	Speaker
8:30 - 9:00	<b>Registratration desk</b>	
9:00 - 9:15	<b>Introduction:</b> Welcome and conference kick off	Paul Warburton, UCL, United Kingdom
9:15 - 10:00	<b>Talk:</b> Superconductor Digital Circuits: Recent Progress and Quantum Applications	Naoki Takeuchi, AIST, Japan
10:00 - 10:45	<b>Talk:</b> Characterising and benchmarking quantum platforms: The challenge, the state of play and the future outlook	Jessica Park, DSTL, UK
10:45 - 11:15	Coffee break	
11:15 - 11:40	<b>Talk:</b> A strategy exploiting coherence for diabatic quantum annealing	Werner, Matthias Qilimanjaro Quantum Tech / University of Barcelona, Spain
11:40 - 12:05	<b>Talk:</b> Beyond-Kibble-Zurek physics in the transverse-field Ising model	Federico Balducci, University of Luxembourg, Luxembourg
12:05 - 12:50	<b>Talk:</b> Excited states in the quantum annealing	Takashi Imoto, AIST, Japan
12:50 - 14:15	Lunch	
14:15 - 15:00	<b>Talk:</b> How it Goes: Reconciling Different Views of Quantum Annealing Performance	Catherine McGeoch, D-Wave, Canada
15:00 - 15:45	<b>Talk:</b> Direct observation and manipulation of quantum interference in a superconducting Kerr parametric oscillator	Jaw-Shen Tsai, RIKEN, Japan
15:45 - 16:15	Coffee break	
16:15 - 17:00	<b>Talk:</b> Accelerating equilibrium spin-glass simulations using quantum annealers via generative deep learning	Sebastiano Pilati, UNICAM, INFN, Italy
17:00 - 17:45	<b>Talk:</b> Quantum annealing with Kerr parametric oscillators, Josephson parametric oscillators, and the Lechner-Hauke-Zoller scheme	Ryoji Miyazaki, NEC, Japan
19:00 - 19:30	<b>Aperitif</b> at <a href="#">Restaurant 1809 (Bergiselweg 2, Innsbruck)</a>	
19:30 - 19:30	<b>Social Dinner</b> at <a href="#">Restaurant 1809 (Bergiselweg 2, Innsbruck)</a>	

Tuesday 7th November		
Time	Session	Speaker
9:00 - 9:45	<b>Talk:</b> Quantum Optimization with Rydberg Atom Arrays	Hannes Pichler, Innsbruck University, Austria
9:45 - 10:30	<b>Talk:</b> Algorithms and applications on Aquila: QuEra's cloud-accessible analog Hamiltonian simulator based on programmable Rydberg atom arrays	Alexei Bylinskii, QuEra USA
10:30 - 11:00	Coffee break	
11:00 - 11:25	<b>Talk:</b> Formulating Structural Design Optimization Problems for Quantum Annealing	Fabian Key, TU Wien, Austria
11:25 - 11:50	<b>Talk:</b> Guided Quantum Walk	Willsch Dennis, Forschungszentrum Jülich, Germany
11:50 - 12:35	<b>Talk:</b> Beyond MIS: Performing analogue optimisation on a neutral atom array using local addressing	Jonathan Pritchard, Strathclyde, UK
12:35 - 14:00	Lunch and Poster session	
14:00 - 15:20	Poster session	
15:20 - 16:05	<b>Talk:</b> Parent Hamiltonian reconstruction via inverse quantum annealing.	Davide Rattacaso, University of Padua, Italy
16:05 - 16:35	Coffee break	
16:35 - 17:20	<b>Talk:</b> Encoding Constrained Optimization Problems using the Parity Architecture	Wolfgang Lechner, Innsbruck/ParityQC, Austria
17:20 - 17:45	<b>Talk:</b> Virtual mitigation of coherent non-adiabatic transitions by echo verification	Dyon van Vreumingen, Universiteit van Amsterdam / CWI, Netherlands

Wednesday 8th November		
Time	Session	Speaker
9:00 - 9:45	<b>Talk:</b> Effectiveness of quantum annealing for continuous-variable optimization	Hidetoshi Nishimori, Titech, Japan
9:45 - 10:30	<b>Talk:</b> Implementation of a modular architecture for generalized flux qubits	Ioan Pop, KIT, Germany
10:30 - 11:00	Coffee break	
11:00 - 11:25	<b>Talk:</b> A general method to construct mean field counter diabatic driving for quantum annealing	Hiroshi Hayasaka, AIST, Japan
11:25 - 11:50	<b>Talk:</b> Many-body localization detection based on quantum dynamics	Kazue Kudo, Ochanomizu University, Japan
11:50 - 12:35	<b>Talk:</b> Variational quantum simulation with trapped ions	Christian Roos, Innsbruck University, Austria
12:35 - 14:00	Lunch	
14:00 - 14:45	<b>Talk:</b> Iterative Quantum Algorithms and Quantum Annealing	Lucas Brady, NASA United States
14:45 - 15:30	<b>Talk:</b> Quantum search and optimization with quantum walks	Leonardo Novo, International Iberian Nanotechnology Laboratory, Portugal
15:30 - 16:00	Coffee break	
16:00 - 16:45	<b>Talk:</b> Classification problems for quantum machine learning: how should we ask questions to quantum computers?	Kae Nemoto, Okinawa Inst of Sci and Tech, Japan
16:45 - 17:30	<b>Talk:</b> Simulating Heavy-Hex Transverse Field Ising Model Magnetization Dynamics Using Programmable Quantum Annealers	Elijah Pelofske, LANL, United States