

QCE21 Accepted Posters

All times in Mountain Time (MT) — UTC-6

Poster 1: Mon, Oct 18 @ 10:00-10:45 — Variational Quantum Algorithm for Eigenvalue Problems of a Class of Schrödinger-type Partial Differential Equations

Paula García-Molina, Javier Rodríguez-Mediavilla, Juan José García-Ripoll (Inst. De Física)

Poster 1: Mon, Oct 18 @ 10:00-10:45 — Detecting Energy Levels of Spin Systems on IBM's Quantum Computer by Evolution of Mean Value of Physical Quantity

Khrystyna Gnatenko (Ivan Franko National Univ. of Lviv), Hanna Laba (Lviv Polytechnic National Univ.), Volodymyr Tkachuk (Ivan Franko National Univ. of Lviv)

Poster 2: Mon, Oct 18 @ 12:15-13:00 — Self-avoiding Quantum Walk in Protein Folding

Christopher Um (Cornell Univ.)

Poster 2: Mon, Oct 18 @ 12:15-13:00 — Implementing the Simplex Method with Grover's Search

Adeline Jordon, Saasha Joshi, Prashanti Priya Angara (Univ. of Victoria)

Poster 3: Mon, Oct 18 @ 14:30-15:15 — Simulation of Continuous-Variable Quantum Systems with Tensor Network

Ryutaro Nagai (blueqat inc.), Takao Tomono (Toppan Inc.), Yuichiro Minato (blueqat inc.)

Poster 3: Mon, Oct 18 @ 14:30-15:15 — Optimistic Entanglement Purification with few Quantum Memories

Mohammad Mobayenjarahani (Univ. of Massachusetts Amherst), Gayane Vardoyan (Delft Univ. of Technology), Donald Towsley (Univ. of Massachusetts Amherst)

Poster 4: Tue, Oct 19 @ 10:00-10:45 — qopt: An experiment-oriented Qubit Simulation and Quantum Optimal Control Package

Julian Teske, Hendrik Bluhm (Forschungszentrum Jülich GmbH)

Poster 4: Tue, Oct 19 @ 10:00-10:45 — Open-source Multi-channel Smart Arbitrary Waveform Generators (SAWG) for Quantum Information Processing

David Allcock (Univ. of Oregon & NIST), Christopher Balance (Univ. of Oxford), Sébastien Bourdeauducq (M-Labs Ltd.), Joseph Britton (Army Research Lab.), Michał Gąska (Warsaw Univ. of Technology), Thomas Harty (Univ. of Oxford), Jakub Jarosiński (Warsaw Univ. of Technology), Robert Jördens (QUARTIQ GmbH), Grzegorz Kasprowicz (Warsaw Univ. of Technology), Norman Krackow (M-Labs Ltd.), Paweł Kulik (Warsaw Univ. of Technology), David Nadlinger (Univ. of Oxford), Dorota Nowicka, Krzysztof Późniak, Tomasz Przywózki (Warsaw Univ. of Technology), Daniel Slichter (QUARTIQ GmbH), Mikołaj Sowiński (Warsaw Univ. of Technology), Marius Weber, Weida Zhang (Univ. of Oxford)

Poster 5: Tue, Oct 19 @ 12:15-13:00 — Joint Parity-Time and Anti-Parity-Time-symmetric Qubits

Julia Cen, Avadh Saxena (Los Alamos National Lab)

Poster 5: Tue, Oct 19 @ 12:15-13:00 — On Generating a Probability Distribution Amenable to NISQ Using Modifications to Grover's Algorithm

Sayantan Pramanik, M Girish Chandra (Tata Consultancy Services)

Poster 6: Tue, Oct 19 @ 14:30-15:15 — A Low-noise and Scalable FPGA-based Analog Signal Generator for Quantum Gas Experiments

David Pahl, Lukas Pahl, Enis Mustafa, Zhenning Liu, Philipp Fabritius, Jeffrey Mohan, Peter Clements, Abdulkadir Akin, Tilman Esslinger (ETH Zurich)

Poster 6: Tue, Oct 19 @ 14:30-15:15 — Optimal Control-plane Policies for Distributed Quantum Computation in Quantum Networks

Matheus Guedes de Andrade, Wenhai Dai, Don Towsley (Univ. of Massachusetts Amherst), Saikat Guha (Univ. of Arizona)

Poster 7: Wed, Oct 20 @ 10:00-10:45 — Quantum Algorithms for Monte Carlo Integration using Pseudo-random Numbers

Koichi Miyamoto (Osaka Univ.)

Poster 7: Wed, Oct 20 @ 10:00-10:45 — Optimal Linear Optical Discrimination of Bell-like States

Dov Fields (Hunter College), Janos Bergou, Mark Hillery (City Univ. of New York), Vladimir Malinovsky (Army Research Lab.)

Poster 8: Wed, Oct 20 @ 12:15-13:00 — Rebalancing Bike Sharing Systems under Uncertainty using Quantum Bayesian Networks

Ramkumar Harikrishnakumar, Sima Borujeni (Wichita State Univ.), Syed Farhan Ahmad (R. V College of Engineering), Saideep Nannapaneni (Wichita State Univ.)

Poster 8: Wed, Oct 20 @ 12:15-13:00 — Solving Sensor Placement Problem In Real Water Distribution Networks Using Adiabatic Quantum Computation

Federico Bianchi, Stefano Speziali, Andrea Marini, Lorenzo Menculini, Massimiliano Proietti (Idea-Re S.r.l.), Loris F. Termite (K-Digitale S.r.l.), Alberto Garinei, Marcello Marconi (Guglielmo Marconi Univ. & Idea-Re S.r.l.), Andrea Delogu (BlueGold S.r.l.)

Poster 9: Wed, Oct 20 @ 14:30-15:15 — Strategies in Quantum Metrology for Precise Measurements

Arunava Majumder (Indian Institute of Techn. Kharagapur), Harshank Shrotriya, Leong-Chuan Kwek (Nat. Univ. of Singapore)

Poster 9: Wed, Oct 20 @ 14:30-15:15 — Quantifying Geometric Measure of Entanglement of Multi-qubit Graph States on the IBM's Quantum Computer

Nataliia Susulovska, Khrystyna Gnatenko (Ivan Franko National Univ. of Lviv)

Poster 10: Thu, Oct 21 @ 10:00-10:45 — Measurement of Ion Motion Caused by Laser-Induced Stray Charges on Microfabricated Ion Trap Chip Surfaces

Changhyun Jung, Woojun Lee, Junho Jeong, Taehyun Kim, Dong-II Cho (Seoul National Univ.)

Poster 10: Thu, Oct 21 @ 10:00-10:45 — On-demand Creation of Quantum Emitters in Hexagonal Boron Nitride on Non-patterned Substrates

Xiaohui Xu, Zachariah Martin, Demid Sychev, Alexei Lagutchev, Yong Chen, Vladimir Shalaev, Alexandra Boltasseva (Purdue Univ.)

Poster 11: Thu, Oct 21 @ 12:15-13:00 — A Modular Quantum Key Distribution Software Stack for Rapid Experimental Prototyping

Omar Amer, Kevin Freyberg (Univ. of Connecticut), Vaibhav Garg (Comcast Cable), Walter Krawec (Univ. of Connecticut)

Poster 11: Thu, Oct 21 @ 12:15-13:00 — Quantifying A Polarization Diversity CV-QKD Detection Scheme for Channels with Strong Polarization Drift

Daniel Pereira, Nuno Silva, Armando Pinto (Inst. De Telecomunicações)

Poster 12: Thu, Oct 21 @ 14:30-15:15 — Experiments on Fraud Detection Use Case with QML and TDA Mapper

Satanik Mitra, Kameshwar Rao Jv (HCL Technologies)

Poster 12: Thu, Oct 21 @ 14:30-15:15 — Multi-qubit Size-hopping Deutsch-Jozsa Algorithm with Qubit Reordering for Secure Quantum Key Distribution

Rohit De (Del Norte High School), Raymond Moberly, Colton Beery, Jeremy Juybari (Faster Logic, LLC), Kyle Sundqvist (San Diego State Univ.)

Poster 13: Fri, Oct 22 @ 10:00-10:45 — Graph State Distribution

Wenbo Xie (Purdue Univ.), Wenhan Dai, Don Towsley (Univ. of Massachusetts Amherst)

Poster 13: Fri, Oct 22 @ 10:00-10:45 — A Quantum Binary Classifier based on Cosine Similarity

Davide Pastorello, Enrico Blanzieri (Univ. of Trento)

Poster 14: Fri, Oct 22 @ 12:15-13:00 — Trainable Discrete Feature Embeddings for Quantum Machine Learning

Napat Thumwanit, Chayaphol Lortararprasert, Hiroshi Yano, Rudy Raymond

Poster 14: Fri, Oct 22 @ 12:15-13:00 — Discriminating Quantum States with Quantum Machine Learning

David Quiroga (Univ. de Antioquia), Prasanna Date, Raphael Pooser (Oak Ridge Natl. Lab)

Poster 15: Fri, Oct 22 @ 14:30-15:15 — An Engineer's Brief Introduction to Microwave Quantum Optics

Malida Hecht, Antonio Cobarrubia, Kyle Sundqvist (San Diego State Univ.)

Poster 15: Fri, Oct 22 @ 14:30-15:15 — Developing SLH Theory for Use with Microwave Circuits

Antonio Cobarrubia, Kyle Sundqvist (San Diego State Univ.)