Quantum Computing Theory in Practice 8th – 10th April 2019

Lecture Theatre 2, Chemistry Building, Cantock's Close, BS8 1TS

Day	Time	Speaker
Monday 8th April	10.00 - 10.45	Registration
	10.45-11.00	**Welcome and Introductory Remarks: Nishan Canagarajah (Pro Vice-Chancellor for Research and Enterprise)**
	11.00-12.00	**Iordanis Kerenidis (CNRS, IRIF, Univ Paris Diderot)-** **Title: Quantum algorithms for Machine Learning and Optimization**
	12.00-13.30	Lunch
	13.30-14.00	**David Poulin (Université de Sherbrooke)** **Title: Numerical simulations of quantum error correction**
	14:00- 14:30	**Naomi Nickerson (PsiQuatum)** **Title: Fault tolerance in silicon photonic quantum computing**
	14.30-15.00	Coffee break
	15.00-15.30	**Marcus da Silva (Rigetti)** **Title: A flexible, high-fidelity approach to entangling gates in superconducting qubits, with applications**
	15.30-16.00	**Jevgēnijs Vihrovs (University of Latvia)**

		Title: Quantum Speedups for Exponential- Time Dynamic Programming Algorithms
	16.00-18.00	**Poster Session and Drinks Reception**

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Day	Time	Speaker
Tuesday 9th April	9.00-09.30	Coffee
	09.30-10.00	**Ronald de Wolf (CWI)** **Title: Quantum algorithms for optimization**
	10.00-10.30	**Joran van Apeldoorn (CWI)** **Title: Quantum algorithms for zero- sum games**
	10.30-11.00	Coffee break
	11:00- 11:30	**Joel Wallman (University of Waterloo/Quantum Benchmark Inc.)** **Title: Reconstructing Pauli Error Channels**
	11.30-12.00	**Aram Harrow (MIT)** **Title: Grover's algorithm, databases and quantum machine learning**
	12.00 – 13.30	Lunch

	13.30 - 14.00	**Eleni Diamanti (CNRS, Sorbonne University)** **Title: Demonstrating quantum advantage with practical photonic systems**

	14.00 – 14.30	**Daniel Litinski (Freie Universitat Berlin)** **Title: A Game of Surface Codes: Large-Scale Quantum Computing with Lattice Surgery**
	14.30 – 15.00	Coffee break
Tuesday 9th April cont.	15.00 – 16.30	**Open Problems**
	16.30 - 17.00	**Coffee break**
	17.00 – 18.00	**Industry Session**
	19.00 19.40	**Drinks Reception at Bristol Museum & entry to Da Vinci exhibition** **Dinner**

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Day	**Time**	**Speaker**
Wednesday 10th April	09.00 - 09.30	Coffee
	09.30 - 10.00	**Andrew Childs (University of Maryland)** **Title: Algorithmic advances in quantum simulation**
	10.00 - 10.30	**Ryan Babbush (Google)** **Title: Reducing the cost of quantum chemistry simulation by changing representation**
	10.30 - 11.00	Coffee break
	11.00 - 11.30	**Oscar Higgott (Riverlane)** **Title: Variational Quantum Computation of Excited States**

	11.30-12.00	**Sam McArdle (University of Oxford)** **Title: Error mitigated digital quantum simulation**
	12.00 – 13.30	Lunch
	13.30 - 14.00	**Juani Bermejo-Vega (Freie Universitat Berlin)** **Title: Architectures for quantum simulation showing a quantum speedup**
	14.00 – 14.30	**Padraic Calpin (UCL)** **Title: Simulation of quantum circuits by low-rank stabilizer decompositions**
	14.30 – 15.00	Coffee Break
	15.00 – 16.00	**Hartmut Neven (Google)** **Title: Where shall we look to find early wins for quantum machine learning?**
	16:00	**FINISH**