

Quantum Information Science for Fundamental Physics

Tuesday, 18 February 2020

Morning session: Big questions - Flug Forum (08:00 - 11:05)

time	[id] title	presenter
08:00	[1] Perspectives on Quantum Information Science for Fundamental Physics	PRESKILL, John
08:40	[2] Quantum electromagnetic sensors and the search for axion dark matter below 1 micro-eV	IRWIN, Kent
09:20	Coffee break	
09:40	[3] New Ideas in Dark Matter Detection	ZUREK, Kathryn
10:20	[4] Quantum technologies for gravitational wave detectors	MAVALVALA, Nergis

Wednesday, 19 February 2020

Morning session: Quantum sensing and error correction - Flug Forum (08:00 - 11:10)

time	[id] title	presenter
08:00	[8] Sensing, Entanglement, and Scrambling	GORSHKOV, Alexey
08:30	[9] Advanced Characterization and Sensing with Squeezed Optomechanical Systems	POOSER, Raphael
09:00	Coffee break	
09:30	[10] Cavity Optomechanics: Generating Mechanical Interference Fringes and Brillouin Optomechanical Strong Coupling	VANNER, Michael
10:00	[11] Quantum Control of Harmonic Oscillator Motional States of Ions	LEIBFRIED, Dietrich

Thursday, 20 February 2020

Morning session: Quantum information and black holes - Flug Forum (08:00 - 09:00)

time	[id] title	presenter
08:00	[12] Replica Wormholes and the Black Hole Interior	PENINGTON, Geoff
08:30	[13] A Traversable Wormhole Teleportation Protocol in the SYK Model	GAO, Ping

Morning session: New technologies - Flug Forum (10:00 - 11:00)

time	[id] title	presenter
10:00	[14] Superconducting Kinetic Inductance Technologies for Submillimeter Single-Photon Detection and Quantum-Limited Amplification for Spectroscopy in Space	NOROOZIAN, Omid
10:30	[15] Superconducting Nanowire Detectors for rare event searches	NAM, Sae Woo

Friday, 21 February 2020

Morning session: Holography and quantum simulation - Flug Forum (08:00 - 11:00)

time	[id] title	presenter
08:00	[26] Synthesis of Quantum-Noise-"Free" Systems	ADHIKARI, Rana
08:30	[24] Mechanical architectures for fundamental physics detection	CARNEY, Dan
09:00	[25] A Supersonically expanding BEC: An expanding universe in the lab	CAMPBELL, Gretchen
09:30	Coffee break	
10:00	[22] Quantum Gravity in the Lab	LEICHENAUER, Stefan
10:30	[23] Hidden Space-times in Quantum Spin Chains	CAO, Charles

Saturday, 22 February 2020

Morning session: Particle physics and quantum information - Flug Forum (08:00 - 09:00)

time	[id] title	presenter
08:00	[32] Quantum algorithms for pattern recognition in high-energy physics experiments	GRAY, Heather
08:30	[33] Quantum Algorithms for High Energy Physics Simulations	BAUER, Christian

Morning session: New technologies II - Flug Forum (09:30 - 10:30)

time	[id] title	presenter
09:30	[16] Axion Searches from Micro-eV to Milli-eV	SONNENSCHNEIN, Andrew
10:00	[34] First results of DarkSRF: a dark photon search using SRF cavities	GRASSELINO, Anna