

Data Science and Quantum Computing Workshop

Report of Contributions

Contribution ID: 7

Type: **not specified**

Welcome

Wednesday, June 27, 2018 9:00 AM (10 minutes)

Presenter: Prof. DILLING, Jens (TRIUMF)

Session Classification: Opening

Contribution ID: 8

Type: **not specified**

Introduction to TRIUMF

Wednesday, June 27, 2018 9:10 AM (20 minutes)

Presenter: Dr BAGGER, Jonathan (TRIUMF)

Session Classification: Opening

Contribution ID: 9

Type: **not specified**

Introduction to Helmholtz

Wednesday, June 27, 2018 9:30 AM (20 minutes)

Presenter: MNICH, Joachim (DESY)

Session Classification: Opening

Contribution ID: **10**

Type: **not specified**

The EOSC Pilot and the Helmholtz Incubator

Wednesday, June 27, 2018 10:20 AM (20 minutes)

Presenter: GÜLZOW, Volker (DESY)

Session Classification: Partner Programs

Contribution ID: 11

Type: **not specified**

Quantum Computing at ORNL . . . and Beyond

Wednesday, June 27, 2018 10:40 AM (20 minutes)

Presenter: DEAN, David (Oak Ridge National Laboratory)

Session Classification: Partner Programs

Contribution ID: 12

Type: **not specified**

KEY SFU's Big Data Initiative

Wednesday, June 27, 2018 11:00 AM (20 minutes)

Presenter: ROALD, Trevor (Simon Fraser University)

Session Classification: Partner Programs

Contribution ID: 13

Type: **not specified**

UBC Data Science Institute

Wednesday, June 27, 2018 11:20 AM (20 minutes)

Presenter: SCHMIDT, Mark (University of British Columbia)

Session Classification: Partner Programs

Contribution ID: 14

Type: **not specified**

Institute for Quantum Computing - Waterloo

Wednesday, June 27, 2018 11:40 AM (20 minutes)

Presenter: GHEORGHIU, Vlad

Session Classification: Partner Programs

Contribution ID: 15

Type: **not specified**

Canada's Digital Technology Supercluster –A catalyst for Digital Transformation in Canadian Industries

Wednesday, June 27, 2018 12:00 PM (20 minutes)

Presenter: PRELAZZI, Dean

Session Classification: Partner Programs

Contribution ID: 16

Type: **not specified**

EOSC and the EOSC Pilot; a European View

Wednesday, June 27, 2018 3:10 PM (20 minutes)

Presenter: FUHRMAN, Patrick (DESY)

Session Classification: Big Data & Platforms

Contribution ID: 17

Type: **not specified**

R&D for High Energy and Astroparticle Physics

Wednesday, June 27, 2018 3:30 PM (20 minutes)

Presenter: GIFFELS, Manuel (Karlsruhe Institute of Technology)

Session Classification: Big Data & Platforms

Contribution ID: 18

Type: **not specified**

Westgrid / Compute Canada

Wednesday, June 27, 2018 2:50 PM (20 minutes)

Presenter: SILL, Lindsay (WestGrid)

Session Classification: Big Data & Platforms

Contribution ID: 19

Type: **not specified**

Quantum Computing Landscape

Wednesday, June 27, 2018 3:50 PM (20 minutes)

Presenter: SAMLI, Kausar (1QBIT)

Session Classification: Big Data & Platforms

Contribution ID: 20

Type: **not specified**

Helmholtz Analytics Framework Project

Thursday, June 28, 2018 9:00 AM (30 minutes)

Presenter: GOETZ, Markus (Karlsruhe Institute of Technology)

Session Classification: The European Open Science Cloud and the Helmholtz Incubator

Contribution ID: 21

Type: **not specified**

Applications of FairROOT

Thursday, June 28, 2018 9:30 AM (20 minutes)

Presenter: KOLLEGER, Thorsten (GSI)

Session Classification: The European Open Science Cloud and the Helmholtz Incubator

Contribution ID: 22

Type: **not specified**

Quantum Computer Simulators / Quantum Computer User Facility JUNIQ

Thursday, June 28, 2018 9:50 AM (30 minutes)

Presenter: MICHELTSEN, Kristel (Juelich)

Session Classification: The European Open Science Cloud and the Helmholtz Incubator

Contribution ID: 23

Type: **not specified**

TRIUMF Innovations

Thursday, June 28, 2018 10:50 AM (20 minutes)

Presenter: Ms HAYASHI, Kathryn (TRIUMF Innovations)

Session Classification: TRIUMF

Contribution ID: 24

Type: **not specified**

Examples from the Particle Physics Department

Thursday, June 28, 2018 11:10 AM (20 minutes)

Presenter: Dr STELZER-CHILTON, Oliver (TRIUMF)

Session Classification: TRIUMF

Contribution ID: 25

Type: **not specified**

Nuclear Physics at TRIUMF: Perspectives on applications of ML and QC

Thursday, June 28, 2018 11:30 AM (20 minutes)

Presenter: Dr NAVRATIL, Petr (TRIUMF)

Session Classification: TRIUMF

Contribution ID: 26

Type: **not specified**

Accelerator Division

Presenter: BAARTMAN, Richard (TRIUMF)

Contribution ID: 27

Type: **not specified**

Deep Neural Network Applications for Particle Imaging Detectors

Thursday, June 28, 2018 1:00 PM (20 minutes)

Presenter: KAZUHIRO, Terao (SLAC National Accelerator Laboratory)

Session Classification: Machine Learning | Detailed Examples

Contribution ID: 28

Type: **not specified**

Analyzing and Predicting Software Bugs with a Hidden Markov Model

Thursday, June 28, 2018 1:20 PM (20 minutes)

Presenter: STIBOR, Thomas (GSI)

Session Classification: Machine Learning | Detailed Examples

Contribution ID: 29

Type: **not specified**

Machine Learning using Quantum Computing

Thursday, June 28, 2018 1:40 PM (20 minutes)

Presenter: ZAHEDINEJAD, Ehsan (1QBIT)

Session Classification: Machine Learning | Detailed Examples

Contribution ID: 30

Type: **not specified**

Quantum magnetism on a chip

Wednesday, June 27, 2018 1:30 PM (1 hour)

Feynman's original vision for a quantum computer was of a physical quantum system whose Hamiltonian could be adjusted in situ to simulate the physics of a variety of other quantum systems. Quantum magnetic systems, with localized spins and short range interactions, are perhaps the simplest such physical quantum system that can be implemented in existing solid state technologies. This lecture will review how a D-Wave 2000Q quantum annealing processor, an ostensibly 2-dimensional circuit, can be used to realize phase transitions in the transverse field Ising model on a 3-dimensional lattice.

Presenter: HARRIS, Richard (D-WAVE)

Session Classification: TRIUMF Colloquium | D-WAVE Quantum Computing

Contribution ID: 31

Type: **not specified**

The D-Wave Quantum Cloud Platform and Application Examples

Thursday, June 28, 2018 2:00 PM (30 minutes)

Presenter: BARATZ, Alan (D-WAVE)

Session Classification: Machine Learning | Detailed Examples

Contribution ID: 32

Type: **not specified**

Quantum Computing for Nuclear Physics: Linear Response

Thursday, June 28, 2018 2:50 PM (20 minutes)

Presenter: CARLSON, Joseph (Los Alamos National Laboratory)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 33

Type: **not specified**

Tensor network and quantum computing challenges for high energy physics

Thursday, June 28, 2018 3:10 PM (20 minutes)

Presenter: JANSEN, Karl (DESY)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 34

Type: **not specified**

Quantum simulation of lattice gauge theories

Thursday, June 28, 2018 3:30 PM (20 minutes)

Presenter: MUSCHIK, Christine (University of Waterloo)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 35

Type: **not specified**

Quantum computation of the deuteron

Thursday, June 28, 2018 3:50 PM (20 minutes)

Presenter: MORRIS, Titus (Oak Ridge National Laboratory)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 36

Type: **not specified**

Pursuing the Quantum Advantage for QCD

Thursday, June 28, 2018 4:10 PM (20 minutes)

Presenter: SAVAGE, Martin (University of Washington)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 37

Type: **not specified**

Bus Departure

Contribution ID: **38**

Type: **not specified**

Dinner Cruise

Contribution ID: 39

Type: **not specified**

Bus Return to TRIUMF

Contribution ID: 40

Type: **not specified**

Panel Discussion

Friday, June 29, 2018 2:00 PM (30 minutes)

Presenter: HELMHOLTZ, TRIUMF, D-WAVE, 1QBIT

Session Classification: CLOSING

Contribution ID: 41

Type: **not specified**

MOU

Friday, June 29, 2018 2:30 PM (20 minutes)

Session Classification: CLOSING

Contribution ID: 42

Type: **not specified**

MOU Signing

Contribution ID: 43

Type: **not specified**

Closing Remarks

Friday, June 29, 2018 2:50 PM (20 minutes)

Session Classification: CLOSING

Contribution ID: 44

Type: **not specified**

Reception

Friday, June 29, 2018 3:10 PM (25 minutes)

Session Classification: CLOSING

Contribution ID: 45

Type: **not specified**

Protein design with hybrid quantum/classical algorithms

Thursday, June 28, 2018 4:30 PM (20 minutes)

Presenter: FINGERHUTH, Mark (ProteinQure)

Session Classification: Quantum Computing | Detailed Examples

Contribution ID: 46

Type: **not specified**

Planning Slides

Wednesday, June 27, 2018 8:00 AM (20 minutes)

Session Classification: Registration Desk: Open 8:00 - 11:00