

Efficient simulations on GPU hardware



Report of Contributions

Contribution ID: **18**

Type: **not specified**

Talk 9: One Code and Four APIs : performance portable software for lattice field theory

Wednesday, 26 October 2022 15:00 (45 minutes)

Primary author: BOYLE, Peter

Presenter: BOYLE, Peter

Session Classification: Contributed talks

Contribution ID: 19

Type: **not specified**

Talk 10: Experience using MILC and QUDA on various GPU systems

Wednesday, 26 October 2022 15:45 (45 minutes)

Primary author: GOTTLIEB, Steven

Presenter: GOTTLIEB, Steven

Session Classification: Contributed talks

Contribution ID: **20**

Type: **not specified**

Talk 11: GPU port of openQCD using CUDA

Thursday, 27 October 2022 09:30 (45 minutes)

Primary author: ZIEGLER, Felix

Presenter: ZIEGLER, Felix

Session Classification: Contributed talks

Contribution ID: 21

Type: **not specified**

Talk 12: HILA lattice simulation framework - write once, run everywhere

Thursday, 27 October 2022 10:45 (45 minutes)

Primary author: RUMMUKAINEN, Kari

Presenter: RUMMUKAINEN, Kari

Session Classification: Contributed talks

Contribution ID: 22

Type: **not specified**

Talk 14: QUDA: Getting more QCD out of your GPU

Thursday, 27 October 2022 15:00 (45 minutes)

Primary author: WAGNER, Mathias

Presenter: WAGNER, Mathias

Session Classification: Contributed talks

Contribution ID: 23

Type: **not specified**

Talk 15: Simulations of Lattice Quantum Chromodynamics on GPUs

Thursday, 27 October 2022 15:45 (45 minutes)

Primary author: JOO, Balint

Presenter: JOO, Balint

Session Classification: Contributed talks

Contribution ID: 24

Type: **not specified**

Keynote 1: The Rise of Tightly-Coupled Processor Clusters

Monday, 24 October 2022 13:20 (40 minutes)

Primary author: BENINI, Luca (ETHZ)

Presenter: BENINI, Luca (ETHZ)

Session Classification: Contributed talks

Contribution ID: 25

Type: **not specified**

Keynote 2: Future Architectures for Computing and AI

Monday, 24 October 2022 14:00 (40 minutes)

Primary author: MCCOLL, Bill (Huawei)

Presenter: MCCOLL, Bill (Huawei)

Session Classification: Contributed talks

Contribution ID: 26

Type: **not specified**

Keynote 3: Scaling Machine Learning and Scientific Computing: A Data-Centric Perspective

Monday, 24 October 2022 14:40 (40 minutes)

Primary author: BEN-NUN, Tal (ETH Zürich)

Presenter: BEN-NUN, Tal (ETH Zürich)

Session Classification: Contributed talks

Contribution ID: 27

Type: **not specified**

Keynote 4: To the Exascale, and Beyond: Computing Challenges in Lattice QCD

Monday, 24 October 2022 15:20 (40 minutes)

Primary author: CLARK, Kate

Presenter: CLARK, Kate

Session Classification: Contributed talks

Contribution ID: 28

Type: **not specified**

Panel Discussion

Monday, 24 October 2022 17:00 (30 minutes)

Primary author: BAYER, Fritz

Co-authors: BENINI, Luca (ETHZ); KRSTIC MARINKOVIC, Marina (ETH Zurich); BEN-NUN, Tal (ETH Zürich)

Presenters: BAYER, Fritz; BENINI, Luca (ETHZ); KRSTIC MARINKOVIC, Marina (ETH Zurich); BEN-NUN, Tal (ETH Zürich)

Contribution ID: **30**

Type: **not specified**

Talk 1: Machine Learning applications to lattice QCD

Tuesday, 25 October 2022 09:30 (45 minutes)

Primary author: SHINDLER, Andrea (Michigan State University)

Presenter: SHINDLER, Andrea (Michigan State University)

Session Classification: Contributed talks

Contribution ID: 31

Type: **not specified**

Talk 2: Applications of normalizing flows as generative models for lattice field theory

Tuesday, 25 October 2022 10:45 (45 minutes)

Primary author: KOMIJANI, Javad (ETH Zürich)

Presenter: KOMIJANI, Javad (ETH Zürich)

Session Classification: Contributed talks

Contribution ID: 32

Type: **not specified**

Talk 4: Hierarchical autoregressive approach to two-dimensional statistical systems

Tuesday, 25 October 2022 15:00 (45 minutes)

Primary author: KORCYL, Piotr

Presenter: KORCYL, Piotr

Session Classification: Contributed talks

Contribution ID: 33

Type: **not specified**

Talk 5: Efficient simulations of ML and LQCD

Tuesday, 25 October 2022 15:45 (45 minutes)

Primary author: BOYDA, Denis (Argonne National Laboratory)

Presenter: BOYDA, Denis (Argonne National Laboratory)

Session Classification: Contributed talks

Contribution ID: 34

Type: **not specified**

Talk 6: Real-time techniques and topological data analysis for non-perturbative phenomena in QFT

Wednesday, 26 October 2022 09:30 (45 minutes)

Primary author: SPITZ, Daniel (Heidelberg University, Institute for Theoretical Physics)

Presenter: SPITZ, Daniel (Heidelberg University, Institute for Theoretical Physics)

Session Classification: Contributed talks

Contribution ID: 35

Type: **not specified**

Talk 7: tmLQCD on GPUs: minimum effort approach to performance-portability

Wednesday, 26 October 2022 10:45 (45 minutes)

Primary author: KOSTRZEWA, Bartosz

Presenter: KOSTRZEWA, Bartosz

Session Classification: Contributed talks

Contribution ID: 36

Type: **not specified**

Talk 8: ATLAS fast simulation 3 (Atlfast3) is a performance-focused variant of the full ATLAS simulation

Wednesday, 26 October 2022 13:45 (45 minutes)

Primary author: DAY-HALL, Henry Ann

Presenter: DAY-HALL, Henry Ann

Session Classification: Contributed talks

Contribution ID: 37

Type: **not specified**

Talk 3: Machine learning hadron spectral functions in lattice qcd

Tuesday, 25 October 2022 13:45 (45 minutes)

Primary author: DING, Heng-Tong

Presenter: DING, Heng-Tong

Session Classification: Contributed talks

Contribution ID: 40

Type: **not specified**

Student Flash-Talk 1: Cachew: Machine Learning Input Data Processing as a Service

Monday, 24 October 2022 16:30 (15 minutes)

Primary author: GRAUR, Dan-Ovidiu (ETH Zurich)

Presenter: GRAUR, Dan-Ovidiu (ETH Zurich)

Session Classification: Student flash talks

Contribution ID: 41

Type: **not specified**

Student Flash-Talk 2

Monday, 24 October 2022 16:45 (15 minutes)

Primary author: STRATI, Foteini (ETH Zürich)

Presenter: STRATI, Foteini (ETH Zürich)

Session Classification: Student flash talks

Contribution ID: 42

Type: **not specified**

Q&A

Session Classification: Contributed talks

Contribution ID: 43

Type: **not specified**

Q&A

Contribution ID: 44

Type: **not specified**

Talk 13: Optimized Deep Learning Inference on High Level Trigger at the LHC: Computing time and Resource assessment

Session Classification: Contributed talks

Contribution ID: 45

Type: **not specified**

Talk 13: Optimized Deep Learning Inference on High Level Trigger at the LHC: Computing time and Resource assessment

Thursday, 27 October 2022 13:45 (45 minutes)

Primary author: HASAN, Syed Anwar Ul (ETH Zurich)

Presenter: HASAN, Syed Anwar Ul (ETH Zurich)

Session Classification: Contributed talks

Contribution ID: 46

Type: **not specified**

Flash-Talk

Session Classification: Discussion

Contribution ID: 47

Type: **not specified**

Flash-Talk: Perspectives and challenges in studying the properties of strongly interacting matter in lattice qcd calculations

Thursday, 27 October 2022 13:30 (15 minutes)

Primary author: GOSWAMI, Jishnu (Bielefeld University)

Presenter: GOSWAMI, Jishnu (Bielefeld University)

Session Classification: Contributed talks