

**HEP GARD Accelerator and
Beam Physics:
Community-driven Strategic
Roadmap Workshop #1**

Report of Contributions

Contribution ID: 1

Type: **not specified**

WG1 - Advanced focusing concepts for next-generation accelerators and storage rings

Monday, 9 December 2019 09:15 (20 minutes)

Presenter: ZOLKIN, Tim (Fermilab)

Session Classification: WG1 - Single Particle

Contribution ID: 2

Type: **not specified**

WG1 - New high-efficiency slow extraction concepts

Monday, 9 December 2019 09:35 (20 minutes)

Presenter: ZOLKIN, Tim (Fermilab)

Session Classification: WG1 - Single Particle

Contribution ID: 3

Type: **not specified**

WG1 - Lattice research needs for next-generation HEP facilities

Monday, 9 December 2019 09:55 (20 minutes)

Presenter: LEBEDEV, Valeri (Fermilab)

Session Classification: WG1 - Single Particle

Contribution ID: 4

Type: **not specified**

WG1 - Practical implementations of nonlinear focusing in rings

Monday, 9 December 2019 10:30 (20 minutes)

Presenter: VALISHEV, Alexander (Fermilab)

Session Classification: WG1 - Single Particle

Contribution ID: 5

Type: **not specified**

WG1 - Understanding and Optimization of Dynamic Apertures in Circular Particle Accelerators

Monday, 9 December 2019 10:50 (20 minutes)

Presenter: CAI, Yunhai (SLAC)

Session Classification: WG1 - Single Particle

Contribution ID: 6

Type: **not specified**

WG1 - Investigating the square matrix method for nonlinear dynamics studies

Monday, 9 December 2019 11:10 (20 minutes)

Presenter: HAO, Yue (Michigan State University)

Session Classification: WG1 - Single Particle

Contribution ID: 7

Type: **not specified**

WG1 - Discussion

Monday, 9 December 2019 11:30 (1 hour)

Session Classification: WG1 - Single Particle

Contribution ID: 8

Type: **not specified**

Working lunch talk 1 - Electron microscopy

Monday, 9 December 2019 12:40 (30 minutes)

Presenter: DENES, Peter

Session Classification: Working lunch

Contribution ID: 9

Type: **not specified**

Working lunch talk 2 - Beams and qubits

Monday, 9 December 2019 13:15 (30 minutes)

Presenter: SCHENKEL, Thomas

Session Classification: Working lunch

Contribution ID: **10**

Type: **not specified**

WG3 - Accelerator Physics Needs of Future e+e- and e-h Colliders

Monday, 9 December 2019 14:00 (20 minutes)

Presenter: SEEMAN, John (SLAC)

Session Classification: WG3 - Collective effects

Contribution ID: 11

Type: **not specified**

WG3 - Space-charge effects in high intensity accelerators

Monday, 9 December 2019 14:20 (20 minutes)

Presenter: QIANG, Ji

Session Classification: WG3 - Collective effects

Contribution ID: 12

Type: **not specified**

WG3 - Beam instabilities in the presence of high space-charge (via zoom)

Monday, 9 December 2019 14:40 (20 minutes)

Presenter: BUROV, Alexey (Fermilab)

Session Classification: WG3 - Collective effects

Contribution ID: 13

Type: **not specified**

WG3 - Challenges for prediction and control of beam loss at 1 MW and beyond

Monday, 9 December 2019 15:00 (20 minutes)

Presenter: COUSINEAU, Sarah (ORNL)

Session Classification: WG3 - Collective effects

Contribution ID: 14

Type: **not specified**

WG3 - Space-charge compensation & Electron lenses for Landau damping

Monday, 9 December 2019 15:35 (30 minutes)

Presenter: SHILTSEV, Vladimir (Fermilab)

Session Classification: WG3 - Collective effects

Contribution ID: 15

Type: **not specified**

WG3 - Electron cloud & Wake fields in high-intensity proton rings

Monday, 9 December 2019 16:05 (30 minutes)

Presenter: AINSWORTH, Rob (Fermilab)

Session Classification: WG3 - Collective effects

Contribution ID: **16**

Type: **not specified**

WG3 - Discussion

Monday, 9 December 2019 16:35 (1 hour)

Session Classification: WG3 - Collective effects

Contribution ID: 17

Type: **not specified**

WG2 - Removing beam power density limitations on H- charge exchange

Tuesday, 10 December 2019 09:15 (20 minutes)

Presenter: COUSINEAU, Sarah (ORNL)

Session Classification: WG2 - High brightness

Contribution ID: **18**

Type: **not specified**

WG2 - Microbunched Coherent Electron Cooling for Future Hadron Colliders

Tuesday, 10 December 2019 09:35 (20 minutes)

Presenter: STUPAKOV, Gennady (SLAC)

Session Classification: WG2 - High brightness

Contribution ID: 19

Type: **not specified**

WG2 - Optical Stochastic Cooling (via zoom)

Tuesday, 10 December 2019 09:55 (20 minutes)

Presenter: JARVIS, Jonathan (Fermilab)

Session Classification: WG2 - High brightness

Contribution ID: 20

Type: **not specified**

WG2 - Ultra-cold beams and cooling methods

Tuesday, 10 December 2019 10:15 (20 minutes)

Presenter: LEBEDEV, Valeri (Fermilab)

Session Classification: WG2 - High brightness

Contribution ID: 21

Type: **not specified**

WG2 - Extreme Electron Bunch Compression

Tuesday, 10 December 2019 10:50 (20 minutes)

Presenter: WHITE, Glen (SLAC)

Session Classification: WG2 - High brightness

Contribution ID: 22

Type: **not specified**

WG2 - overview on longitudinal bunch shaping

Tuesday, 10 December 2019 11:10 (20 minutes)

Presenter: GWANHUI, Ha (ANL)

Session Classification: WG2 - High brightness

Contribution ID: 23

Type: **not specified**

WG2 - Discussion

Tuesday, 10 December 2019 11:30 (1 hour)

Session Classification: WG2 - High brightness

Contribution ID: 24

Type: **not specified**

WG4 - Cross-cutting connections of ABP with HFM

Tuesday, 10 December 2019 14:50 (20 minutes)

Primary author: PRESTEMON, Soren (LBNL)

Presenter: PRESTEMON, Soren (LBNL)

Session Classification: WG4 - Connections to Others

Contribution ID: 25

Type: **not specified**

WG4 - Cross-cutting connections of ABP with NCRF

Tuesday, 10 December 2019 13:30 (20 minutes)

Presenter: RAUBENHEIMER, Tor (SLAC)

Session Classification: WG4 - Connections to Others

Contribution ID: 26

Type: **not specified**

WG4 - Cross-cutting connections of ABP with SRF

Tuesday, 10 December 2019 13:50 (20 minutes)

Primary author: YAKOVLEV, Slava (Fermilab)

Presenter: YAKOVLEV, Slava (Fermilab)

Session Classification: WG4 - Connections to Others

Contribution ID: 27

Type: **not specified**

WG4 - Cross-cutting connections of ABP with structure-based wakefield acceleration

Tuesday, 10 December 2019 14:10 (20 minutes)

Primary author: CONDE, Manoel (ANL)

Presenter: CONDE, Manoel (ANL)

Session Classification: WG4 - Connections to Others

Contribution ID: 28

Type: **not specified**

WG4 - Cross-cutting connections of ABP with plasma acceleration

Tuesday, 10 December 2019 14:30 (20 minutes)

Primary author: HOGAN, Mark (SLAC)

Co-authors: SCHROEDER, Carl; NAGAITSEV, Sergei (FNAL)

Presenters: SCHROEDER, Carl; HOGAN, Mark (SLAC); NAGAITSEV, Sergei (FNAL)

Session Classification: WG4 - Connections to Others

Contribution ID: 29

Type: **not specified**

WG4 - Hamiltonian approaches to the simulation of collective phenomena in beams

Tuesday, 10 December 2019 15:10 (20 minutes)

Primary author: WEBB, Stephen (RadiaSoft)

Presenter: WEBB, Stephen (RadiaSoft)

Session Classification: WG4 - Connections to Others

Contribution ID: **30**

Type: **not specified**

WG4 - Discussion

Tuesday, 10 December 2019 15:45 (45 minutes)

Session Classification: Discussion, synthesis & conclusions

Contribution ID: **31**

Type: **not specified**

All WG Discussion

Tuesday, 10 December 2019 16:30 (45 minutes)

Session Classification: Discussion, synthesis & conclusions