



International Workshop COOL'21

November, 1 – 5, 2021
Budker Institute of Nuclear Physics SB RAS,
Novosibirsk, Russia

PROGRAMME

Time indicated in the Programme is Novosibirsk time zone (GMT +7)
See the current time at <https://www.timeanddate.com/worldclock/russia/novosibirsk>

Workshop starting time (summer time):

07:00 Chicago, USA
08:00 New York, USA
14:00 Europe
15:00 Moscow, Russia
19:00 Novosibirsk, Russia
20:00 Lanzhou, China
21:00 Korea, Japan

November, 1 (Monday)

Session 01: Chairman – Igor Meshkov

ZOOM <https://us02web.zoom.us/j/84946599862>

18:50-19:00 Welcome speech from BINP Director, Pavel V. Logachev.

19:00-19:30 Paper S101 - Evgeny Syresin (JINR, Dubna, Moscow Region) NICA synchrotrons and their cooling systems

19:30-20:00 Paper S102 - Maxim Bryzgunov (BINP, Novosibirsk) Elements of high voltage electron cooling system for NICA collider

20:00-20:30 Paper S103 - Lijun Mao (IMP/CAS, Lanzhou) Development of Electron Cooler Components for HIAF Accelerator

20:30-21:00 «Coffee break», Open Discussion

Session 02: Chairman – Vasily Parkhomchuk

ZOOM <https://us02web.zoom.us/j/84946599862>

21:00-21:30 Paper S201 - Nilanjan Banerjee (Enrico Fermi Institute, Chicago, Illinois) Electron cooling with space-charge dominated proton beams at IOTA

21:30-22:00 Paper S202 - Sergei Nagaitsev (Fermilab, Batavia, Illinois) Cooling and Diffusion Rates in Coherent Electron Cooling Concepts

22:00-22:30 Paper S203 - Gennady Stupakov (SLAC, Menlo Park, California). Microbunching coherent electron cooling for the EIC project

November, 2 (Tuesday)

Session 03: Chairman – Kurt Aulenbacher

ZOOM <https://us02web.zoom.us/j/84946599862>

19:00-19:30 Paper S301 - Christina Dimopoulou (GSI, Darmstadt) Stochastic Cooling System for the Collector Ring at FAIR

19:30-20:00 Paper S302 - Wolfgang Höfle (CERN, Geneva) Recommissioning of the CERN AD Stochastic Cooling System in 2021 after Long Shutdown 2

20:00-20:30 Paper S303 - Andreas Wolf (MPI-K, Heidelberg) Electron Cooling of Molecular Rotations in the Low-Energy Electrostatic Ion Storage Ring CSR

20:30-20:50 «Coffee break», Open Discussion

Session 04: Chairman – Alexei Fedotov

ZOOM <https://us02web.zoom.us/j/84946599862>

20:50-21:20 Paper S401 - Yaroslav Serg Derbenev (JLab, Newport News, Virginia) CSR in the Bend-Based Ultra-Relativistic CeC Schemes

21:20-21:50 Paper S402 - Ozgur Apsimon (Cockcroft Institute, Warrington, Cheshire; The University of Liverpool, Liverpool) An Innovative Transverse Emittance Cooling Technique using a Laser-Plasma Wiggler

21:50-22:20 Paper S403 - Jonathan Jarvis (Fermilab, Batavia, Illinois) Experimental Demonstration of Optical Stochastic Cooling

22:20-22:50 Paper S404 - Sergey Aleksandr Melnikov (JINR, Dubna, Moscow Region) Electron cooler of the NICA booster and its application

November, 3 (Wednesday)

Session 05: Chairman – Lijun Mao

ZOOM <https://us02web.zoom.us/j/84946599862>

19:00-19:30 Paper S501 - Kurt Aulenbacher (IKP, Mainz) Future developments for the HESR Cooler prototype at Helmholtzinstitut Mainz.

19:30-20:00 Paper S502 - Thomas Beiser (HIM, Mainz) Observation of BIF at the electron-cooler test-bench at HIM.

20:00-20:30 Paper S503 - Davide Gamba (CERN, Geneva) AD/ELENA electron cooling experience during and after CERNs Long Shutdown (LS2)

20:30-20:50 «Coffee break», Open Discussion

Session 06: Chairman – Sergei Nagaitsev

ZOOM <https://us02web.zoom.us/j/84946599862>

20:50-21:20 Paper S601 - Alexei V. Fedotov (BNL, Upton, New York) Electron Cooling of Colliding Ion Beams in RHIC: Status and Perspectives

21:20-21:50 Paper S602 - Sergei Seletskiy (BNL, Upton, New York). Theory and Observation of Circular Attractors in Cooled Ion Bunches

21:50-22:20 Paper S603 - Ilya V. Pogorelov (RadiaSoft LLC, Boulder, Colorado). Magnetized Dynamic Friction Force in the Strong-Field, Short-Interaction-Time Limit

November, 4 (Thursday)

Session 07: Chairman – Christina Dimopoulou

ZOOM <https://us02web.zoom.us/j/84946599862>

19:00-19:30 Paper S701 - Vittorio Carlo Palladino (INFN-Napoli, Napoli) Muon Ionization Cooling Experiment (MICE): Results & Prospects

19:30-20:00 Paper S702 - Katsuya Yonehara (Fermilab, Batavia, Illinois) Plasma Lens in Parametric Resonance Ionization Cooling

20:00-20:30 Paper S703 - Diktys Stratakis (Fermilab, Batavia, Illinois) Ionization Cooling Beamline for a Muon Collider

20:30-20:50 «Coffee break», Open Discussion

Session 08: Chairman – Vladimir Reva

ZOOM <https://us02web.zoom.us/j/84946599862>

20:50-21:20 Paper S801 - Yuhong Zhang (JLab, Newport News, Virginia) Beam Dynamics in a Two Energy Storage Ring Cooler

21:20-21:50 Paper S802 - Vladimir N. Litvinenko. Status of Coherent electron cooling experiment at BNL.

21:50-22:20 Paper S803 - Gennady Stupakov (SLAC, Menlo Park, California), Alexander Zholents (ANL, Lemont, Illinois). Wiggler Enhanced Plasma-Cascade Amplifier for Coherent Electron Cooling

22:20-22:40 International Advisory Committee Meeting, **Special ZOOM session**

November, 5 (Friday)

Session 09: Chairman – Andreas Wolf

Poster Session 1.

ZOOM <https://us02web.zoom.us/j/84946599862>

1. 19:00-19:10 Paper P1001 - Fu Ma (IMP/CAS, Lanzhou) Simulation of High Energy Proton Beam Cooling in EicC
2. 19:10-19:20 Paper P1002 - Xiaodong Yang (IMP/CAS, Lanzhou) Simulation of Transverse Electron Cooling and IBS of 20GeV Proton Beam at EicC
3. 19:20-19:30 Paper P1003 - Claude Krantz (GSI, Darmstadt) Recommissioning of the CRYRING@ESR Electron Cooler
4. 19:30-19:40 Paper P1004 - Hanbing Wang (IMP/CAS, Lanzhou) Simulation of bunched Schottky spectrum for laser-cooled O⁵⁺ ions at CSRe
5. 19:40-19:50 Paper P1005 - Agnieszka Elzbieta Borucka (Warsaw University of Technology, Warsaw; CERN, Geneva) Comparison of available models of electron cooling and their implementations
6. 19:50-20:00 Paper P1006 - Jie Li (IMP/CAS, Lanzhou). Design of the SRing Electron Target
7. 20:00-20:10 Paper P1007 - Dmitry Nikolaevich Skorobogatov (BINP SB RAS, Novosibirsk) High Voltage Power Supply System for Electron Cooler for NICA
8. 20:10-20:20 Paper P1008 - Haipeng Wang (JLab, Newport News, Virginia) Demonstration of Electron Cooling using a Pulsed Beam from an Electrostatic Electron Cooler
9. 20:20-20:30 Paper P1009 - He Zhang (JLab, Newport News, Virginia) JSPEC - an Open Source Program for IBS and Electron Cooling Simulation
10. 20:30-20:40 Paper P1010 - Bruno Galante (CERN, Meyrin) Optimization of the Electron Emission from Carbon Nanotubes for Electron Cooling in ELENA

Session 10: Chairman – Maxim Bryzgunov

Poster Session 2.

ZOOM <https://zoom.us/j/96864779965>

1. 19:00-19:10 Paper P2001 - John Acosta (Universidad Distrital Francisco Jose de Caldas, Bogota). Short Solenoid 21, 28, 35, and 42 T Cooling Channel for a Muon Collider
2. 19:10-19:20 Paper P2002 - Stefan Wunderlich (GSI, Darmstadt) Suspended Ground Microstrip Coupled Slotline Electrode for Stochastic Cooling
3. 19:20-19:30 Paper P2003 - Rainer Hettrich (GSI, Darmstadt) Control Features of the Plunging Pick-Up Electrodes With Real Time Digital Data Processing
4. 19:30-19:40 Paper P2004 - Gerard Tranquille (CERN, Geneva) A New Electron Cooler for the CERN Antiproton Decelerator (AD)

5. 19:40-19:50 Paper P2005 - Andrey Petrovich Denisov (BINP SB RAS, Novosibirsk) Tests of the Gun Prototype for the Electron Cooling System of the NICA Collider
6. 19:50-20:00 Paper P2006 - Vasily Parkhomchuk - Russian Academy of Sciences The Budker Institute of Nuclear Physics. Cascade Transformer for High Voltage Coolers
7. 20:00-20:10 Paper P2007 - Dongyang Chen (IMP/CAS, Lanzhou) Anomalous Longitudinal Schottky Signals of Coasting Ion Beams with Interaction of a CW laser at Storage Ring CSRe
8. 20:10-20:20 Paper P2008 - William Frederick Bergan (BNL, Upton, New York) Improvements to Simulations of Microbunched Electron Cooling for the EIC
9. 20:20-20:30 Paper P2009 - Ilya V. Pogorelov (RadiaSoft LLC, Boulder, Colorado) A Perturbative Technique for 3D Modeling of the Microbunched Electron Cooling Concept
10. 20:30-20:40 Paper P2010 - Vladimir Reva (BINP SB RAS, Novosibirsk) Features of the pickup diagnostic at low energy in the cooler of NICA Booster.

20:50-21:10 «Coffee break»

Closing session

ZOOM <https://us02web.zoom.us/j/84946599862>

21:10-22:00 D. Möhl Medal Awards and Winner Lecture, Chairman – **Gerard Tranquille**

22:00 Conclusion remarks, Conference closing, Chairman – **V.V.Parkhomchuk**