WPCF 2023 - XVI Workshop on Particle Correlations and Femtoscopy & IV Resonance Workshop 2023

Monday, November 6, 2023 - Friday, November 10, 2023 **Program**

Monday, November 6, 2023

Registrations: Registrations open (8:00 AM - 9:00 AM)

Day 1 - Morning: Session 1 (9:00 AM - 10:55 AM)

-Conveners: Elena Bratkovskaya

| time | title | presenter |
|----------|--|--------------------|
| 9:00 AM | Welcome Address by S. Romano, Director of the Physics and Astronomy Department, UNiversity f Catania | ROMANO, Stefano |
| 9:15 AM | Tre facce della stessa medaglia: Coalescence, Thermal Production and the Koonin Equation | PRATT, Scott |
| 9:40 AM | Femtoscopy in heavy-ion collision experiments at various \mu_B | ZBROSZCZYK, Hanna |
| 10:05 AM | Bose-Einstein correlations at LHCb | KUCHARCZYK, Marcin |
| 10:30 AM | Proton-proton and proton-cluster femtoscopy at the HADES experiment | STEFANIAK, Maria |

Coffee Break (10:55 AM - 11:20 AM)

Day 1 - Morning: Session 2 (11:20 AM - 1:15 PM)

-Conveners: Pawel Danielewicz

| time | title | presenter |
|----------|--|------------------------|
| 11:20 AM | Welcome address by the Director of the Laboratori Nazionali del Sud (LNS) of INFN, Santo Gammino | GAMMINO, Santo |
| 11:35 AM | Coulomb effects on pion spectra and HBT correlations at few GeV/A beam energies | GUMBERIDZE, Malgorzata |
| 12:00 PM | A novel method for calculating Bose-Einstein correlation functions with Coulomb final-state interaction | NAGY, Marton |
| 12:25 PM | Studying the low-energy scattering among hadrons using correlation techniques at the LHC | MIHAYLOV, Dimitar |
| 12:50 PM | Two-particle interferometry with Lévy-stable sources in \$\sqrt{s_{NN}}\$ = 200 GeV Au+Au collisions at STAR | KINCSES, Daniel |

Lunch (1:15 PM - 2:30 PM)

Day 1 - Afternoon: Session 3 (2:30 PM - 4:25 PM)

-Conveners: Vincenzo Greco

| time | title | presenter |
|---------|--|------------------------|
| 2:30 PM | Exotic Spectroscopy at LHCb | LESIAK, Tadeusz |
| 2:55 PM | Microscopic Model for Quarkonia Production in Heavy-Ion collisions | AICHELIN, Joerg |
| 3:20 PM | Hadronic resonance production with ALICE at LHC | LIM, Bong-Hwi |
| 3:45 PM | Heavy flavour hadronization from AA to pp collisions | PLUMARI, Salvatore |
| 4:10 PM | Charm and Bottom quarks dynamics in Heavy-Ion Collisions: anisotropic flows \$v_n\$ and their correlations with Event-Shape Engineering technique. | SAMBATARO, Maria Lucia |

Coffee Break (4:25 PM - 4:55 PM)

<u>Day 1 - Afternoon: Session 4</u> (4:55 PM - 6:30 PM)

-Conveners: Sandra Padula

| time | title | presenter |
|---------|--|----------------------|
| 4:55 PM | Production of resonances in partial chemical equilibrium | TOMÁŠIK, Boris |
| 5:20 PM | Vector resonances as a probe of spin hydrodynamics | TORRIERI, Giorgio |
| 5:45 PM | Searches for the Chiral Magnetic Effect in XeXe and PbPb collisions with ALICE | DANU, Andrea |
| 6:00 PM | Flow and hyperon polarization at RHIC BES from multi-fluid dynamics | KARPENKO, Iurii |
| 6:15 PM | Two-particle angular correlations of identified particles - recent developments and current status | GRACZYKOWSKI, Lukasz |

Tuesday, November 7, 2023

Day 2 - Morning: Session 5 - Special Session on Stellar Intensity Interferometry (9:00 AM - 10:45 AM)

-Conveners: Giuseppe Verde

| time | title | presenter |
|----------|--|-----------------|
| 9:00 AM | Introduction to Stella Intensity Interferometry | LISA, Michael |
| 9:05 AM | An Angular Diameter Measurement of Merak via Stellar Intensity Interferometry with VERITAS | LISA, Michael |
| 9:30 AM | Stellar Intensity Interferometry at H.E.S.S. | VOGEL, Naomi |
| 9:55 AM | Intensity interferometry with optical telescopes: recent progress and future plans | GUERIN, William |
| 10:20 AM | Astronomical HBT interferometry: inside-out femtoscopy? | SAHA, Prasenjit |

Coffee Break (10:45 AM - 11:15 AM)

Day 2 - Morning: Session 6 (11:15 AM - 1:10 PM)

-Conveners: Tamas Csorgo

| time | title | presenter |
|----------|---|--------------------------|
| 11:15 AM | Search for collective behavior in very small and in large colliding systems | PADULA, Sandra |
| 11:40 AM | Femtoscopy of p – Λ system obtained in heavy-ion collision in the HADES experiment | RATHOD, Narendra |
| 12:05 PM | Forward correlations with the LHCb detector | BELIN, Samuel |
| 12:30 PM | Forward-backward correlations with the Σ quantity in the wounded-constituent framework at energies available at the CERN LHC | SPUTOWSKA, Iwona |
| 12:55 PM | Probing particle production and transport in small collision systems with ALICE | TARASOVICOVA, Lucia Anna |

Lunch (1:10 PM - 2:30 PM)

Day 2 - Afternoon: Session 7 (2:30 PM - 4:15 PM)

-Conveners: Paola La Rocca

| time | title | presenter |
|---------|--|---------------------------|
| 2:30 PM | Dineutron correlation in neutron drip-line nuclei | KUBOTA, Yuki |
| 2:55 PM | On the long-standing quest for the tetra-neutron system: a recent observation of four-neutron correlations and future perspectives | PASCHALIS, Stefanos |
| 3:20 PM | Perspectives on neutron detection and multi-neutron correlations measurements at FRIB | REVEL, Aldric |
| 3:45 PM | NArCoS: a new correlator for neutrons and charged particles with high angular and energy resolution | PAGANO, Emanuele Vincenzo |
| 4:00 PM | Geant4 simulations to study the efficiency and the cross-talk probability in the new neutron correlator NArCoS | SANTAGATI, Gianluca |

Coffee (4:15 PM - 4:45 PM)

Day 2 - Afternoon: Session 8 (4:45 PM - 6:45 PM)

-Conveners: Francesca Bellini

| time | title | presenter |
|---------|--|----------------------|
| 4:45 PM | Matter - antimatter interactions | JANIK, Malgorzata |
| 5:10 PM | Charged kaon and pion femtoscopy in the RHIC Beam Energy Scan at the STAR experimen | KHYZHNIAK, Yevheniia |
| 5:35 PM | Hidden puzzle of the correlation femtoscopy at the top RHIC and LHC energies and its possible solution | SINYUKOV, Yuri |
| 5:50 PM | Non-equilibrium effects and spherocity in relativistic proton-nucleus collisions | OLIVA, Lucia |
| 6:15 PM | Probing the dynamical evolution of QGP using charge-dependent correlations and fluctuations at CMS | CHATTERJEE, Sayan |
| 6:30 PM | Flow correlations and flow-transverse momentum correlations at ALICE | ZHAO, Mingrui |

Wednesday, November 8, 2023

Day 3 - Morning: Session 9 (9:00 AM - 10:40 AM)

-Conveners: Maria Colonna

| time | title | presenter |
|----------|---|-------------------|
| 9:00 AM | Investigating clustering in 12C using gamma-beams and a TPC detector | SMITH, Robin |
| 9:25 AM | Probing the 12C Hoyle state radius using double-excitation inelastic scattering | GRUYER, Diego |
| 9:50 AM | Proton-proton correlations in ground-state two-proton radioactivity | MAZZOCCHI, Chiara |
| 10:15 AM | Three-body resonances and two-nucleon decays | CASAL, Jesús |

Coffee Break (10:40 AM - 11:10 AM)

Day 3 - Morning: Session 10 (11:10 AM - 1:10 PM)

-Conveners: Scott Pratt

| time | title | presenter |
|----------|---|--------------------|
| 11:10 AM | Timing the hadronic rescattering phase with non-identical particle femtoscopy | KISIEL, Adam |
| 11:35 AM | First measurement of properties of strong interaction between (anti-)deuterons and charged kaons in Pb–Pb collisions with ALICE | RZĘSA, Wioleta |
| 12:00 PM | Precise physics of atomic species utilizing antimatter | SOWINSKI, Tomasz |
| 12:25 PM | Constraining the light (anti)nuclei production in and out of jets in small systems with ALICE | RASÀ, Marika |
| 12:40 PM | Correlations between anisotropy flow and mean transverse momentum using subevent cumulants in small systems at CMS | SINGH, Rohit Kumar |
| 12:55 PM | Evaluation of the thermal photon radiation from a recent solution of relativistic hydrodynamics | KASZA, Gábor |

Lunch (1:10 PM - 2:30 PM)

Day 3 - Afternoon: Session 11 (2:30 PM - 4:25 PM)

-Conveners: Michael Lisa

| time | title | presenter |
|---------|--|---------------------|
| 2:30 PM | Study of exotic f\$_0\$ and f\$_1\$ states with ALICE | BELLINI, Francesca |
| 2:55 PM | Resonance production in the STAR experiment | NASIM, Mohammad |
| 3:20 PM | In-medium effects in $\boldsymbol{\phi}$ meson production in heavy-ion collisions from subthreshold to relativistic energies | BRATKOVSKAYA, Elena |
| 3:45 PM | LHCb on technical aspects how to search and find resonances, also using Al techniques. | GANDINI, Paolo |
| 4:10 PM | Measurement of azimuthal anisotropy of the \$\rm{f}_{0}(980)\$ and \$\rm{D}^{0}\$ mesons in heavy ion collisions at CMS | SAHA, Nihar Ranjan |

Coffee break (4:25 PM - 4:45 PM)

Thursday, November 9, 2023

Day 4 - Morning: Session 12 (9:00 AM - 10:45 AM)

-Conveners: Angela Badala'

| time | title | presenter |
|----------|--|---------------------|
| 9:00 AM | Resonance production with EPOS4 and the role of collectivity in elementary collisions | WERNER, Klaus |
| 9:25 AM | Experimental highlights on collectivity in small collision systems | CALIVÀ, Alberto |
| 9:50 AM | Sources of multiparticle correlations – a microscopic perspective | BIERLICH, Christian |
| 10:15 AM | Investigating collective effects in small collision systems using PYTHIA8 and EPOS4 simulations | MANEA, Alexandru |
| 10:30 AM | Two-particle angular correlations of identified particles in pp and pPb collisions at LHC energies | RUGGIANO, Daniela |

Coffee Break (10:45 AM - 11:15 AM)

Day 4 - Morning: Session 13 (11:15 AM - 1:10 PM)

-Conveners: Adam Kisiel

| time | title | presenter |
|----------|--|----------------------|
| 11:15 AM | Searching for Internal Pair Creation anomalies and the X17 boson at LNL. | MARCHI, Tommaso |
| 11:40 AM | Searching for the X17 with the PADME experiment | FERRAROTTO, Fabio |
| 12:05 PM | Dielectron measurements with ALICE | APPELSHÄUSER, Harald |
| 12:30 PM | Photon-photon correlations in Ag+Ag collisions at \$\sqrt{s_{NN}}=2.55\$ GeV | GRUNWALD, Mateusz |
| 12:55 PM | Possibilities for phase and source function reconstruction in HBT correlations and in elastic proton-proton scattering | CSORGO, Tamas |

Lunch (1:10 PM - 2:30 PM)

Day 4 - Afternoon: Session 14 (2:30 PM - 4:00 PM)

| time | title | presenter |
|---------|---|-----------------------------------|
| 2:30 PM | Two-particle Bose-Einstein correlations and their Lévy parameters in PbPb collisions at 5.02 TeV | CSANAD, Mate |
| 2:55 PM | Femtoscopy with Lévy sources at NA61/SHINE | PORFY, Barnabas |
| 3:20 PM | Spheroidal expansion and freeze-out geometry of heavy-ion collisions in the few-GeV energy regime | KOLAS, Jedrzej |
| 3:45 PM | Latest results on heavy flavor hadron anisotropic flow in the CMS experiment | GALLEGOS MARIÑEZ, Luis Gabriel |

Coffee Break (4:00 PM - 4:30 PM)

Day 4 - Afternoon: Session 15 (4:30 PM - 5:45 PM)

| time | title | presenter |
|---------|--|---------------------|
| 4:30 PM | Entanglement Enabled Spin Interference | BRANDENBURG, Daniel |

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| 4:55 PM | First characterization of Short-Range Correlations in an exotic nucleus at R3B | LAGNI, Andrea |
|---------|---|---------------|
| 5:20 PM | Correlation Functions and Signatures of Short-Range Correlations in collisions of intermediate energy projectiles | HAGEL, Kris |

Social Dinner (8:00 PM - 12:00 AM)

Friday, November 10, 2023

Day 5 - Morning: Session 16 (9:00 AM - 10:40 AM)

| time | title | presenter |
|----------|--|--------------------|
| 9:00 AM | Non-identical femtoscopy in Au+Au collisions at √sNN = 3 GeV in STAR | TRIPATHY, Srikanta |
| 9:25 AM | Femtoscopic measurements from STAR to CBM | WIELANEK, Daniel |
| 9:50 AM | Advanced coalescence model based on femtoscopy measurements | PINTO, Chiara |
| 10:15 AM | Correlation Function constraints on meson-baryon interaction from UChPT in S=-2 sector | VIDANA HARO, Isaac |

Coffee Break (10:40 AM - 11:10 AM)

Day 5 - Morning: Session 17 (11:10 AM - 1:00 PM)

-Conveners: Hanna Zbroszczyk

| time | title | presenter |
|----------|--|-------------------------|
| 11:10 AM | Kinetic and potential mechanisms for deuteron prodution in HICs within the PHQMD transport approach | COCI, Gabriele |
| 11:35 AM | Investigating strangeness enhancement via in-jet and medium production in pPb collisions at \$\sqrt{sNN}\$ = 5.02 TeV with ALICE | BLAIR, Justin |
| 12:00 PM | Measurements of pp,p\Lambda,p\Xi^- Correlation Functions at 3GeV Au+Au Collisions at RHIC-STAR | QIN, Zhi |
| 12:15 PM | Femtoscopic correlations of lightest nuclei | MROWCZYNSKI, Stanislaw |
| 12:30 PM | Study of the three-body dynamics at short range via femtoscopy by ALICE at the LHC | VAZQUEZ DOCE, Oton |
| 12:45 PM | Femtoscopic correlation studies between D0 mesons and charged hadrons in Au+Au collisions at √sNN = 200 GeV by STAR | ROY CHOWDHURY, Priyanka |

Lunch (1:00 PM - 2:30 PM)

Day 5 - Afternoon: Session 18 (2:30 PM - 4:05 PM)

-Conveners: Joerg Aichelin

| time | title | presenter |
|---------|---|--------------------|
| 2:30 PM | Event-by-event Hadron Yield Fluctuations in Pb — Pb Collisions at sNN = 2.76 TeV with ALICE | PRUNEAU, Claude |
| 2:55 PM | Correlation Function studies at intermediate energies at CSHINE | WANG, Yijie |
| 3:20 PM | The OSCAR correlator for low energy nuclear reactions and heavy-ion collisions | REDIGOLO, Luigi |
| 3:35 PM | The pixelation technique applied to FARCOS correlator in the CHIFAR experiment | ZAGAMI, Cristina |
| 3:50 PM | A Pixellation method for the FARCOS array | CARDELLA, Giuseppe |

Coffee Break (4:05 PM - 4:35 PM)

Day 5 - Afternoon: Session 19 (4:35 PM - 6:30 PM)

-Conveners: Isaac Vidana Haro

| time | title | presenter |
|---------|--|---------------------|
| 4:35 PM | Deuteron-Xi correlation function studied with three-body model | FUKUI, Tokuro |
| 5:00 PM | Probing Equation of State of Dense Baryonic Matter with Heavy-Ion Collisions and Transport Simulations | DANIELEWICZ, Pawel |
| 5:25 PM | Source function from two-particle correlations via deblurring | NZABAHIMANA, Pierre |
| 5:50 PM | Kinetic approach for light-nuclei production in intermediate heavy-ion collisions | WANG, Rui |