

# Scientific Program

## WPCF2013

### IX WORKSHOP ON CORRELATION AND FEMTOSCOPY

5 – 8 November  
Acireale (CT)  
Italy

Sessions and conveners:

- 1 ***Femtoscopia per sistemi ampiamente variabili***  
*A. Chbihi (GANIL, Francia), A. Kisiel (WUT, Polonia), S. S. Padula (UNESP, Brasile), E. Sarkisyan-Grinbaum (CERN, Svizzera)*
- 2 ***Funzioni di bilancio, correlazioni di carica, separazione di isospin e diffusione***  
*P. Danielewicz (MSU, USA), S. Pratt (MSU, USA), S. Yennello (TAMU, USA)*
- 3 ***Effetti del canale di ingresso sulle anisotropie dello stato finale***  
*E. Greco (Univ. di Catania/INFN-LNS, Italia), B.A. Li (TAMU Commerce, USA), R. Snellings (Utrecht Univ., Olanda)*
- 4 ***Spettroscopia o femtoscopia? Correlazioni primordiali versus dello stato finale***  
*M. Freer (Univ. di Birmingham), M.A. Lisa (OSU, USA), R. Nania (INFN-BO), M. Sumbera (ASCR, Repubblica Ceca)*
- 5 ***Prospettive di strutture e rivelatori***  
*M. Bleicher (FIAS, Germania), D. Miskowiec (GSI, Germania), A. Pagano (INFN-CT)*

## **5 November, Tuesday**

09:00 – 09:10 **Welcome address**

**Session 1: *Femtoscopia for widely varying systems* & Session 5: *Perspective facilities and detectors***

09:10 – 09:40 R. Lednicky, Joint Institute for Nuclear Research, Russia  
*Femtoscopic aspects of FSI, resonances and bound states*

09:40 – 10:05 H. Zbroszczyk, Warsaw University of Technology, Poland  
*Femtoscopia for widely varying systems*

10:05 – 10:35 M. Freer, University of Birmingham, United Kingdom  
*Cluster states and correlations in light nuclei*

10:35 – 11:00 A. Chbihi, GANIL, France  
*Particle-Fragment correlations at intermediate energies*

### **Coffee break**

11:30 – 12:00 Y. Sinyukov, Bogolyubov Institute for Theoretical Physics, Ukraine  
*Source functions in heavy-ion collisions and  $p$ -Lambda scattering lengths*

12:00 – 12:25 D. Gruyer, GANIL France  
*Coulomb chronometry to probe the decay mechanism of hot nuclei*

12:25 – 12:45 E. De Filippo, INFN Sezione di Catania, Italy  
*Effects on dynamics and thermo-dynamics in nuclear reactions on the symmetry energy*

12:45 – 13:10 G. De Angelis, INFN-LNF, Italy  
*The SPES project*

### **Lunch break**

**Session 3: *Entrance channel effects on final-state anisotropy***

14:40 – 15:10 R. Snellings, Utrecht University, Netherlands  
*Anisotropic flow: past, present and future*

15:10 – 15:40 R. Astalos, Comenius University, Slovakia  
*Measurements of the event shapes and underlying event in  $pp$  collisions at 7 TeV*

15:40 – 16:05 S. Plumari, University of Catania, Italy  
*The elliptic flow and the shear viscosity of the QGP within a kinetic approach*

16:05 – 16:30 S.S. Padula, UNESP - Instituto de Fisica Teorica, Brazil  
*Dihadron correlations and azimuthal anisotropy harmonics in pPb and PbPb at CMS*

16:30 – 16:50 S. M. Dogra (UNESP - Instituto de Fisica Teorica, Brazil)  
*Inclusive hadron production in pp and p-Pb collisions from CMS*

**Coffee break**

17:20 – 17:50 T. Csörgő, Wigner RCP, Hungarian Academy of Sciences, Hungary  
*Imaging the internal structure of protons with diffraction at LHC*

17:50 – 18:15 W. Broniowski, Jan Kochanowski University, Poland  
*Density correlations in the Glauber model*

18:15 – 18:35 Q. Wang, University of Kansas, USA  
*Measurements of flow in PbPb collisions at CMS*

18:35 – 18:55 I. Selyuzhenkov, EMMI/GSI, Germany  
*Directed flow of charged particles at mid-rapidity relative to the spectator plane measured by ALICE*

18:55 – 19:15 M.A. Lisa, Ohio State University  
*STAR's measurement of directed flow in the Beam Energy Scan at RHIC*

**Social event**

## 6 November, Wednesday

### Session 4: Spectroscopy or Femtoscopy? Primordial versus final-state correlations

- 08:45 – 09:10 M.A. Lisa, Ohio State University, USA  
*Correspondence between femtoscopy and resonance emission*
- 09:10 – 09:35 P. Chaloupka, Czech Technical University in Prague, Czech Republic  
*Contribution of FSI formation of narrow resonances to femtoscopic measurements*
- 09:35 – 10:05 Christina Markert, University of Texas, USA  
*Hadronic resonances in heavy ion collisions*
- 10:05 – 10:30 A. Badalà, INFN, Sezione di Catania, Italy  
*Hadronic resonances in ALICE*
- 10:30 – 10:50 L. Bianchi, INFN, Sezione di Torino, Italy & CERN, Switzerland  
*Inclusive  $J/\psi$  production in Pb-Pb collisions with the ALICE at the LHC*

### **Coffee break**

### Session 1: Femtoscopy for widely varying systems

- 11:20 – 11:45 V.Charviakova, University of Warsaw, Poland  
*Two-particle correlations at small relative momenta in collisions of Al+Al and Ni+Ni at 1.9A GeV*
- 11:45 – 12:10 O. Arnold, Excellence Cluster Universe, Germany  
*Measuring two-particle correlations with HADES*
- 12:10 – 12:30 I. Karpenko, Frankfurt Institute for Advanced Studies, Germany  
*Flow and femtoscopy at RHIC Beam Energy Scan in a viscous hydro+cascade model*
- 12:30 – 12:50 R. Vertesi, Nuclear Physics Institute of the Czech Academy of Sciences, Czech Republic  
*Source imaging in RHIC 200 GeV Au+Au collisions*
- 12:50 – 13:10 K. Poniatowska, Warsaw University of Technology, Poland  
*Pion-kaon femtoscopy for Au+Au collisions at  $\sqrt{s_{NN}} = 39\text{GeV}$  from Beam Energy Scan program at STAR*

### **Lunch break**

**Session 4 : Spectroscopy or Femtoscopy? Primordial versus final-state correlations**

- 14:40 – 15:10 M. Marques, LPC-Caen, France  
*Correlations at the limits of nuclear existence*
- 15:10 – 15:35 M. Assie, Institut de Physique Nucléaire, Orsay, France  
*The nuclear break-up: a tool to probe correlations in nuclei*
- 15:35 – 16:00 L. Sobotka, Washington University, USA  
*High resolution continuum spectroscopy of light nuclei*
- 16:00 – 16:20 G. Randisi, IKS KU Leuven, Belgium  
*Invariant mass spectroscopy of light neutron-unbound systems*
- 16:20 – 16:40 T. Minniti, Univeristy of Catania, Italy  
*Imaging two-proton dynamical sources at intermediate energies*

**Coffee break**

**Session 1 : Femtoscopy for widely varying systems & Session 4 : Spectroscopy or Femtoscopy? Primordial versus final-state correlations**

- 17:10 – 17:40 G. Stefanek, Jan Kochanowski University, Poland  
*System size and energy dependence of multiplicity fluctuations in AA and pp collisions*
- 17:40 – 18:05 T. Humanic, Ohio State University, USA  
*A simple model for  $\pi$ - $\pi$ ,  $K_0s$ - $K_0s$ , and  $Kch$ - $Kch$  femtoscopy in 7 TeV p-p collisions*
- 18:05 – 18:25 H. Zbroszczyk, Warsaw University of Technology, Poland  
*Proton femtoscopy in the STAR experiment*
- 18:25 – 18:45 G. Nigmatkulov, National Research Nuclear University "MEPhI", Russia  
*Correlation femtoscopy of kaons in the SELEX experiment*
- 18:45 – 18:55 M. Girard, Warsaw University of Technology, Poland  
*Kaon femtoscopy in Au-Au collisions at  $\sqrt{s_{NN}} = 200\text{GeV}$  in STAR*
- 18:55 – 19:05 C. Lang, University of Bielefeld, Germany  
*Dissipative corrections to anisotropic flow and multiparticle correlations*
- 19:05 – 19:15 P. Mohanty, Saha Institute of Nuclear Physics, India  
*Study of anisotropic Quark-gluon plasma (aQGP) through Photon Interferometry.*

**Social Dinner**

## 7 November, Thursday

### Session 4: Spectroscopy or Femtoscopy? Primordial versus final-state correlations & Session 5 : Perspective detectors and facilities

- 09:00 – 09:30 B. Borderie, Institut de Physique Nucléaire, Orsay, France  
*Hoyle state de-excitation studied by using particle correlation methods*
- 09:30 – 09:55 K. Hagel, Cyclotron Institute, Texas A&M University, USA  
*Clustering and Low Density Nuclear Matter*
- 09:55 – 10:20 H. Akimune, Department of Physics, Konan University, Japan  
*Search for alpha-cluster gas state in medium heavy nuclei*
- 10:20 – 10:30 R. Planeta, Jagiellonian University, Krakov, Poland  
*Freeze-out configuration properties in the Au + Au reaction at 23 A MeV*
- 10:30 – 10:40 R. Lednicky, Joint Institute for Nuclear Research, Russia  
*Status of the NICA facility*
- 10:40 – 10:50 O. Lysenko, National Academy of Sciences of Ukraine, Ukraine  
*Preparation and characterization of single-crystal diamond for improved particle detectors*

### **Coffee break**

### Session 2: Balance functions, charge correlations, isospin separation and diffusion

- 11:15 – 11:45 G. Westfall, Michigan State University, USA  
*Balance Functions at RHIC*
- 11:45 – 12:10 P. Christakoglou, NIKHEF, Netherlands  
*Angular correlation studies in Pb-Pb and p-Pb with ALICE*
- 12:10 – 12:40 S. Pratt, Michigan State University, USA  
*Viewing the Chemistry of the QGP with Charge Balance Functions*
- 12:40 – 13:00 A. Rodriguez Manso, Nikhef (NL), Netherlands  
*Charge dependent correlations in p-Pb at  $\sqrt{s_{NN}}=5.02$  TeV and Pb-Pb at  $\sqrt{s_{NN}} = 2.76$  TeV*

### **Lunch break**

- 14:20 – 14:30 D. Dudek, IFT-Unesp, Brazil  
*Effects of equation of state on hydrodynamic expansion, spectrum and flow Harmonics*
- 14:30 – 14:40 Maciej Rybczynski, Jan Kochanowski University, Poland  
*Imprints of cross-section fluctuations in nuclear collisions*

14:40 – 14:50 S. Chatterjee, Centre for High Energy Physics, Indian Institute of Science, India  
*Strange Freezeout*

14:50 – 15:00 M. Greif, Goethe University Frankfurt am Main, Germany  
*Transport coefficients of the QGP - models and analytics for heat/electric conductivity*

15:00 – 15:10 T. Lilienkamp, University of Bielefeld, Germany  
*Azimuthally sensitive correlations induced by a small perturbation*

15:10 – 15:20 Z. Włodarczyk, Jan Kochanowski University, Poland  
*Statistical properties of small systems*

15:20 – 15:30 L. Tinti, Institute of Physics UJK, Poland  
*Hydrodynamics and the quantum stress-energy and spin tensors*

15:30 – 16:00 **Coffee break and free time**

**Social visit**

## **8 November, Friday**

### **Session 3: Entrance channel effects on final-state anisotropy**

- 08:50– 09:15 T. Niida, Univ. of Tsukuba, Japan  
*Azimuthal angle dependence of HBT radii with respect to the event plane in Au+Au collisions at PHENIX*
- 09:15 – 09:40 C. Plumberg, Ohio State University, USA  
*HBT interferometry relative to the triangular flow plane in heavy-ion collisions*
- 09:40 – 10:05 V. Loggins, Wayne State University, USA  
*Azimuthally sensitive pion femtoscopy in Pb-Pb collisions at 2.76 TeV with ALICE*
- 10:05 – 10:25 R. Marty, Frankfurt Institute for Advanced Studies, Germany  
*The influence of initial conditions on the final observables for heavy-ion collisions at RHIC energies*
- 10:25 – 10:45 S. Bjelogrić, Utrecht University, Netherlands  
*Heavy flavour elliptic flow and azimuthal angular correlations with ALICE*
- 10:45 – 10:55 M. Csanad, Eötvös University, Hungary  
*Multipole solutions of relativistic hydrodynamics*  
(to be presented by T. Csörgő)

### **Coffee break**

### **Section 2 : Balance functions, charge correlations, isospin separation and diffusion & Session 5 : Perspective detectors and facilities**

- 11:25 – 11:55 M.B. Tsang, Michigan State University, USA  
*Isospin diffusion in heavy-ion collisions*
- 11:55 – 12:20 Mircea Dan Cozma, IFIN-HH, Romania  
*Constraints on the high density dependence of the symmetry energy from heavy-ion collisions*
- 12:20 – 12:40 G. Wilk, National Centre for Nuclear Research, Department of Fundamental Research, Poland  
*Surprisingly Close Tsallis Fits to High Transverse Momentum Hadrons Produced at LHC*
- 12:40 – 13:00 J. Salzwedel, Ohio State University, USA  
*ALICE Upgrades and Future Femtosopic Measurements*
- 13:00 – 13:10 V. Konchakovski, Institute for Theoretical Physics, Giessen University, Germany  
*Initial conditions in 5 TeV p-Pb collisions within the PHSD transport approach*

### **Lunch break**



**Session 1: Femtoscopy for widely varying systems & Session 4: Spectroscopy or Femtoscopy: Primordial versus final-state correlations**

- 14:45 – 15:15 D. Gangadharan, LBNL, USA  
*Chaoticity Measurements in Pb-Pb Collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with ALICE*
- 15:15 – 15:40 L. Graczykowski, Warsaw University of Technology, Poland  
*Two-pion femtoscopy in small systems with ALICE*
- 15:40 – 16:00 R. Gupta, University of Jammu, India  
*A Monte Carlo Study of Chaoticity in Pb-Pb Collisions at LHC Energies*
- 16:00 – 16:25 M.A. Janik, Warsaw University of Technology, Poland  
*Minijet effects in femtosopic and angular correlations*
- 16:25 – 16:50 M.P. Szymanski, Warsaw University of Technology, Poland  
*Residual correlations in baryon femtoscopy*

**Coffee break**

**Session 3: Entrance channel effects on final-state anisotropy**

- 17:20 – 17:45 W. Florkowski, Jan Kochanowski University, Poland  
*Locally anisotropic momentum distributions of hadrons at freeze-out in relativistic heavy-ion collisions*
- 17:45– 18:10 F. Noferini, Enrico Fermi Centre (Rome) and INFN Sezione di Bologna, Italy  
*Anisotropic flow of identified particles in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV measured with ALICE at the LHC*
- 18:10 – 18:30 I. Bouras, University of Frankfurt a.M, Germany  
*Investigation of Mach cones and the corresponding two-particle correlations in a microscopic transport model*
- 18:30 – 18:50 Y. Hama, University of São Paulo, Brazil  
*On the origin of the centrality dependence of the ridge structure*
- 18:50 – 19:10 C. Pajares, University of Santiago de Compostela, Spain  
*On the onset of the ridge structure in AA,pA and pp collisions*
- 19:10 – 19:20 **Conclusions; Announcement for WPCF-2014**