

# Program of CPOD 2016, 30.05 - 04.06.2016, Wrocław

08:00 - 08:45 - registration

08:45 - 09:00 - opening

Time\Date	Monday 30.05	Tuesday 31.05	Wednesday 01.06	Thursday 02.06	Friday 03.06	Saturday 04.06		
chair	Turko	Randrup	Aichelin	Stroth	Sasaki	Lacey		
09:00 - 09:25	Karsch	Satz	Braun-Munzinger	Stachel	Rustamov	Aichelin		
09:30 - 09:55	Nu Xu	Friman	Oeschler	Koch	Suganuma	Song		
10:00 - 10:25	McLerran	Schaefer	Bratkovskaya	Fukushima	Glozman	Božek		
Coffee Break								
chair	Turko	Randrup	Aichelin	Stroth	Sasaki	Lacey		
11:00 - 11:25	Grebieszkow	Lacey	Kämpfer	Nahrgang	Cleymans	Shuryak		
11:30 - 11:55	Friese	Florkowski	Blume	Pawlowski	Sorin	Mukherjee		
12:00 - 12:25	Bass	Ohnishi	Zhangbu Xu	Kitazawa	Doi	Gavai		
12:30 - 12:55	Morita	Karpenko	Lorenz	Bluhm	Blaschke	Broniowski		
Lunch Break								
chair	van Hees	Gaździcki	Barnafoldi	Free Afternoon	Huovinen	Galatyuk	Praszałowicz	Senger
14:00 - 14:25	Wolf	Begun	Barnafoldi		Nakamura	Seck	Bonati	Pawłowska
14:30 - 14:55	Motornenko	Mao	Baym		Miller	Endres	Davis	Herold
15:00 - 15:25	Lo	Pu	Kojo		Steinberg	Kim	Rozynek	Taranenko
Coffee Break				Coffee Break				
chair	van Hees	Gaździcki	Barnafoldi	Seyboth		Praszałowicz	Senger	
16:00 - 16:25	Ikeda	Seryakov	Buballa	Baym Gorenstein Mrówczyński Rafelski		Carrington	Harabasz	
16:30 - 16:55	Vovchenko	Andronov	Klaehn			Van Hees	Kincses	
17:00 - 17:25	Yokota	Lewicki	Ayriyan			Yoshiike	Haojie Xu	
17:30 - 17:55	Mitter	Naskreć	Grigorian			Jankowski	Prorok	
18:00 - 20:00	Poster session		Advisory Board	Conference Dinner				
End of CPOD 2016								

## **COST Action MP1304 “NewCompStar” WG2 Meeting: “QCD phases and observable neutron stars properties”**

**Gergely Barnafoldi** (Wigner RCP Budapest, Hungary)

Recent progress on the equation of state from NewCompStar

**Gordon Baym** (Urbana-Champaign, USA)

Quark matter in neutron stars

**Michael Buballa** (Darmstadt, Germany)

Inhomogeneous chiral condensates in the QCD phase diagram

**Hovik Grigorian** (JINR Dubna, Russia)

Cooling of neutron stars with stiff stellar matter

**Thomas Klaehn** (Wrocław, Poland)

Consequences of simultaneous chiral symmetry restoration and deconfinement for the QCD phase diagram

**Toru Kojo** (Wuhan, China)

QCD in stars

**Alexander Ayriyan** (Dubna, Russia)

Bayesian analysis for new class of hybrid star EoS with M-R observations for neutron stars

## **Colloquium for Marek Gaździcki on the Occasion of his 60<sup>th</sup> Birthday**

**Gordon Baym** (Urbana-Champaign, USA)

Evolution of the QCD phase diagram

**Mark Gorenstein** (Kiev, Ukraine)

Critical Point of Nuclear Matter

**Stanislaw Mrówczyński** (Kielce, Poland)

Marek & Event-by-Event Fluctuations

**Peter Seyboth** (Kielce, Poland) – Advisory Board

Energetic scans of Marek Gaździcki

**Johann Rafelski** (Arizona, USA)

The Mar(e)k of QGP: Strangeness and Entropy

## Talks and Titles (invited)

**Joerg Aichelin** (Nantes, France)

Transport theory for a plasma based on the NJL Lagrangian

**Steffen Bass** (Duke Univ., USA)

Systematic Extraction of QGP Properties

**David Blaschke** (Wrocław, Poland) – Advisory Board

Generalized Beth-Uhlenbeck approach to quark-hadron matter

**Marcus Bluhm** (Raleigh, USA)

From cold Fermi fluids to the hot QGP

**Claudio Bonati** (Pisa, Italy)

Across deconfinement transition

**Piotr Bożek** (Cracow, Poland)

Collective dynamics in small systems

**Elena Bratkovskaya** (Frankfurt, Germany)

Chiral symmetry restoration vs deconfinement in HIC at high baryon density

**Peter Braun-Munzinger** (GSI Darmstadt, Germany)

Particle production at the QCD phase boundary

**Takahiro Doi** (Kyoto, Japan)

Polyakov loop fluctuations in terms of Dirac eigenmodes

**Volker Friese** (GSI Darmstadt, Germany)

Future facilities for HIC

**Bengt Friman** (GSI Darmstadt, Germany)

Chiral criticality: confronting models with data

**Kenji Fukushima** (Tokyo, Japan)

QCD transition and chemical freezeout in the presence of a magnetic field

**Wojciech Florkowski** (Cracow, Poland)

Anisotropic hydrodynamics

**Katarzyna Grebieszko** (Warsaw, Poland)

News from strong interactions program of the NA61/SHINE experiment

**Burkhard Kämpfer** (Dresden-Rossendorf, Germany)

Photon emission in the vicinity of a critical point

**Frithjof Karsch** (Bielefeld, Germany)

Status of Lattice QCD Simulations

**Volker Koch** (LBNL Berkeley, USA)

Fluctuation observables in heavy ion collisions

**Larry McLerran** (Brookhaven, USA) – Advisory Board

From Glasma to QCD phase boundary

**Kenji Morita** (Kyoto, USA)

Fluctuations of charges at the phase boundary

**Swagato Mukherjee** (LBNL Berkeley, USA)

Off-equilibrium Non-Gaussian Cumulants: criticality, complexity, and universality

**Marlene Nahrgang** (Durham, USA)

Effective dynamical models for fluctuations at the QCD transition

**Helmut Oeschler** (Heidelberg, Germany)

Production of light flavor hadrons in pp, p-Pb and Pb-Pb collisions with ALICE

**Akira Ohnishi** (Kyoto, Japan)

Directed flow in heavy-ion collisions and softening of equation of state

**Anar Rustamov** (FIAS, Germany)

Energy scan programs in HIC

**Helmut Satz** (Bielefeld, Germany)

Horizons, Causality and Information transfer

**Edward Shuryak** (Stony Brook, USA) – Advisory Board

Recent progress in understanding deconfinement and chiral symmetry breaking transitions

**Huichao Song** (Peking, China)

Correlated fluctuations near the QCD critical point

**Alexander Sorin** (JINR Dubna, Russia) – Advisory Board

Search for a mixed phase of QCD at NICA

**Johanna Stachel** (Heidelberg, Germany)

Heavy flavor production at the QCD phase boundary

**Hideo Suganuma** (Kyoto, Japan)

Interplay between deconfinement and chiral properties

**Nu Xu** (Berkeley, USA) – Advisory Board

Limits on the experimental search for the CEP

**Zhangbu Xu** (Brookhaven, USA)

STAR BES-I highlights and RHIC BES-II program

## **Talks and Titles (contributed)**

**Evgeny Andronov** (St.Petersburg State University, Russia)

Transverse momentum and multiplicity fluctuations in Ar+Sc collisions at CERN SPS from NA61/SHINE

**Viktor Begun** (Kielce, Poland)

Surprises for the chemical freeze-out line from the new data in pp and nucleus-nucleus collisions

**Christoph Blume** (Frankfurt, Germany)

The Compressed Baryonic Matter (CBM) Experiment at FAIR

**Wojciech Broniowski** (Cracow, Poland)

Wounded quarks at the LHC

**Margaret Carrington** (Brandon University, USA)

Phase transitions in graphene: a non-pert. continuum Dyson-Schwinger method

**Jean Cleymans** (Cape Town, South Africa)

Thermal Model Description of Collisions of Small Nuclei

**Nikolaos Davis** (Warsaw, Poland)

Searching for the QCD critical point through power-law fluctuations of the proton density in heavy ion collisions

**Spethan Endres** (Frankfurt, Germany)

Electromagnetic probes from SIS18 to LHC energies in coarse-grained transport simulations

**Rajiv Gavai** (Mumbai, India)

Probing the nature of phases across the phase transition at finite isospin chemical potential

**Leonid Glozman** (Graz, Austria)

SU(2N<sub>F</sub>) symmetry of QCD at high temperature and its implications

**Szymon Harabasz** (Darmstadt, Germany/ Cracow, Poland)

- Measurement of virtual photons radiated from Au+Au collisions at Ebeam=1.23 A GeV with HADES
- Atsuro Ikeda** (Osaka, Japan)  
Charm diffusion coefficient from nonzero momentum Euclidean correlator in temporal channel
- Jakub Jankowski** (Kraków, Poland)  
Relaxation rates and phase transitions
- Yurii Karpenko** (INFN Firenze, Italy)  
Vorticity in the QGP liquid and Lambda polarization at RHIC BES energies
- Taekwang Kim** (Osaka, Japan)  
Non-perturbative production rate of photons with a lattice quark propagator – effect of vertex correction
- Daniel Kincses** (Budapest, Hungary)  
PHENIX Levy analysis of Bose Einstein correlation functions
- Masakiyo Kitazawa** (Kyoto, Japan)  
Understanding experimentally-observed fluctuations
- Roy Lacey** (Stony Brook, USA)  
Observation of the critical point in the phase diagram for hot and dense nuclear matter
- Maciej Lewicki** (Wrocław, Poland)  
Pion spectra in Ar+Sc interactions at SPS energies
- Pok Man Lo** (Wrocław, Poland)  
Repulsive interactions and their effects on the thermodynamics
- Manual Lorenz** (Frankfurt, Germany)  
Hadron production at SIS energies: an update from HADES
- Maja Katarzyna Maćkowiak-Pawlowska** (Warsaw, Poland)  
Higher order moments of net-charge multiplicity distribution in p+p interactions at SPS energies from NA61/SHINE
- Shijun Mao** (Xian Uni, China)  
Inverse Magnetic Catalysis in Nambu—Jona-Lasinio Model beyond Mean Field
- David Miller** (Penn State University, USA)  
Evaluation of the Motion of Confined Particles
- Mario Mitter** (Heidelberg, Germany)  
Chiral symmetry breaking in continuum QCD
- Anton Motornenko** (Kiev, Ukraine)  
Cumulative production of pions by heavy baryonic resonances in proton-nucleus collisions
- Michał Naskręć** (Wrocław, Poland)  
Mean pion multiplicities in Ar+Sc collisions

**Jan Pawłowski** (Heidelberg, Germany)

On spectral functions and transport coefficients in QCD

**Dariusz Prorok** (Wrocław, Poland)

Fluctuations of the freeze-out temperature in Pb-Pb collisions at LHC

**Jacek Rożynek** (Warsaw, Poland)

Critical Phenomena in the Nonextensive Nambu Jona-Lasinio Model

**Shi Pu** (Frankfurt, Germany)

Chiral magnetic effect and chiral kinetic theory

**Bernd-Jochen Schaefer** (Giessen, Germany)

Fluctuations in a finite volume

**Andrey Seryakov** (St. Petersburg, Russia)

Centrality determination and multiplicity fluctuations in Ar+Sc collisions at CERN SPS from NA61/SHINE

**Florian Seck** (Darmstadt, Germany)

Thermal Dileptons as Fireball probes at SIS Energies

**Vincent Steinberg** (Frankfurt, Germany)

Particle production in nucleus-nucleus and pion-nucleus collisions at  $E_{\text{kin}}=0.8 - 2$  A GeV

**Arkadiy Taranenko** (National Research Nuclear University MPhI, Russia)

PHENIX results on collective effects in small systems

**Hendrik Van Hees** (Frankfurt, Germany)

Dynamics of the chiral phase transition

**Volodymyr Vovchenko** (FIAS Frankfurt, Germany)

Critical fluctuations in models with van der Waals interactions

**Gyorgy Wolf** (Budapest, Hungary)

Existence of the critical endpoint in the vector meson extended linear sigma model

**Haojie Xu** (Beijing, China)

Event-by-event multiplicity fluctuations in relativistic heavy-ion collisions

**Takeru Yokota** (Kyoto, Japan)

Novel picture of the soft modes at the QCD critical point based on the FRG method

**Ryo Yoshiike** (Kyoto, Japan)

Symmetry breaking effect on the inhomogeneous chiral phase in the external magnetic field

## Posters

**Alexander Ayriyan** (JINR Dubna, Russia)

Phase diagram of the three-flavor color superconducting QCD phase diagram

**Niels-Uwe Bastian** (Wrocław, Poland)

Hybrid Equation of State for Heavy-Ion Collisions and Astrophysics

**Vitalii Blinov** (Frankfurt, Germany)

CBM performance for anisotropic flow measurements

**Mateusz Cierniak** (Wrocław, Poland)

In-medium quark mass-gap equation solutions

**Alexander Dubinin** (Wrocław, Poland)

Mott-hadron resonance gas and lattice QCD thermodynamics

**Tobias Fischer** (Wrocław, Poland)

The Physics of core-collapse supernovae - Towards 3-dimensional models

**Alexandra Friesen** (JINR Dubna, Russia)

Phase diagram of the three-flavor PNJL model

**Pasi Huovinen** (Wrocław, Poland)

Dynamical freeze-out in event-by-event hydrodynamics

**Oleksii Ivanytskyi** (Kiev, Ukraine)

Polyakov loop geometrical clusters and deconfinement transition in SU(2) gluodynamics

**Aliaksei Kachanovich** (Wrocław, Poland)

Non-local Quark Model for modelling the composite Higgs particle

**Mark Kaltenborn** (Wrocław, Poland)

Quasi-Particle Quark-Nuclear Hybrid EoS with Excluded Volume Effects

**Yurii Karpenko** (INFN Firenze, Italy)

vHLLE, a code for hydrodynamic modelling of relativistic heavy ion collisions

**Victor Klochkov** (GSI Darmstadt, Germany)

Performance of centrality determination in heavy-ion collisions with the CBM experiment

**Simon Liebing** (Freiberg, Germany)

Composite particles - effects of substructure

**Michał Szymański** (Wrocław, Poland)

Temperature effects on superfluid phase transition in Bose-Hubbard model with three-body interaction