Program of the 'HFHF Theory Retreat 2022'

12-16 September 2022

Castiglione della Pescaia, Province of Grosseto, Italy

12 September, Monday

Chairman: Marcus Bleicher

9:20 – 9:30 Marcus Bleicher *'Opening of the HFHF Theory Retreat 2022'*
9:30 – 10:10 Dirk Rischke *'Spin hydrodynamics I'*
10:10 – 10:40 David Wagner *'Spin Hydrodynamics II'*
10:40 – 11:10 Fabrizio Murgana *'Critical Exponents for O(N) Model via Hydrodynamic approach to FRG'*

11:10 - 11:30 Coffee break

Chairman: David Wagner

11:30 – 12:10 Lorenz von Smekal *'Real-time methods for spectral functions'*
12:10 – 12:40 Arno Tripolt *'Spectral functions in nuclear matter'*
12:40 – 13:10 Johannes Roth *'Real-time functional renormalization group for critical dynamics '*

13:10 – 14:30 Lunch

16:40 - 17:00 Coffee break

Chairman: Jan Fotakis

17:00 – 17:40 Hendrik van Hees *' Electromagnetic Probes in Heavy-Ion Collisions'*
17:40 – 18:10 Jan Rais *' Bound state formation in thermal environments'*
18:10 – 18:40 Fabian Rennecke *'Moat regimes and their signatures in heavy-ion collisions '*

19:30 – Dinner

13 September, Tuesday

Chairman: Olga Soloveva

9:30 – 10:10 Owe Philipsen *'Chiral spin symmetry and the QCD phase diagram'*
10:10 – 10:40 Andreas Mario Halsch *'Real-time lattice simulations of QCD in a semi-classical approximation'*
10:40 – 11:10 Chris Winterowd *'Non-perturbative determination of couplings in effective field theories'*

11:10 - 11:30 Coffee break

Chairman: Jan Reis

11:30 – 12:10 Marcus Bleicher *'Introduction to heavy-ion physics'*
12:10 – 12:40 Aphiwit Kittiratpattana *'Correcting the BA coalescence factor at GSI-HADES and RHIC-BES energies'*
12:40 – 13:10 Tom Reichert *'Hypernuclei in Heavy Ion Collisions'*

13:10 – 14:30 Lunch

16:40 - 17:00 Coffee break

Chairman: Arno Tripot

17:00 – 17:40 Jan M. Pawlowski *'Zooming in on the QCD phase structure with functional approaches'*
17:40 – 18:10 Sebastian Töpfel *'Symmetry constraints for Callan-Symanzik flows in chiral models'*
18:10 – 18:40 Niklas Zorbach *'The absence of symmetry breaking in the (1+1)-dimensional Gross-Neveu model with bosonic fluctuations at non-zero T and μ'*

19:30 – Dinner

14 September, Wednesday

Chairman: Johannes Roth

9:30 – 10:10 Elena Bratkovskaya *'Dynamics of strongly interacting matter'*
10:10 – 10:40 Olga Soloveva *'Transport coefficients and evolution of QGP phase at finite baryon density'*
10:40 – 11:10 Gabriele Coci *'Mechanisms for deuteron production in HICs with PHQMD transport approach'*

11:10 - 11:30 Coffee break

Chairman: Jan Staudenmaier

11:30 – 12:10 Jörg Aichelin *'Physics of heavy flavour'*
12:10 – 12:40 Tim Neidig *'Production of light nuclei in relativistic HIC via rate equations'*
12:40 – 13:10 Jan Fotakis *'Fluid dynamics of multiple conserved charges'*

13:10 – 14:30 Lunch

16:40 - 17:00 Coffee break

17:00 – 18:40 Free discussion session

19:30 – Dinner

15 September, Thursday

Chairman: Andreas Mario Halsch

9:30 – 10:10 Hannah Elfner *'Hadronic model SMASH'*
10:10 – 10:40 Renan Hirayama *'Effective spectral functions from lifetime analysis'*
10:40 – 11:10 Jan Staudenmaier *'Multi-particle reactions in hadronic transport approaches'*

11:10 - 11:30 Coffee break

Chairman: Christopher Busch

11:30 – 12:10 Michael Buballa *'QCD phases at nonzero chemical potential'*
12:10 – 12:40 Lennart Kurth *'Inhomogeneous phases beyond mean field'*
12:40 – 13:10 Hosein Gholamii *'Color superconductivity in neutron star mergers'*

13:10 – 14:30 Lunch

16:40 - 17:00 Coffee break

17:00 – 18:40 Group meetings

19:00 – *"Good Bye" Apero*
19:30 – Dinner

16 September, Friday

Chairman: Carsten Greiner

9:30 – 10:10 Bernd-Jochen Schaefer *'The chiral phase transition at high densities'*
10:10 – 10:40 Christopher Busch *'Interplay of Bosonic and Fermionic Fluctuations at Finite Densities'*
10:40 – 11:10 Ugo Mire *'Diquarks and EoS of dense quark matter'*
11:10 – 11:40 Laurin Pannullo *'Inhomogeneous phases in the 3+1-dimensional mean-field Nambu-Jona-Lasinio model on the lattice'*

11:40 - 12:00 Coffee break

12:00 – 13:10 Group meetings

13:10 – 14:30 Lunch

16:40 - 17:00 Coffee break

17:00 – 18:40 Free discussion session

19:30 – Dinner