

# Workshop of Recent Developments in QCD and Quantum Field Theories

Nov. 9-12, 2017

R312, CCMS-Physics Building, National Taiwan University, Taipei, Taiwan

Tentative Program:

Day 1: Nov.9

9:00-9:06: Opening Remarks: Shin-Nan Yang & Tetsuo Hatsuda

Chair : Dmitri Kharzeev

9:06-9:51 : Tetsufumi Hirano (Recent topics in relativistic heavy ion collisions and QGP)

9:51-10:36 : Yu-Tin Huang (Lessons from the massive S-matrix)

Break

Chair: Jianhui Zhang

11:00-11:45 : Yoshitaka Hatta (Introduction to nucleon spin sum rule)

11:45-12:30 : Jiunn-Wei Chen ( The Flavor Structure of Nucleon Sea from Lattice QCD)

Lunch

Chair: Koichi Hattori

14:00-14:30 : Yang-Ting Chien (Precision Jet Substructure using Soft Collinear Effective Theory)

14:30-15:00 : Jianhui Zhang (Pion distribution amplitude from Euclidean correlation functions)

15:00-15:30 : Christopher Monahan (Accessing nucleon structure from Euclidean spacetime)

Break

Chair: Haozhao Liang

16:15-16:45 : Henry T. Wong (Neutrino and Dark Matter Physics at Kuo-Sheng Reactor Neutrino Laboratory and China Jin-Ping Underground Laboratory)

16:45-17:15 : Cheng-Pang Liu (Many-Body Physics in Neutrino and Dark Matter Detection)

17:15-17:30 : Dimitrios Giataganas (Confinement/Deconfinement Phase Transitions in Strongly Coupled Anisotropic Theories)

17:30-17:45 : Linda Shen (Dynamical Thermalization in the Quark-Meson Model)

Day 2: Nov. 10

Chair: Di-Lun Yang

9:00-9:45 : Dmitri Kharzeev (The chiral magnetic effect in quark-gluon plasma and condensed matter)

9:45-10:30 : Masakiyo Kitazawa (Lattice study of energy-momentum tensor with gradient flow -- thermodynamics, correlations, and stress)

Break

Chair: Shi Pu

11:00-11:45: Kenji Fukushima (QCD matter in neutron star environments)

11:45-12:30 : Pascal Naidon (Mediated interactions: from Yukawa to Efimov)

Lunch

Chair : Yoshimasa Hidaka

14:00-14:30 : Di-Lun Yang (Nonlinear responses of chiral fluids from kinetic theory)

14:30-15:00 : Shi Pu (Boost invariant formulation of the chiral kinetic theory)

15:00-15:30 : Koichi Hattori (A renormalization-group analysis of the magnetic catalysis)

Break

Chair : Christopher Monahan

16:15-16:45 : Takumi Doi (Nuclear Physics from Lattice QCD)

16:45-17:15 : David Lin (Matrix product states and (1+1)-dimensional Thirring model)

17:15-17:30 : Ryosuke Yanagihara (Stress and energy distribution in quark--anti-quark systems using gradient flow)

17:30- 17:45 : Santanu Mondal (Pion light-cone wavefunction using OPE on the lattice)

17:45- 18:00 : David Chu (Exploring Thermally Induced First Order Phase Transitions in a Higgs-Yukawa Model with a Dimension-6 Operator)

6:30 pm : Workshop dinner

Day 3 : Nov.11

Chair : Joel Lynn

9:00-9:45 : Ulf-G. Meißner (Theta-term physics)

9:45-10:30 : Yoshimasa Hidaka (Spontaneous symmetry breaking in open systems)

Break

Chair: Masaru Hongo

11:00-11:45 : Joel Lynn (Many-Body Nuclear Physics with Quantum Monte Carlo Methods and Chiral EFT)

11:45-12:30 : Haozhao Liang (Density Functional Theory with uncertainty quantification from Functional Renormalization Group in Kohn-Sham scheme )

Lunch

Chair : Yang-Ting Chien

14:00-14:30 : Hsiang-Nan Li (Single-spin asymmetry at subleading level)

14:30-15:00 : Masaru Hongo (Hydrodynamics, current algebra, and quantum anomaly)

15:00-15:30 : Eibun Senaha (Towards a gauge-invariant treatment of the electroweak phase transition)

15:30-15:45 : Xian-Wei Kang (CP asymmetries in strange baryons)

break

Chair: Kenji Fukushima

16:30-17:00 : Shin-Nan Yang (Meson-Exchange Model vs Chiral Perturbation Theory in Threshold Neutral Pion Electroproduction)

17:00-17:30 : Gergely Fejos (Mesonic and nucleon fluctuation effects in nuclear medium)

17:30-18:00 : Tetsuo Hatsuda (From Quarks to Neutron Stars)

closing

Day 4:

excursion