

STARS2017 - 4th Caribbean Symposium on Cosmology, Gravitation, Nuclear
and Astroparticle Physics / SMFNS2017 - 5th International Symposium on
Strong Electromagnetic Fields and Neutron Stars

Contribution ID: 48

Type: **Talk**

Effective model for quark-hadron matter in compact stars (Lecture II)

Thursday 4 May 2017 10:40 (1h 20m)

Starting from model Lagrangians of the Nambu-Jona-Lasinio (NJL) type that share basic symmetries with the QCD Lagrangian we demonstrate in these lectures how to use the Path-Integral formalism in order to obtain dynamical chiral symmetry breaking and color superconductivity at the mean-field level of description and how to describe the formation and dissociation of hadronic bound states of quarks when going beyond that approximation. The status of the quest for a unified equation of state for quark-hadron matter is discussed and its importance for applications to simulations of heavy-ion collisions and the evolution of compact stars and their mergers is outlined.

Author: BLASCHKE, David (University of Wroclaw, Poland and Joint Institute for Nuclear Research (JINR), Dubna, Russia)

Presenter: BLASCHKE, David (University of Wroclaw, Poland and Joint Institute for Nuclear Research (JINR), Dubna, Russia)