Contribution ID: **256** Type: **Oral Presentation**

The impact of fluctuations on the QCD phase structure

Thursday, 22 August 2019 11:30 (30 minutes)

Low-energy QCD at finite temperatures and baryochemical densities predicts a phase transition from a chiral symmetry broken hadronic phase to a chirally restored quark-gluon plasma phase. In this talk the two and three quark flavor chiral phase structure with and without an axial U(1)-symmetry breaking is the major focus. The current status of low-energy QCD effective models is briefly summarized. Non-perturbative quantum fluctuations that are of particular importance in the vicinity of any phase transition are taken into account with the functional renormalization group method. The influence of vacuum and thermal fluctuations of quarks and mesons on the chiral phase structure is investigated in a systematic manner and confronted with corresponding mean-field approximations.

Primary author: SCHAEFER, Bernd-Jochen

Presenter: SCHAEFER, Bernd-Jochen

Session Classification: Workshop on QCD

Track Classification: Workshop on QCD