

Seminario, Quarta 19/10/2022 16:00h

Local: Evento à distância, será transmitido pelo Zoom através do link
[https://us02web.zoom.us/j/82228892557?
pwd=NEd5R3VJWXBaZXkyMX11dC9vWTd1UT09](https://us02web.zoom.us/j/82228892557?pwd=NEd5R3VJWXBaZXkyMX11dC9vWTd1UT09)

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Title: Dynamical mass generation in QCD and its smoking gun signals

In quantum field theory, fields can acquire dynamically generated masses, not present in the fundamental Lagrangian of a given theory. In QCD, the theory of the strong interaction, this phenomenon is crucial: although the QCD Lagrangian is composed of massless gluons and nearly massless quarks, the observed particles, the hadrons, have large masses which amount to 98% of the visible mass in the universe. In this talk, we review the nonperturbative mechanisms of Dynamical Chiral Symmetry Breaking, which generates dynamical masses for the quarks, and the Schwinger mechanism, which endows gluons with an effective mass. Furthermore, we discuss the mounting evidence for the occurrence of these mechanisms in QCD from lattice and continuum studies of the QCD Green's functions, that is its propagators and vertices, focusing on recent advances in the field.