

## Universidade Federal da Paraíba Centro de Ciências Exatas e da Natureza Programa de Pós-Graduação *Stricto Sensu* em Física

## Colóquio

## "The nature of dark matter"

**RESUMO:** About 25% of the energy density of the Universe consists of dark matter —an exotic form of matter about which very little is known. Throughout the years many different models have been proposed to explain what the dark matter is, and several experiments have been trying to measure its basic properties, but its nature remains elusive and constitutes one of the most pressing problems in fundamental physics today. If the dark matter is made up of Weakly Interacting Massive Particles (WIMPs) —as usually assumed—observable signals in current experiments, including direct and indirect detection experiments as well as the LHC, are expected within the next few years. If such signals were not detected, the WIMP paradigm would have to be abandoned and dark matter would have to be explained in some other way. In this talk, I will review the present status of dark matter research and will outline some of the directions I am currently following

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