



# Münchner Physik- Kolloquium

Winter  
2017/18

## Dark matter at the Higgs scale and below

**Prof. Dr. Joshua Ruderman**, *Center for Cosmology and Particle Physics,  
New York University, USA*

Monday, 29 January 2018, 17:15 h  
Hörsaal 2, Physik-Department der TUM, Garching

Dark matter is believed to make up most of the matter of our Universe, but its particle origin remains a mystery. A promising possibility is that dark matter is composed of a new particle that was thermally produced in the early Universe, and has a mass near the mass of the recently discovered Higgs boson. As I will review, a diverse set of experiments are now searching for dark matter candidates at the Higgs scale. These experiments have great potential to discover dark matter, but the allowed parameter space is rapidly closing. An alternative possibility, that is receiving growing attention, is that dark matter is thermally produced but has a mass that is significantly lighter than the Higgs boson. I will present an overview of recent theoretical and experimental progress exploring light dark matter candidates.

## Student event: Meet the speaker

We invite you to a **student-only** discussion-round with Prof. Dr. Joshua Ruderman before his Munich Physics Colloquium talk.

*Be curious and feel free to ask any question.*

Monday, 29 January 2018, 16:00 h  
Seminar room PH 3076 (upper floor), Physik-Department der TUM, James-Franck-Straße 1,  
Garching

