

# Stars as Particle-Physics Laboratories: Old Ideas and New Developments

Credits: ESO

**Lecturer:** Georg G. Raffelt, Max-Planck-Institut für Physik. His research is in the areas of theoretical astroparticle physics and cosmology. In particular, it revolves around weakly interacting particles (neutrinos, the hypothetical axion, or weakly interacting dark matter candidates), their role in astrophysics and cosmology.

**Abstract** The hot and dense interiors of stars are powerful factories for low-mass particles such as neutrinos or the hypothetical axions and axion-like particles, dark photons, fuzzy-dark-matter-particles, and others. The back-reaction on stars or searching for the particle fluxes or decay products provides some of the most restrictive limits, but also future detection opportunities. While many of these arguments go back to the beginnings of neutrino physics and axion ideas, there have been intriguing new developments and opportunities. In this lecture the basic ideas will be introduced and some recent developments reviewed.

Jueves 27 octubre, 12 horas, on line ([Zoom](#))



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