Theory of Elementary Particles, Astroparticle Physics, and Phenomenology (TEPAPP) Seminar

Wednesday, November 2nd @ 5:00PM
PAB 4-708

“Probing dark matter microphysics with gravitational waves and cosmology”
Markus Mosbech (University of Sydney)

Abstract: Dark matter remains a mysterious component in our universe. In order to escape existing constraints, it must be at most weakly interacting, and has an upper bound on its allowed mass if it is a thermal relic. I will present a novel method of constraining the microphysics of dark matter using the observed gravitational wave signal, via the impact on structure formation. I will supplement this with forecasts for constraints from 21cm line intensity mapping, as with the next generation of observatories, these two signals may put the strongest limits yet on dark matter-neutrino scattering.