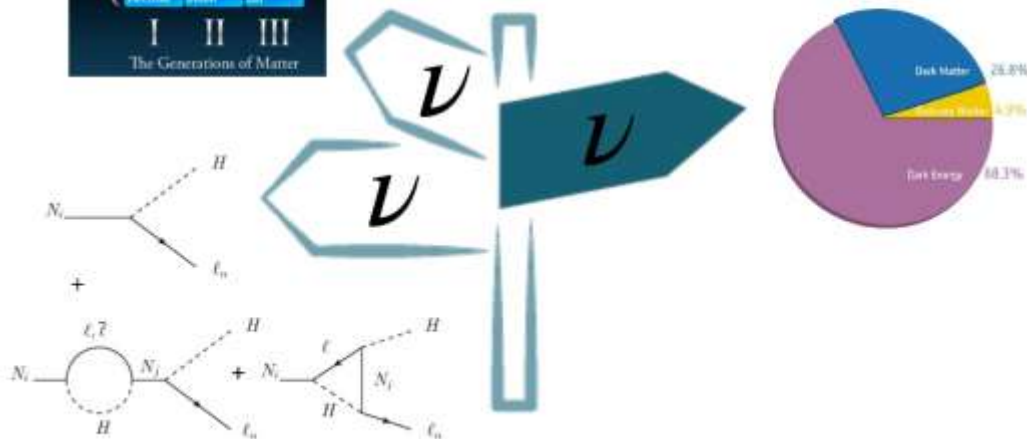


# SONDERKOLLOQUIUM

AM 23. JULI 2019 UM 15:30 UHR  
IM SEMINARRAUM, GUSTAV-MIE-GEBÄUDE

Leptons	Quarks	$u$	$c$	$t$
		$d$	$s$	$b$
		$\nu_e$	$\nu_\mu$	$\nu_\tau$
	$e$	$\mu$	$\tau$	
	I	II	III	
	The Generations of Matter			



## Neutrinos as Signposts in Particle and Astroparticle Physics

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Neutrinos are the most elusive among the elementary particles, yet they are copiously present in our Universe. They are not only very light (at least 500,000 times lighter than the electron), but they can also be their own antiparticles.

Thanks to their unique properties they can be the key to answer several fundamental questions in today's particle and astroparticle physics:

- why are there three generations of elementary particles?
- what is the origin of the overwhelming dominance of matter over antimatter in our Universe?
- what is Dark Matter, another very important component of our Universe, made of?