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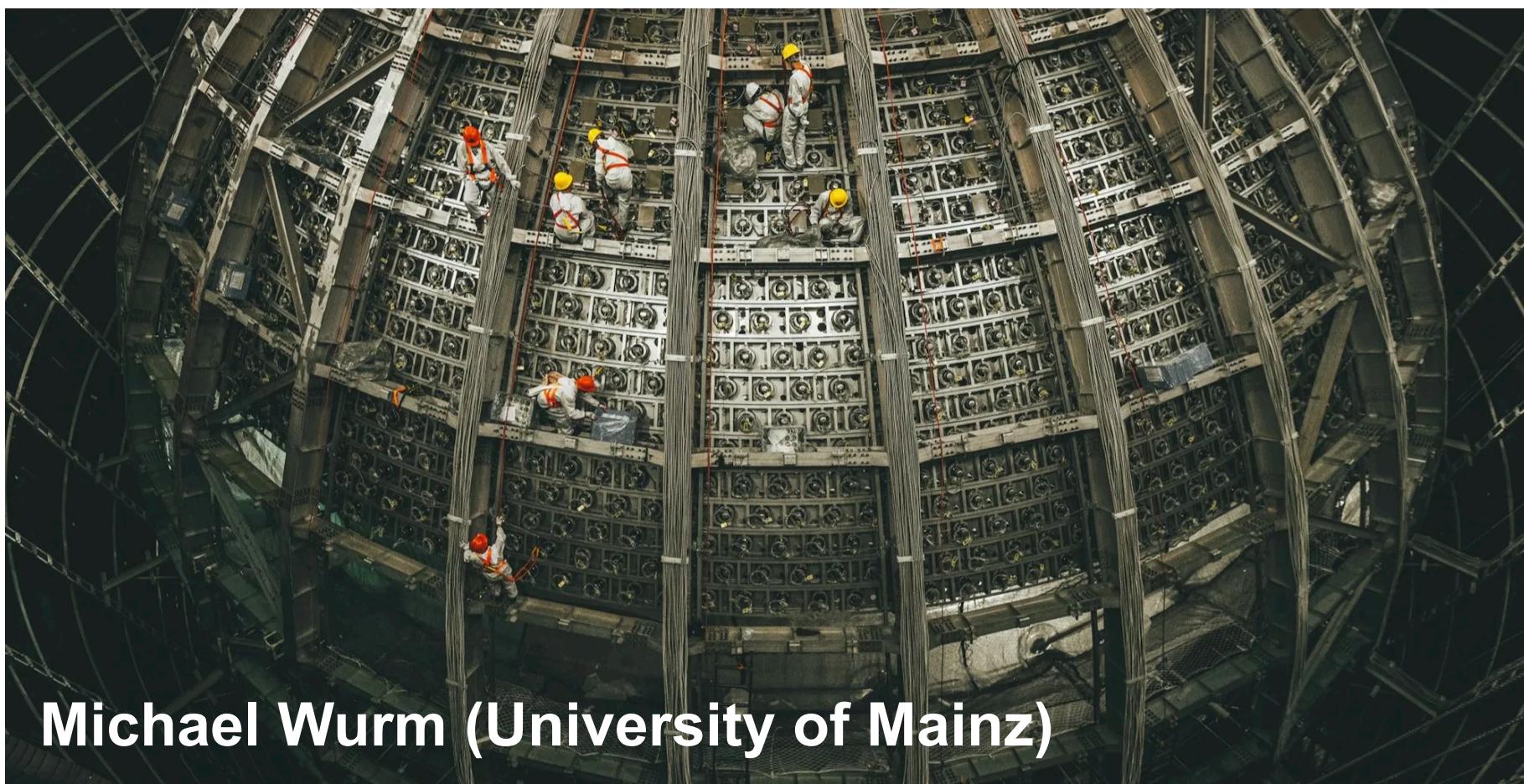
Particle and Astroparticle Physics Colloquium



JUNO's First Light: High-Precision Reactor Neutrino Oscillations.

Tuesday, 24 March, 2026
Auditorium & Webcast 16:00 h

Meeting ID: 996 1652 8733
Meeting Password: 733220



Michael Wurm (University of Mainz)

JUNO is the world's largest liquid scintillator detector, located in southern China. With a 20-kiloton fiducial mass and a target energy resolution of 3% at 1 MeV, it is designed to set a new benchmark for reactor neutrino experiments. Positioned 55 km from two nuclear power plants at the first solar oscillation maximum, JUNO is uniquely suited for high-precision measurements of the reactor antineutrino oscillation pattern, with sensitivity to the neutrino mass ordering and the solar oscillation parameters.

Having begun operations in August 2025, JUNO's first 59 days of physics data already yield a landmark result: a factor of 1.6 improvement in the uncertainties on the solar oscillation parameters, surpassing the precision of all previous measurements combined.