

ENP Meeting

INFN CSN4 Iniziativa Specifica (Linea 2) 'Exploring New Physics'

GENNARO CORCELLA

INFN - Laboratori Nazionali di Frascati

Nodi ENP e responsabili:

LNF (Gennaro Corcella)

Napoli (Giulia Ricciardi)

Perugia (Orlando Panella)

Roma I (Marco Bonvini)

Roma II (Alberto Salvio)

Responsabile Nazionale: Gennaro Corcella (2024-26)

26 ricercatori (FTE $\sim$ 20)

In base ai criteri della Commissione IV, ENP in Fascia I

In discussione nuovi contratti di ricerca ed attribuzioni tra linee ed IS

ENP research topics (Consuntivi 2024)

LNF

SM precision physics; top phenomenology; SMEFT; various BSM scenarios (331 model, anomaly-mediated SUSY, etc.); axions

Intense activity on strategy for future colliders

Napoli

Kaon decays, holographic QCD and $g - 2$, supernova neutrinos, 331 models, lattice and quantum computing

Perugia

Type-I see-saw with heavy leptons, $g - 2$, SMEFT for t -channel DM and multi-bosons

Roma I

NLL resummation; theory uncertainties; future colliders (multi-Higgs, top, FCNC); flavour physics (CKM, HEPfit, spontaneous violation in 2HDM); Froggatt-Nielsen textures; Composite Higgs; exotic hadrons; EFT and DM with anti-ferromagnets

Roma II

Connections with gravity and cosmology; phase transition and gravitational waves; primordial black holes; anthropic explanation of cosmological constant

Non-perturbative QCD (lattice): form factors; τ decays; HPV contribution to $g - 2$

Outline of the meeting

Priority to common topics among ENP nodes; a few talks by young speakers

Loose schedule, but roughly:

Morning session: mostly precision physics - SM/QCD and flavour

Long break at lunch time (~ 3 hours) because of seminar on DESI results (speaker D.Bianchi, Milan) at 14:30

Afternoon: mostly physics beyond the Standard Model

Recommendation to be on time and respect the schedule to allow non-Roman colleagues to follow all talks and take return trains