

Curriculum Vitae: Roberto Petti

Education

- Laurea in Physics at the University of Pavia, Italy (110/110 cum laude).
- PhD in Particle Physics at the University of Pavia, Italy.

At Collegio Ghislieri in Pavia and St. John's College in Cambridge, UK.

Positions

- 2019 - date** Professor at the University of South Carolina, USA.
- 2011 - 2018** Associate Professor at the University of South Carolina, USA.
- 2005 - 2011** Assistant Professor at the University of South Carolina, USA.
- 2001 - 2005** Research Physicist in the Physics department at CERN.
- 1999 - 2001** Research Fellow in the Physics department at CERN.
- 1998 - 1999** Post-doc Fellow at the University of Pavia, Italy.

Scientific Activity

- Work to the detector construction, event reconstruction and data analysis in the NOMAD experiment at CERN (1994-present).
- Phenomenological studies on cross-sections, structure functions, parton distributions and nuclear effects (2003-present).
- Work to the design and performance studies for the LBNE/DUNE project (2009-present)
- Work for the NO ν A neutrino experiment (2012-present).
- Work for the CNGS project at CERN (2001).
- Work to the detector R&D (1993) and to both hardware and software of the ATLAS Inner Detector (2003-2005) and Muon System (2007-2009) at CERN.

Publications

R. Petti is co-author of 115 scientific papers published on international journals. The impact of his research activity is demonstrated by 56 invited talks at conferences and workshops and by the large number of citations. A selection of publications includes:

- R. Petti, PoS SISSA (DIS2019) (2019) 235, arXiv:1910.05995 [hep-ex], "Precision Measurements of Fundamental Interactions with (Anti)Neutrinos."
- H. Duyang, B. Guo, S. R. Mishra and R. Petti, Phys. Lett. B **795**, (2019) 424, arXiv:1902.09480 [hep-ph], "A Precise Determination of (Anti)neutrino Fluxes with (Anti)neutrino-Hydrogen Interactions."
- P. Bernardini et al., European Particle Physics Strategy Update 2018-2020, "Enhancing the LBNF/DUNE Physics Program," <https://indico.cern.ch/event/765096/contributions/3295805/>
- H. Duyang, B. Guo, S. R. Mishra and R. Petti, arXiv:1809.08752 [hep-ph], "A Novel Approach to Neutrino-Hydrogen Measurements."
- S. I. Alekhin, S. A. Kulagin and R. Petti, Phys. Rev. D **96**, 054005 (2017), arXiv:1704.00204 [nucl-th], "Nuclear Effects in the Deuteron and Constraints on the d/u Ratio."

- P. Ru, S. A. Kulagin, R. Petti and B. W. Zhang, Phys. Rev. D **94**, 113013 (2016), arXiv:1608.06835 [nucl-th], “Study of W and Z Boson Production in Proton-Lead Collisions at the LHC with Kulagin-Petti Nuclear Parton Distributions.”
- R. Acciarri *et al.* [DUNE Collaboration], arXiv:1512.06148, 1601.05471, 1601.02984 [physics.ins-det], “Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE).”
- S. I. Alekhin, J. Blumlein, L. Caminadac, K. Lipka, K. Lohwasser, S. Moch, R. Petti, R. Placakyte, Phys. Rev. D **91** (2015) 094002, arXiv:1404.6469 [hep-ph], ‘Determination of Strange Sea Quark Distributions from Fixed-target and Collider Data.’
- S. Kulagin and R. Petti, Phys. Rev. C **90** (2014) 045204, arXiv:1405.2529 [hep-ph], ‘Nuclear Parton Distributions and the Drell-Yan Process.’
- O. Samoylov et al. [NOMAD collaboration], Nucl.Phys.B **876** (2013) 339-375, arXiv:1308.4750 [hep-ex], ‘A Precision Measurement of Charm Dimuon Production in Neutrino Interactions from the NOMAD Experiment.’
- S. I. Alekhin, S.A. Kulagin and R. Petti, AIP Conf. Proc. **967** (2007) 215, arXiv:0710.0124 [hep-ph], ‘Modeling Lepton-Nucleon Inelastic Scattering from High to Low Momentum Transfer’
- S.A. Kulagin and R. Petti, Phys. Rev. D **76** (2007) 094023, hep-ph/0703033, ‘Neutrino Inclusive Inelastic Scattering off Nuclei.’
- S. Kulagin and R. Petti, Nucl. Phys. A **765** (2006) 126-187, hep-ph/0412425, ‘Global Study of Nuclear Structure Functions.’
- P. Astier et al. [NOMAD collaboration], Nucl. Phys. B **611** (2001) 3-39, hep-ex/0106102, ‘Final NOMAD Results on $\nu_\mu \rightarrow \nu_\tau$ and $\nu_e \rightarrow \nu_\tau$ Oscillations Including a New Search for ν_τ Appearance using Hadronic τ Decays.’

R. Petti served as scientific referee for the journals Physics Letters B, Nuclear Physics A, Nuclear Physics B, Journal of Physics G, IEEE Transactions, Annals of Nuclear Energy and The Astrophysical Journal.

Collaborators and Other Affiliations

Two pages is insufficient to contain the names of all of the collaborators and co-authors of the last 48 months. Therefore we resort to incorporating them by citing the collaborations.

Member of DUNE, NO ν A, NOMAD, ATLAS & NuSTEC Collaborations

Research Supervision

Post-docs supervised: 2 post-doc

Graduate students supervised: 7 students

Undergraduate students supervised: 8 students