

Revealing emergent mass through studies of hadron spectra and structure

Trento, 12 – 16 September 2022

Exposing the origin of the proton's mass is one of the most profound challenges in physics. The goal's simplicity hides its breadth. Solving this puzzle will explain, inter alia: why the proton is stable; why $m_{\text{proton}} \approx 2000 m_{\text{electron}}$; and why the strongly interacting pion possesses a lepton-like mass. The last decade has seen considerable improvements in our theoretical understanding of these issues, owing to major advances in continuum and lattice methods. Moreover, new generation experiments, in operation or planning, promise to expose the spectrum and structure of hadrons with unprecedented detail. We are on the verge of a new era in strong interaction physics. This workshop will therefore gather a group of experts to discuss key recent developments, identify new goals, and plan the next steps forward in strong QCD.

Organizers

Daniele **BINOSI** (*ECT* European Centre for Theoretical Studies in Nuclear Physics and Related Areas, Trento/IT*); Tanja **HYORN** (*Catholic University of America, Washington/US*); Huey-Wen **LIYN** (*Michigan State University, East Lansing/US*); Craig **ROBERTS** (*Nanjing University, Nanjing/CN*)

Key Speakers

D. Binosi, L. Chang, S. Collins, A. Courtoy, A. D'Angelo, G. Eichmann, R. Ent, R. Gothe, T. Horn, C.-R. Ji, S. Kumano, H.-W. Lin, C. Mezrag, H. Moutarde, J. Papavassiliou, P. Petreczky, J. Qiu, C. Quintans, C. Roberts, J. Rodríguez-Quintero, J. Segovia, A. Szczepanek, D. Wilson, B. Xiao, Z.-N. Xu

Director of the ECT*: Professor Gert Aarts

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