

# Emergent mass and its consequences in the Standard Model

ECT\* workshop program, 17–21 September 2018

## Monday

09:00–09:30 **Registration**

09:30–09:45 **Welcome Address by Craig Roberts**

**Chair: Craig Roberts**

09:45–10:30 Pion and Kaon Structure at an EIC

Rolf Ent

10:30–11:00 **Coffee Break**

11:00–11:45 Emergent Hadron Mass from Light-Front Holography and Superconformal Quantum Mechanics

Stanley Brodsky

11:45–12:30 Three-gluon vertex: the new frontier

Joannis Papavassiliou

12:30–14:30 **Lunch**

**Chair: Joannis Papavassiliou**

14:30–15:15 Origin of proton mass and quarkonium in nuclei

Gaston Krein

15:15–16:00 Emergent phenomena in strong dynamics

Daniele Binosi

16:00–16:30 **Coffee break**

16:30–17:15 Unraveling nucleon tensor charges and their implications

Huey-Wen Lin

## Tuesday

**Chair: Rolf Ent**

09:00–09:45 Experimental Access to the Emergence of Mass

Ralf Gothe

09:45–10:30 QCD: Carrying Our Weight

Craig Roberts

10:30–11:00 **Coffee break**

11:00–11:45 Electromagnetic form factors of pseudoscalar mesons

Lei Chang

11:45–12:30 Nucleon resonances in Compton scattering

Gernot Eichmann

12:30–14:30 **Lunch**

**Chair: Cristina Aguilar**

14:30–15:15 On the structure of neutral pseudoscalars

Khépani Raya-Montaño

15:15–16:00 On the order of the QCD chiral phase transition at zero and small density

Owe Philipsen

16:00–16:30 **Coffee break**

16:30–17:15 The gluon mass and the gauge sector of QCD

José Rodríguez Quintero

## Wednesday

### Chair: Ralf Gothe

- 09:00–09:45 Producton of heavy quarkonium on the nucleon at threshold: Probing the nucleon mass Zein-Eddine Meziani
- 09:45–10:30 Global properties of baryons from Poincare-covariant analysis Sixue Qin
- 10:30–11:00 **Coffee break**
- 11:00–11:45 Three concepts of the gauge boson mass Stanislaw Glazek
- 11:45–12:30 Quark mass generation with non-Abelian Ball-Chiu vertex Cristina Aguilar
- 12:30–14:30 **Lunch**

### Chair: Lei Chang

- 14:30–15:15 Baryon Structure with PTIR Cédric Mezrag
- 15:15–16:00 Quark and Meson spectral functions with the Functional Renormalization Group Ralf-Arno Tripolt
- 16:00–16:30 **Coffee break**

## Thursday

### Chair: Stanislaw Glazek

- 09:00–09:45 Insight to hadron mass generation from the nucleon resonance electroexcitation Victor Mokeev
- 09:45–10:30 QCD correlation functions from the FRG: results and applications Jan M. Pawlowski
- 10:30–11:00 **Coffee break**
- 11:00–11:45 Perturbative confinement Paul Hoyer
- 11:45–12:30 On propagators and vertices of Yang-Mills theory from their equations of motion Markus Huber
- 12:30–14:30 **Lunch**

### Chair: Jan M. Pawlowski

- 14:30–15:15 Parton Distribution Amplitudes of s-wave and p-wave heavy quarkonium Minghui Ding
- 15:15–16:00 Hadron structure in continuum QCD Fei Gao
- 16:00–16:30 **Coffee break**
- 16:30–17:15 Gluon-mass induced triply heavy baryon masses Kamil Serafin

## Friday

### Chair: Daniele Binosi

- 09:15–10:00 Perturbative Curci-Ferrari model at two-loop order Marcela Peláez
- 10:00–10:30 **Coffee break**
- 10:30–11:15 Mass-dependence of pseudoscalar meson elastic form factors Muyang Chen
- 11:15–12:00 Analytic properties of the gluon propagator in a generic covariant gauge Fabio Siringo
- 12:00–14:00 **Lunch**