GDR QCD Summer School: "Quantum Chromodynamics and muldimensionnal hadron structure"
July 7-11 2025, Orsay (Paris region), France
https://indico.in2p3.fr/event/33198/overview

Dear Colleagues,

We are pleased to announce the 2025 summer school **"Quantum Chromodynamics and muldimensionnal hadron structure"** (https://indico.in2p3.fr/event/33198/overview) that will take place **from July 7th to July 11th at the IJCLab in Orsay**, close to the city of **Paris (France)**. The school welcomes all PhD students and young postdocs in the fields of QCD, hadron and/or heavy-ion physics, both experimentalists and theorists.

The experiments at JLab, COMPASS, RHIC, the LHC in ultra-peripheral collisions, and the future EIC offer the prospect of accessing the multidimensional quark and gluon (parton) content of hadrons with great precision in the near future, across a very wide range of energies. The parton distributions that describe this content include PDFs (longitudinal momentum distributions), GPDs (related to transverse position distributions), TMDs (transverse momentum distributions), and GTMDs (which unify the previous distributions). In the regime of very high energies, the partonic content of hadrons is dominated by their gluonic content, which involves collective effects of the saturation type. The purpose of this school, aimed at both theorists and experimentalists, is to present these different distributions, their interrelations, the associated phenomenology, as well as the current and upcoming experimental results and programs that enable access to these distributions.

The essence of this series of schools (held in 2012, 2014, 2016, 2018, 2023, and 2024) includes:

- Lectures delivered by some of the world's leading experts in the field.
- Traditional blackboard-style teaching.
- Opportunities for students and postdocs to present their work to a panel of experts.
- Financial support for a substantial number of young participants, minimizing unnecessary costs
- A diverse international audience, with an expected attendance of 50 to 60 participants.

The topics discussed in this school will include:

- An introduction to Deep Inelastic Scattering, Drell-Yan processes, Parton Distribution Functions
- Low-x physics
- Transverse-Momentum Dependent (TMD) physics
- Generalized Transverse Momentum Distributions (GTMD) and Generalized Parton Distributions (GPD)
- Experimental challenges

Confirmed lecturers:

- Shohini Bhattacharya (University of Connecticut)

- Giuseppe Bozzi (University of Cagliari)
- Paul Caucal (Subatech, Nantes)
- Ronan McNulty (University College Dublin)
- Emanuele Nocera (University of Torino)
- Niveditha Ramasubramanian (IP2I, Lyon)

Registration is now open.
Please fill the following registration form at
https://indico.in2p3.fr/event/33198/registrations/4053/

The candidates are expected to arrive on July 6 (afternoon) and depart on July 12 (morning). Successful applicants will be notified by email within a couple of weeks.

Participants' accommodation is foreseen at Missions Franciscaines in Orsay, at walking distance from IJCLab, where the event will occur.

The deadline for application is May 15th 2025.

Please forward this announcement to anyone who may be interested. For any question, feel free to contact us at QCD2025@ijclab.in2p3.fr.

This programme is supported by the CNRS GDR-QCD, IJCLab and CEA-IRFU.

Hoping to welcome you at Orsay for the summer school "Quantum Chromodynamics and muldimensionnal hadron structure"!

The organizing committee:
V. Bertone (CEA, France)
M. Chernodub (Tours University, France)
M. Fucilla (IJCLab, France)
M. Mangin-Brinet (LPSC/CNRS)
C. Marquet (Ecole Polytechnique, France)
C. Muñoz Camacho (IJCLab, France)
Lech Szymanowski (NCBJ, Pologne)
S. Wallon (IJCLab, France)
M. Winn (CEA, France)