Aim of the workshop:
The proposed workshop will highlight current problems posed by strong interactions in perturbative and non-perturbative regimes and discuss how future colliders beyond the LHC can shed light on them. In particular, our meeting will deal with the following issues: state of the art of perturbative and non-perturbative QCD, non-perturbative uncertainties and interpretation of the top-quark mass, strong interactions as the binding force of new fermions in composite Higgs models, role played by QCD in new physics searches at the LHC, hadronic contribution to the leptonic gyromagnetic moment.

The program will be organized with introductory talks on strong interactions at present and future colliders and the following topical working groups:

- Perturbative QCD (Convener G. Ferrera)
- Non-perturbative QCD and heavy ions (Convener A. Beraudo)
- Top-quark physics (Convener F. Tramontano)
- Leptonic g-2 (Convener C. Calame Carloni)
- Higgs physics (Conveners A. Deandrea and R. Franceschini)
- Exotics and Dark Matter (Conveners A. Urbano and O. Panella)

Contact:
fossi@ectstar.eu (C. Fossi, ECT* secretariat)

Organizers:
- Gennaro Corcella (INFN LNF, chairman)
- Stefania De Curtis (INFN Florence)
- Stefano Moretti (University of Southampton)
- Giulia Pancheri (INFN LNF)
- Roberto Tenchini (INFN Pisa)
- Marcel Vos (Universidad de Valencia)
Wednesday, 13 September 2017

Non-perturbative QCD and heavy ions (Chairs: A. Beraudo and S. Moretti)

14:30 - 18:30

A democratic resummation procedure for infrared gluons: an application to survival probabilities
Speaker: Giulia Pancheri

15:00 Nuclear parton distribution functions
Speaker: Petja Paakkinen

15:30 Initial state and gluon saturation
Speaker: Guillaume Beuf

16:00 Coffee Break

16:30 Hydrodynamics
Speaker: Piotr Bozek

17:00 Jet quenching and fluid dynamics
Speaker: Urs Wiedemann

17:30 Heavy flavours in high-energy nuclear collisions: overview of transport calculations
Speaker: Andrea Beraudo

18:00 Discussion

Top-quark phenomenology (Chair: F. Tramontano)

09:30 - 13:00

09:30 Overview of top phenomenology
Speaker: Alberto Orso Maria Iorio

10:00 Top-quark pair production with resonance-aware methods
Speaker: Paolo Nason

10:30 Top-quark mass determination
Speaker: Peter Uwer

11:00 Coffee Break

11:30 NNLO ttbar production at hadron colliders
Speaker: Roberto Bonciani

12:00 Top physics at future hadron and lepton colliders
Speaker: Marcel Vos

12:30 Discussion

Lunch Break

Excursion to Lake Tovel, with an introduction to the lake by Dr. Giovanna Flaim (Edmund Mach Foundation)

Thursday, 14 September 2017

g-2 (Chair: C.M. Carloni Calame)

09:30 - 12:00

09:30 Past and future muon g-2 experiments
Speaker: Anna Driutti

10:00 Theory status and prospects for muon g-2 evaluations
Speaker: Massimo Passera

10:30 The hadronic vacuum polarisation contribution to the muon g-2
Speaker: Alex Keshavarzi

11:00 Discussion

11:30 Coffee Break

12:00 - 16:30

BSM and Higgs physics (Chair: A. Deandrea)

12:00 Measuring quark polarizations at ATLAS and CMS
Speaker: Yevgeny Kats

12:30 Lattice field theory results on new strong dynamics
Speaker: Enrico Rinaldi

13:00 Lunch Break

14:30 Composite Higgs and Dark Matter
Speaker: Giacomo Cacciapaglia

15:00 Strong dynamics and the hierarchy problem
Speaker: Alex Pomarol

15:30 Strong dynamics beyond the hierarchy problem
Speaker: Michele Redi
Friday, 15 September 2017

09:30 - 13:00 BSM and Dark Matter (Chairs: O. Panella and R. Franceschini)
09:30 Experimental review on top-partner searches 30'
    Speaker: Meenakshi Narain
10:00 Vector-like top-quark partners 30'
    Speaker: Elisabetta Furlan
10:30 B-decay anomalies and dark matter from strong dynamics 30'
    Speaker: James Cline
11:00 Coffee Break 30'
11:30 Visibility of the Higgs Mode In Condensed Matter 30'
    Speaker: Assa Auerbach
12:00 Strongly Interacting Light Dark Matter 30'
    Speaker: Alfredo Leonardo Urbano
12:30 Discussion 30'
13:00 - 14:00 Lunch