

Precision measurements of the strong coupling constant

ECT* workshop program, 11 - 15 February 2019

Monday

09:00–10:30 Registration & Arrival of the participants

10:30–11:00 **Coffee Break**

11:00–12:30 Registration & Arrival of the participants

12:30–14:00 **Lunch**

Overview and Introduction

14:00–14:15 ECT* Welcome

14:15–14:30 Presentation / Goals of the workshop

Speaker: David d'Enterría & Stefan Kluth

14:30–15:00 World Summary of α_s before 2019

Speaker: Siegfried Bethke

15:00–15:15 α_s pre-2019 Discussion

15:15–15:45 **Coffee Break**

α_s : Lattice QCD

15:45–16:15 α_s from the lattice: FLAG 2019 average

Speaker: Rainer Sommer

16:15–16:45 Strong coupling constant from the moments of quarkonium correlators

Speaker: Peter Petreczky

16:45–17:15 α_s from lattice ALPHA collaboration

Speaker: Stefan Sint

Tuesday

α_S from electroweak observables

09:30–10:00 The QCD coupling at all scales and the elimination of renormalization scale uncertainties (Remote)

Speaker: Stanley J. Brodsky

10:00–10:30 The five-loop beta function of QCD

Speaker: Johann Kuehn

10:30–11:00 **Coffee break**

α_s : Lattice QCD

11:00–11:30 α_s from the QCD static energy

Speaker: Nora Brambilla

11:30–12:00 α_S from ALPHA

Speaker: Mattia Dalla Brida

12:00–12:30 α_s determination from static QCD potential with renormalon subtraction

Speaker: Hiromasa Takaura

12:30–14:00 **Lunch**

α_s from DIS & PDFs

14:00–14:30 α_S , ABM PDFs, and heavy-quark masses

Speaker: Sergey Alekhin

14:30–15:00 α_S from H1 jets

Speaker: Daniel Britzger

15:00–15:30 **Coffee break**

α_s from DIS & PDFs

15:30–16:00 α_s from pdfs

Speaker: Joey Huston

16:00–16:30 **Discussion** on α_s extractions from PDFs

Wednesday

alpha_S from e+e- hadronic and tau pair final states

- 09:30-10:00 alpha_S from 2-jet rate in e+e- Speaker: Andrii Verbytskyi
- 10:00-10:30 Old and new observables for alpha_S from e+e- to hadrons Speaker: Gabor Somogyi
- 10:30-11:00 **Coffee break**
- 11:00-11:30 alpha_s from hadronic W decays Speaker: David d'Enterria
- ### alpha_S from e+e- hadronic and tau pair final states
- 11:30-12:00 The strong coupling from e+e- to hadrons Speaker: Maarten Golterman
- 12:00-12:30 The strong coupling constant from soft parton-to-hadron fragmentation functions Speaker: Redamy Perez
- 12:30-14:00 **Lunch**
- ### alpha_s at hadron colliders
- 14:00-14:30 alpha_s from jets in pp collisions Speaker: Joao Pires
- 14:30-15:00 alpha_S Jet substructure and a possible determination of the QCD coupling Speaker: Felix Ringer
- 15:00-15:30 **Coffee break**
- ### alpha_s at hadron colliders
- 15:30-16:00 Extractions of the strong coupling constant in ATLAS Speaker: Fernando Barreiro
- 16:00-16:30 alpha_S determinations from CMS Speaker: Klaus Rabbertz

Thursday

alpha_s at hadron colliders

- 09:30-10:00 alpha_s from inclusive W and Z cross sections at the LHC Speaker: Poldaru & d'Enterria
- 10:00-10:30 Determination of $\alpha_s(m_Z)$ from the Z-boson transverse momentum distribution Speaker: Stefano Camarda
- 10:30-11:00 **Coffee break**
- ### alpha_s from tau decays
- 11:00-11:30 alpha_s from hadronic tau decay Speaker: Santiago Peris
- 11:30-12:00 QCD coupling: scheme variations and tau decays Speaker: Ramon Miravitllas
- 12:00-12:30 **Discussion** on alpha_s extractions from tau decays
- 12:30-14:00 **Lunch**
- 14:00-15:30 Agora - **discussion** and preparation of proceedings contributions
- 15:30-16:00 **Coffee break**
- 16:00-17:00 Agora - **discussion** and preparation of proceedings contributions

Friday

- 09:30-10:30 **Discussion** on PDG averaging Speaker: Zanderighi & Huston
- 10:30-11:00 **Coffee break**
- 11:00-12:00 **Discussion** on alpha_s averaging. Workshop summary
- 12:00-14:00 **Lunch**
- 14:00 Departure of the participants