

SUMMER STUDENT LECTURE PROGRAMME 2022

Lecture Title

Experimental Physics at Hadron Colliders

Lecturer's name

Marumi Kado

E-mail Address

marumi.kado@cern.ch (Office 40-4-D16)

Short CV

I was a CERN summer Student in 1994!

I am currently Professor at the University of Rome, La Sapienza. During my at Université de Paris VI, Pierre et Marie Curie and the Laboratoire de l'Accélérateur Linéaire (LAL), and subsequently as a CERN fellow, I was a member of the ALEPH Collaboration working on Higgs searches. Then as a fellow at Lawrence Berkeley National Lab I joined the D0 Collaboration to work on top physics. In 2003, I joined CNRS at LAL and the ATLAS experiment to work on the liquid Argon electromagnetic calorimeter and the search for the Higgs boson. Since 2018 I joined the University of Rome, La Sapienza.

Lecture Content

Lecture 1: Basic concepts, cross sections and QCD results

- Preamble
- Context and mission of the LHC
- Fundamentals of hadron collisions
- Luminosity and total cross section
- Cross sections measurements
- Jet production measurements
- Measurement of the strong coupling constant

Pre-requisites:
earlier series of lectures
that the students
should follow

All CERN Summer Students lectures of the course, however the lectures will include recaps and please do not hesitate to ask clarifications at any time!

Other pre-requisites: