

INTERNATIONAL MASTERCLASSES

Introduction to International Masterclasses for Physicists

U. Bilow, Technische Universität Dresden
K. Cecire, University of Notre Dame

CMLTP 2021 Masterclass Orientation
28 May 2021



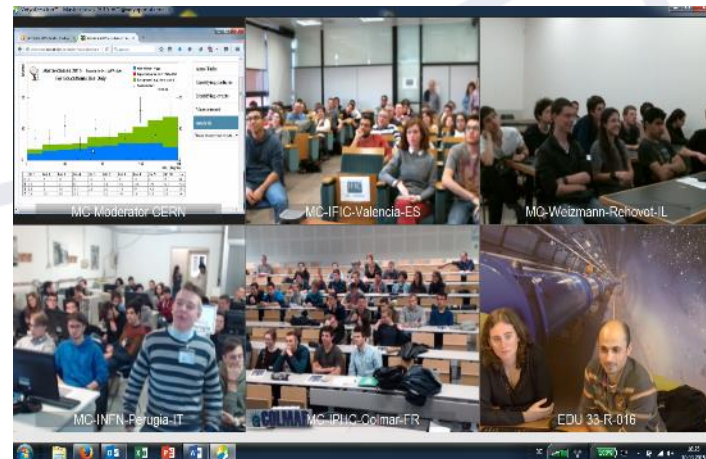
The Masterclass Day

- Introduction to particle physics
- Tour if available
- Analyze authentic data from
 - Particle Therapy
 - LHC (ATLAS, CMS, ALICE, LHCb)
 - Neutrino experiment (MINERvA)
 - Belle II
 - Darkside
- International video conference (3-5 groups + CERN / Fermilab / KEK / **GSJ**)
 - Presentation of results
 - Combination and discussion
 - Q&A
 - Quiz (CERN-VC)
- Can be organized online but in-person is best!

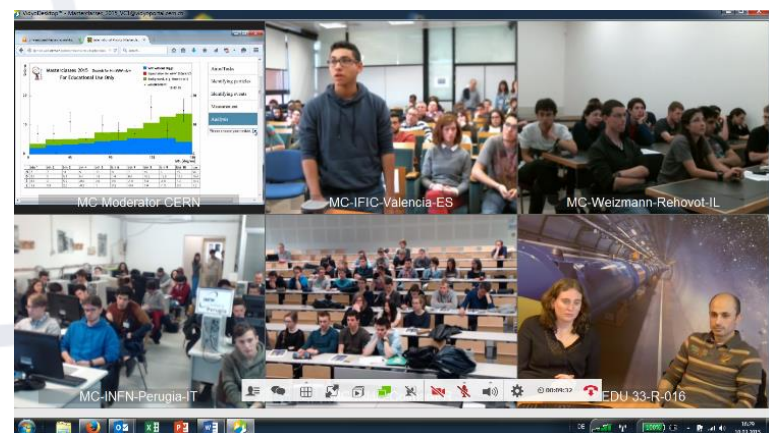


09.03. - 14.03.

| | Mon, March 09 | Tue, March 10 | Wed, March 11 | Thu, March 12 | Fri, March 13 | Sat, March 14 |
|------------|------------------|---------------------|---------------|---------------|------------------|-------------------|
| topic | VC 1: ATLAS Z | VC 1: ATLAS W | VC 1: ATLAS W | VC 1: ATLAS Z | VC 1: ATLAS Z | VC 1: ATLAS Z |
| moderators | Daniel, Muhammad | Katharine, Muhammad | Kate, David | Kate, Suyog | Noemi, Roland | Suyog, Ricardo |
| | Barcelona | Colmar | London QMU | Pisa | Pisa | Porto |
| | Dublin UC | Valencia | Colmar | Orsay LAL | Braga | Lodz |
| | Genova | Perugia | Lund | Milano | Rome Tor Vergata | Crete |
| | Poznan | Rehovot Weizmann | Bein | Udine | Yale | Lisboa IST |
| | | | Copenhagen | | Granada | Nowy Sacz IFJ PAN |



Central elements: Data analysis + video conference



Worldwide program

- Organized by [IPPOG](#) (*International Particle Physics Outreach Group*)
- [60 countries](#) and > 220 institutes scheduled in 2020 before the pandemic – most canceled
- The comeback started in 2021



Participate in IMC!

At your institute

- Does your institute participate? Search www.physicsmasterclasses.org/index.php?cat=country
- Organize an event / help as a tutor at your research lab
 - How to get started: www.physicsmasterclasses.org/index.php?cat=local_organisation&page=orga_intro

At Fermilab, CERN, ...

- Moderate video conferences with high school students
 - Training provided
 - Moderate in pairs, newcomers are paired with „veterans“
 - 1-4 „shifts“ per moderator

Next International Masterclasses: Feb/March/Apr 2022

Interested? Contact: uta.bilow@tu-dresden.de or kcecire@nd.edu

More info on www.physicsmasterclasses.org

But wait, there's more!

International Day of Women and Girls in Science (IDWGS)

- Special particle physics masterclasses with theme of women in science
- Woman physicist role models and discussion of women's careers
- Contact Uta

Big Analysis of Muons (BAM)

- Developed in response to pandemic, all online
- Teachers play a role with guidance from staff
- Contact Ken

World Wide Data Day (W2D2)

- One day event, simple analysis
- Teachers play a role with guidance from staff
- Contact Ken

