

INTERNATIONAL MASTERCLASSES HANDS ON PARTICLE PHYSICS

Moderators' orientation

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CERN, 06.02.2023

06.02.2023 www.physicsmasterclasses.org



Inspiring the next generation

“

I did this masterclass in 2012 when in high school and that's why I decided to study physics so I would love to encourage people to join our community.

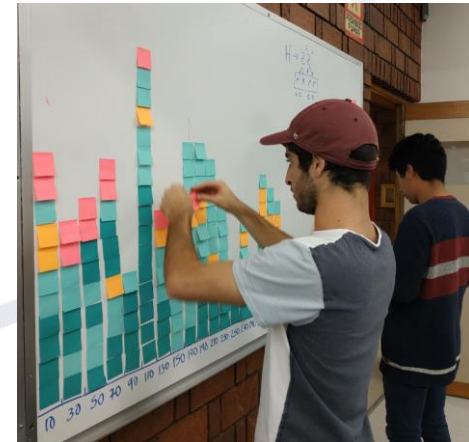
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Moderator in 2021 and 2022

The idea behind Masterclasses

- High school students (16-19y)
at a university or research lab
Act as a „scientists for one day“
- Close to current research
 - Hands-on activity
 - Real scientific data
 - Relevant methods and tools
 - Nature of science
 - Organisation of HEP research
 - Meeting and discussion with scientists



Sample Agenda

8:30 - 9:00 *registration & welcome*

9:00 - 10:00 introduction to Particle Physics
(standard model, detectors,
accelerators)

10:30 - 11:30 second talk or tour

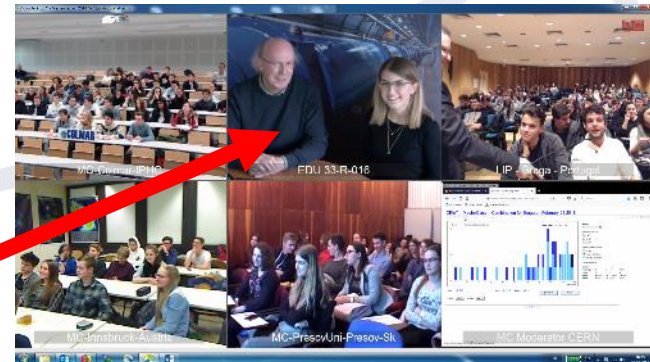
12:00 - 13:00 *lunch*

13:00 - 15:00 data analysis: measurement
with LHC data (ALICE, ATLAS,
CMS, LHCb)

15:00 - 16:00 local combination + discussion

16:00 - 17:00 videoconference with CERN
(3-5 groups from different countries
= international collaboration)

You will be sitting here!



Key points of the videoconference

Typical situation:

- 2 moderators
- 5 groups of students (16-19 y)

Students are excited ...
and a bit exhausted ...



Challenges

- English not mother tongue
- sometimes shy to speak
- groups should predefine speakers, but...
- sometimes poor sound quality

To meet the challenges

- this training
- strict agenda (script)
- rich documentation
- support by CERN IT
- moderators work in pairs

International Masterclasses

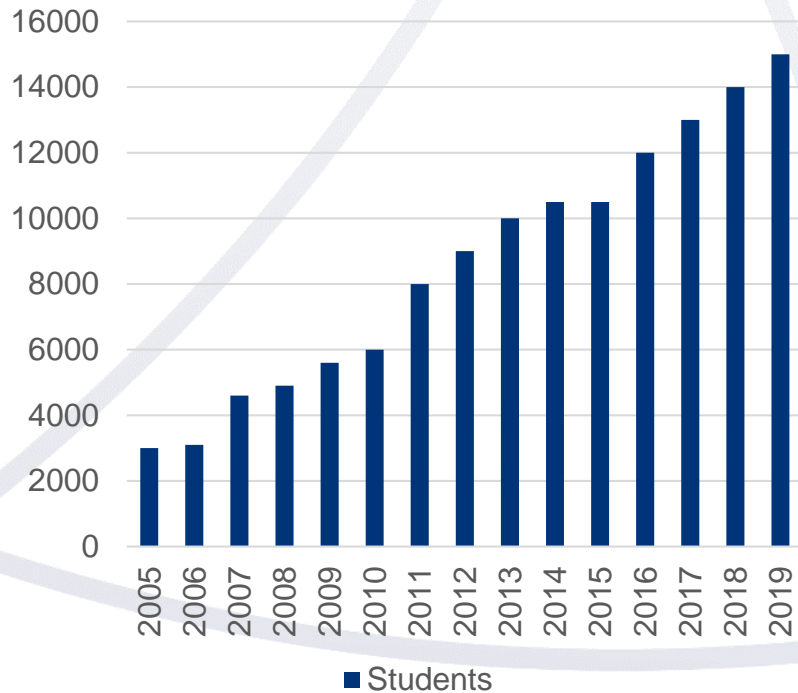
- key activity of IPPOG (International Particle Physics Outreach Group)
- Masterclasses: LHC, Belle II, Neutrinos experiments, Auger, Particle Therapy, ...
- Moderation centers: CERN, Fermilab, KEK, GSI, Malargue



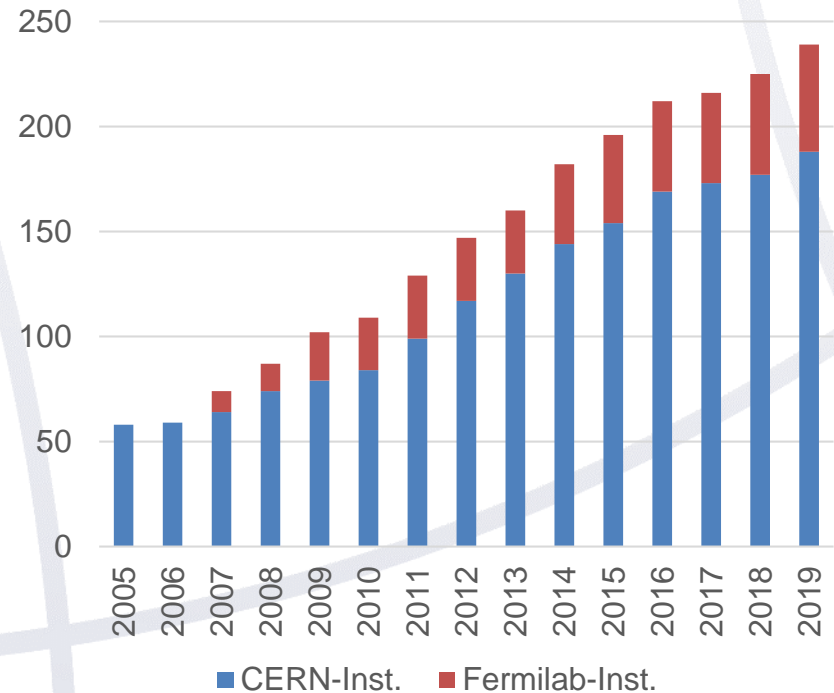
IMC: a growing program

2005: 18 countries → 2023: 60 countries

Students



Institutes



Schedule ...

and moderators

	Mon, Mar 20	Tue, Mar 21	Wed, Mar 22	Thu, Mar 23	Fri, Mar 24	Sat, Mar 25
topic	VC 1: ATLAS Z	VC 1: ATLAS Z	VC 1: ATLAS Z	VC 1: ATLAS Z	VC 1: ATLAS W	
	Lund 	Riverside, California 	Lund 	Ljubljana 	Madrid, IFT 	
	Katowice 	Tuebingen 	Orsay 	Tarnow 	Rome Tre 	
	Milan 	Kadan 	Kosice 	Sao Paulo, USP 	Krakow, AGH 	
	Stockholm 	Udine 		Zaragoza 	Edinburgh 	
				Rio de Janeiro, UERJ 		
topic	VC 2: ALICE	VC 2: CMS	VC 2: CMS	VC 2: LHCb	VC 2: CMS	VC 2: ALICE
	Bari 	Istanbul, Ozyegin 	Jerusalem 	Perugia 	Pavia 	Cape Town, iThemba LABS
	Jammu 	Zagreb 	Nicosia 	Rio de Janeiro UFRJ 	Rijeka 	
	Copenhagen 	Athens, Demokritos 	Turin 		Vienna, HEPHY 	
		Florence 	Varna 		Genoa 	
		Santander 	Zagreb 		Pisa 	

	André David (CMS)		Hassnae El Jarrari (ATLAS)		Shalini Epari (ATLAS)		Guglielmo Frattari (ATLAS)
	David Friday (LHCb)		Roumyana Hadjiiska (CMS)		Despina Hatzifotiadou (ALICE)		Malgorzata Janik (ALICE)
	Eleanor Jones (ATLAS)		Anisa Khatun (ALICE)		Anders Knospe (ALICE)		Oliver Lantwin (LHCb)
	Matt LeBlanc (ATLAS)		Katharine Leney (ATLAS)		Andrea Massironi (CMS)		Liza Mijovic (ATLAS)

www.physicsmasterclasses.org/index.php?cat=schedule#moderators

~ 50 moderators

e-group: ippog-masterclass-moderators@cern.ch

<https://www.physicsmasterclasses.org/index.php?cat=schedule>

Quotes from Masterclasses moderators:

“The best thing is actually answering the questions and seeing how excited and how happy they are, waving at the camera. They're really excited to be talking to physicists based at CERN!”

“It is very satisfying, because we do many video conferences and rarely do people cheer on the other side if you say something. Here they do!”



Thank you for being part of IMC23 – enjoy your sessions!