



# **INTERNATIONAL MASTERCLASSES 2021**

**Despina Hatzifotiadou  
INFN Bologna**

**ALICE mini week – 19 April 2021**

## INTERNATIONAL MASTERCLASSES HANDS-ON PARTICLE PHYSICS

Most masterclasses were held online, with high-school students at home  
One case when students were at school : Saint Petersburg

Some institutes split the masterclass activities over two days

Strangeness masterclass : web-based version developed and used  
(no need to install software, ROOT / virtual box,...) [thanks to Piotr Nowakowski](#)

$R_{AA}$  : Jupyter notebooks used

End-of-day videoconference : zoom webinar; moderators at home; kahoot quiz

Virtual visit to ALICE ARC + cavern for many masterclass events



## 11 February – 25 March 2021

Tue, Feb 16	Fri, Mar 05	Sat, Mar 13	Wed, Mar 17	Wed, Mar 17	Mon, Mar 22
<b>VC 2: ALICE</b>	<b>VC 2: ALICE</b>	<b>VC 1: ALICE</b>	<b>VC 2: ALICE</b>	<b>VC 3: ALICE R<sub>AA</sub></b>	<b>VC 2: ALICE</b>
Anders	Despina	Despina	Anders	N.N.	Anders
Grazia	Giacomo	Giacomo	Stefania	N.N.	Despina
Katharina	Stefania			Frankfurt 	Sonia
Pavia 	Heidelberg 	São Paulo USP 	Bologna 	Darmstadt GSI 	Saint Petersburg 
Brussels III 	Saint Petersburg 	Luanda 	EKFE Kentrou 	Münster 	Maynooth 
Cagliari 	Vienna 		Salerno 		Bari 
	Trieste 		EKFE Khanion 		
	Sarajevo 		Trieste 		
			Mexico UNAM 		

INTERNATIONAL  
DAY OF WOMEN  
AND GIRLS IN  
SCIENCE

Feb 11, 2021
<b>VC 2 ALICE</b>
Stefania
Grazia
Jammu  webpage
Thessaloniki  webpage
CTU Prague  webpage

25 sessions  
7 videoconferences  
~ 800 students

# INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

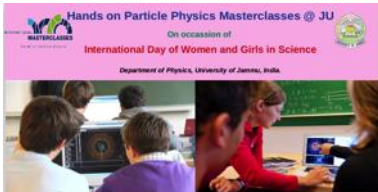
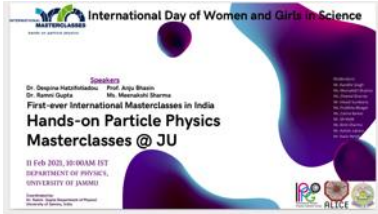
University of Jammu : First ALICE Masterclasses in India !!

Czech Technical University (CTU), Prague : ALICE Masterclasses part of a broader event for high-school girls (particle physics, mathematics, quantum technologies, nuclear chemistry)

Thessaloniki : ALICE Masterclasses for students at home, lecturers from AUTH, CERN, India

Reports : <https://indico.cern.ch/event/1010808/>  
(February 2021 mini week)

Feb 11, 2021
VC 2 ALICE
Stefania
Grazia
Jammu webpage
Thessaloniki webpage
CTU Prague webpage



In December, 2015 United Nations General Assembly declared February 11<sup>th</sup> as the International Day of Women and Girls in Science to recognize equal participation and accomplishments of female scientists. International Particle Physics Outreach Group (IPPOG) organizes special Hands on Particle Physics Masterclasses on this day for girls. On 11<sup>th</sup> Feb, 2021 the Experimental High Energy Physics Group of Department of Physics, University of Jammu is organizing "Hands on Particle Physics Masterclasses @ JU". International Masterclasses in particle physics provide students the opportunity to discover the world of quarks and leptons for themselves by performing measurements on real data from CERN to meet active particle physics researchers and to link up with like-minded students from other countries. Because of extra-ordinary conditions prevailing due to pandemic the event has been planned in the online mode and will be organized using Zoom App<sup>®</sup>.

**STUDENTS WILL:**

Learn about basic research on matter and forces

Perform measurements on real data from particle Physics experiments at CERN

Participate in an international video conference to discuss results

For students of science studying in senior secondary or undergraduate classes! Are you interested in participating?

Register till 7th Feb., 2021

Contact:  
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\*CERN: Council for European Organization for Nuclear Research, Strassbourg, France  
\*\*Pre-requisite to attend Hands on online: Desktop/laptop, good internet connectivity, zoom-app and Browser



# Particle Therapy MasterClass

<https://indico.cern.ch/event/840212/>

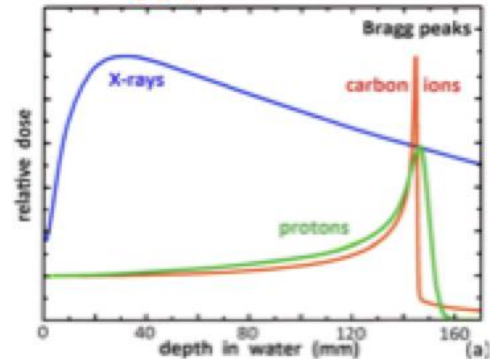
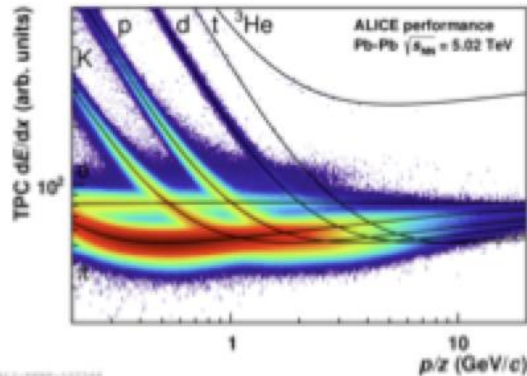
## From fundamental research to particle cancer therapy

Dates: 6, 8, 11, 23, 24, 26 March,  
36 institutes, 20 countries, over 1500 students

Some back-to-back with ALICE MC

Virtual visits to ALICE for all of them with ALICE presentations

## From Bethe Bloch ionization for PID to Bragg peak for cancer therapy



Yiota Foka