

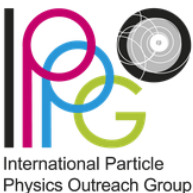
# Particle Therapy MasterClass



Albana Topi, PhD ([a.topi@gsi.de](mailto:a.topi@gsi.de))

GSI Helmholtz Center for Heavy Ion Research ([gsi.de](http://gsi.de))

on behalf of IPPOG and IMC



# Before we start

Please keep your camera on (It is nice to see each other :-)

- Do you agree to record or to take pictures of you?
- Do you agree to post photos or videos of you in IPPOG website?
- During the Hands-on session there will be CT of different body part, are you ok with seeing this images?

If you disagree with any of these points, please email me:

[a.topi@gsi.de](mailto:a.topi@gsi.de)

# PTMC Agenda

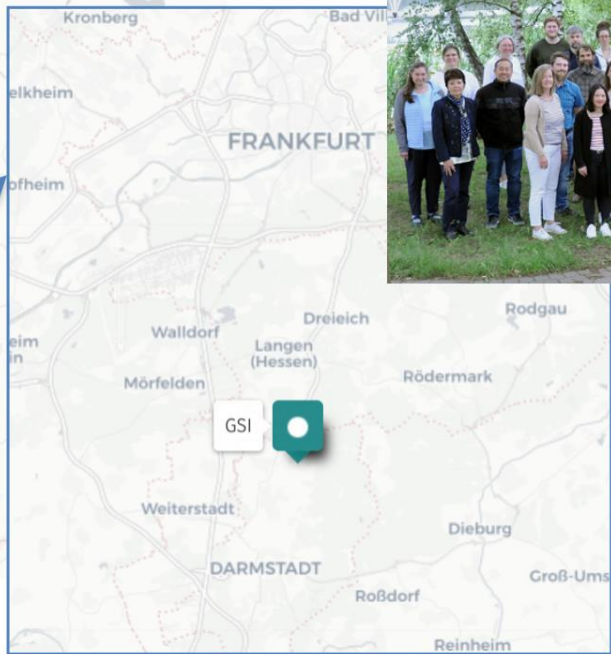
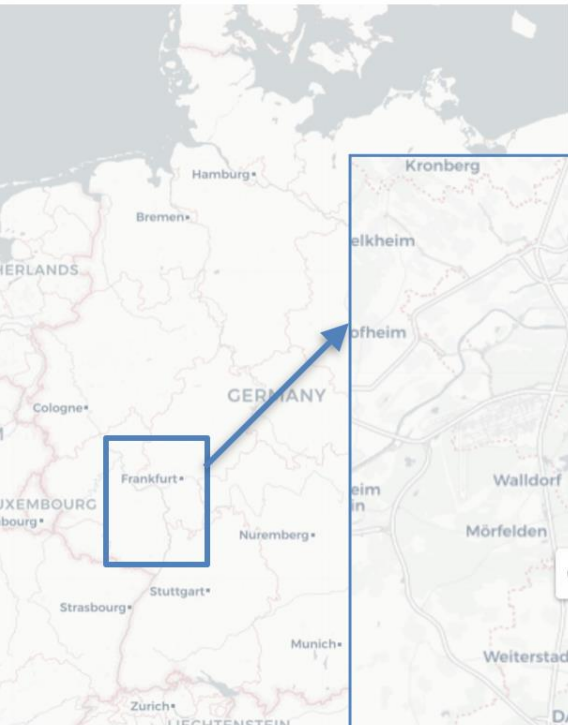


Welcome and introduction

- 09:00 – 09:20 Introductory lectures I
- 09:20 – 10:20 Coffee break
- 10:20 – 10:30 T
- 10:30 – 11:20 Let's have fun 😊 while learning about Particle therapy & matRad
- 11:20 – 11:30
- 11:30 – 12:00
- 12:00 – 13:00
- 13:00 – 15:15 L
- 15:15 – 16:00 discussion
- 16:00 – 17:00 Video conference



# GSI and Biophysics Department



# PTMC Agenda



Welcome and introduction

09:00	–	09:20	Introductory lectures I
09:20	–	10:25	Coffee break
10:25	–	10:35	Introductory lectures II
10:35	–	11:20	Short break
11:20	–	11:30	Virtual lab visit
11:30	–	12:00	Lunch break
12:00	–	13:00	Hands-on session
13:00	–	15:15	Locally - results
15:15	–	16:00	discussion
16:00	–	17:00	Video conference

# International MasterClasses

The aim is to get insight into topics and methods of research

- **PTMC is integrated** **International MasterClasses Project** **Normalisht organizohet me nxënës të gjimnazit për ti inkurajuar që të studjojnë fizikë**
- **The IMC project is an international outreach activity that brings the excitement of cutting-edge research methods into the classroom.**
- **Offers to pupils hands-on experience with real data**



<https://physicsmasterclasses.org/index.php>

# IMC Statistics 2019



07.03. - 16.04.2019

**255 Institutes**

**54 countries involved**

~ 15000 students

Flagship project of IPPOG (<https://ippog.org>)  
International Particle Physics Outreach Group

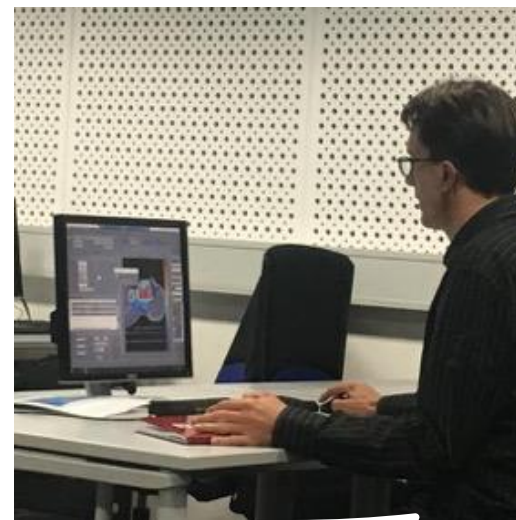
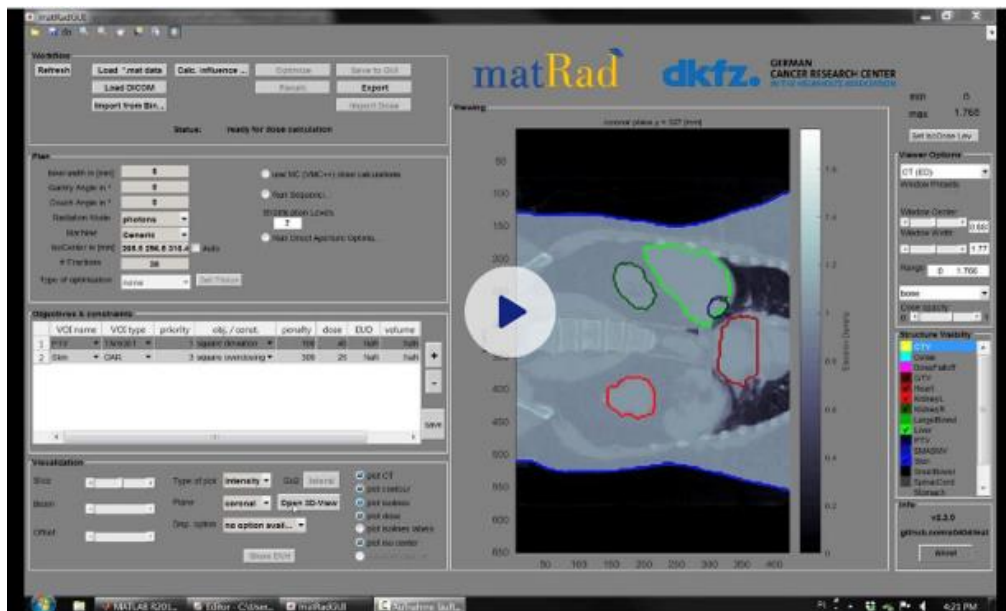
Coord.: QuarkNet / TU Dresden



- 51 institutes (48)
- 54 LHC Masterclasses (50)
  - 22 ATLAS (19)
  - 32 CMS (31)
- (Incl. TRIUMF program)
- 12 MINERvA Masterclasses
- 188 institutes (177)
- 266 LHC Masterclasses (257)
  - 30 ATLAS W (35)
  - 101 ATLAS Z (104)
  - 64 CMS (58)
  - 41 LHCb (39)
  - 27 ALICE SP (18)
  - 3 ALICE R\_AA (3)

# PTMC and Treatment Planning

**matRad** - open source treatment planning:  
developed by Heidelberg DKFZ [www.matrad.org](http://www.matrad.org)



Christian



# PTMC pilots in 2019

Common discussion:  
intuitive, visual  
comparisons of photons,  
protons, ions

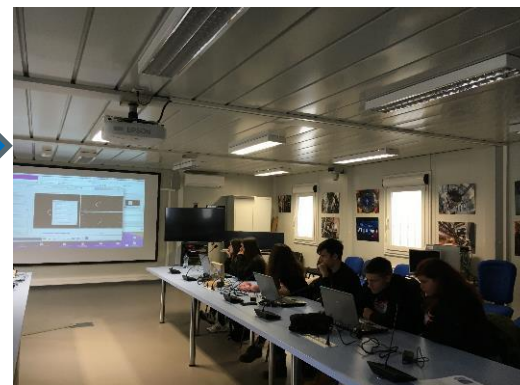


- First test: GSI on 7th February 2019  
~ Participation of CURIEosity Team from Crete
- First pilot: CERN, DKFZ Heidelberg, GSI,  
05.04.2019

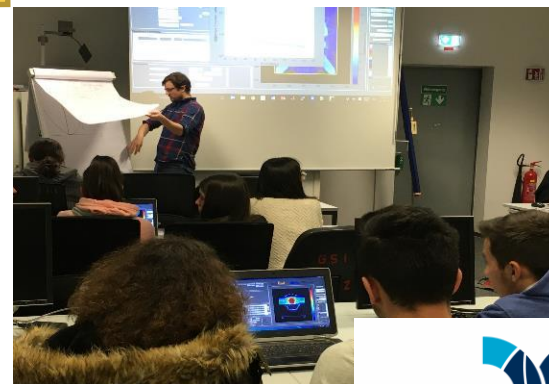
Survey: positive results from students  
Hope and motivation  
to contribute to the  
fight against cancer



# The CURIEocity team from Crete



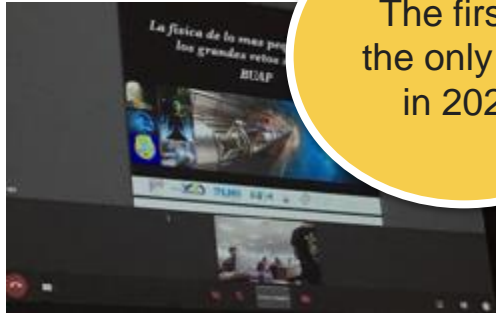
From Crete



# PTMC in IMC 2020



The first & the only one  
in 2020





Yiota



Instituto de  
Ciencias  
Nucleares  
UNAM



# PTMC in IMC 2021

Dates IMC2021: 11.02 – 27.03.2021

- 06.03 Greece, GSI, Heidelberg, Skopje, Portugal
- 08.03 CERN
- 11.03 Prague, Teheran, Mexico, Sarajevo, Dortmund
- 23.03 Munich, Milan, Riga, Egypt
- 24.03 Tuzla, Kaunas, Vilnius, Saint-Petersburg, Egypt, Montenegro
- 26.03 Tirana, Pristina, Tetovo, Novi Sad, Sofia

# PTMC Agenda



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## Video conference: Particle Therapy Masterclass 26th March

Friday 26 Mar 2021, 16:00 → 17:00 Europe/Zurich

16:00 → 17:00 Videoconference

Conveners: Aristeidis Mamaras, Yiota Foka (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))



<https://indico.cern.ch/event/999560>

16:00	<b>Welcome</b> Speaker: Yiota Foka (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE)) PTMC video confer... PTMC video confer...	5m
16:05	<b>Presentation from University of Tirana, Albania</b> Speaker: Gerti Xhixha	5m
16:10	<b>Presentation of Pristina University, Kosovo</b> Speaker: Skënder Kabashi	5m
16:15	<b>Presentation from University of Tetovo, N. Macedonia</b> Speaker: Bashkim Ziberi	5m
16:20	<b>Presentation from Polytechnic University of Tirana, Albania</b> Speaker: Dhurata Sadiraj Kuqi (University of Tirana, Albania)	5m
16:25	<b>Presentation from University of Novi Sad, Serbia</b> Speaker: Jovana Nikolov (University of Novi Sad (RS))	5m
16:30	<b>Presentation from University of Sofia, Bulgaria</b> Speakers: Borislav Pavlov (University of Sofia (BG)), Leandar Litov (University of Sofia (BG))	5m
16:35	<b>Questions session</b>	20m
16:55	<b>Quiz</b> quiz-PTMC-2020-DS... quiz-PTMC-2020-DS...	5m

# Virtual Particle Therapy Centre



<https://cern.nymus3d.nl/maps>