

# PTMC Video Conference 19 March 2022



GERMAN  
CANCER RESEARCH CENTER  
IN THE HELMHOLTZ ASSOCIATION

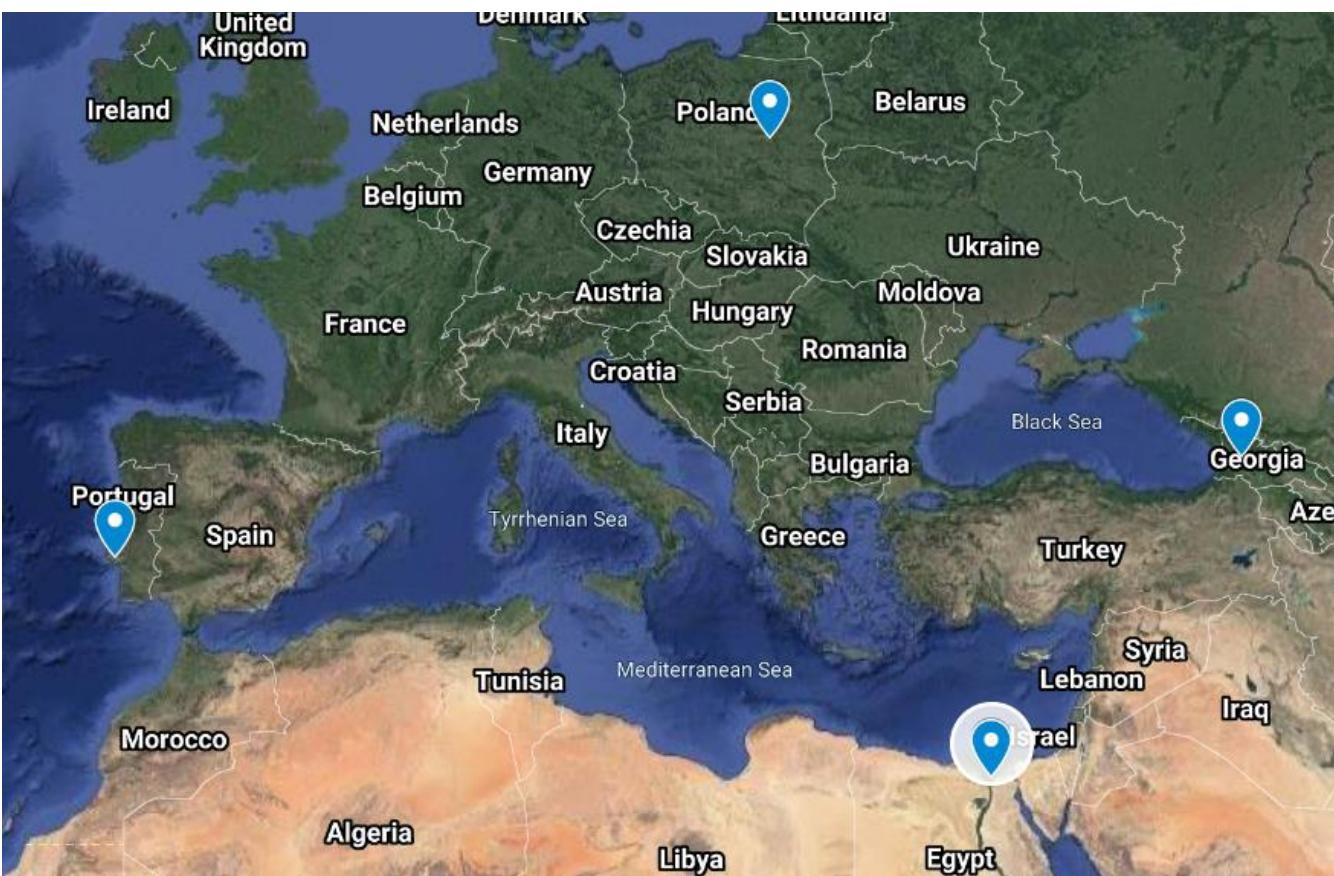


INTERNATIONAL  
MASTERCLASSES  
hands on particle physics



International Particle  
Physics Outreach Group

## Particle Therapy Masterclass



# PTMC Video Conference 19 March 2022

<https://indico.cern.ch/event/1122934/>

The screenshot shows the Indico event page for the "Video Conference: Particle Therapy MasterClass 19th March 2022".

**Event Details:**

- Date: Saturday 19 Mar 2022, 16:00 → 17:03 Europe/Zurich
- Location: online
- Conveners: Aristeidis Mamaras (Aristotle University of Thessaloniki (GR)), Yiota Foka (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))

**Videoconference:** Video Conference: Particle Therapy MasterClass 19th March

**Agenda:**

- 16:00 → 17:03 Video Conference: 19 March 2022**  
Conveners: Aristeidis Mamaras (Aristotle University of Thessaloniki (GR)), Yiota Foka (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))  
Statistics
- Welcome** 5m  
Speaker: Yiota Foka (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))  
PTMCintro-19march... PTMCintro-19march...
- GSI historic treatment room (Cave M)** 3m  
Video: GSI treatment...
- Presentation from Georgia, Kutaisi** 10m  
Speaker: Levan Kankadze (INFN - National Institute for Nuclear Physics)
- Presentation from Portugal, Lisbon** 10m

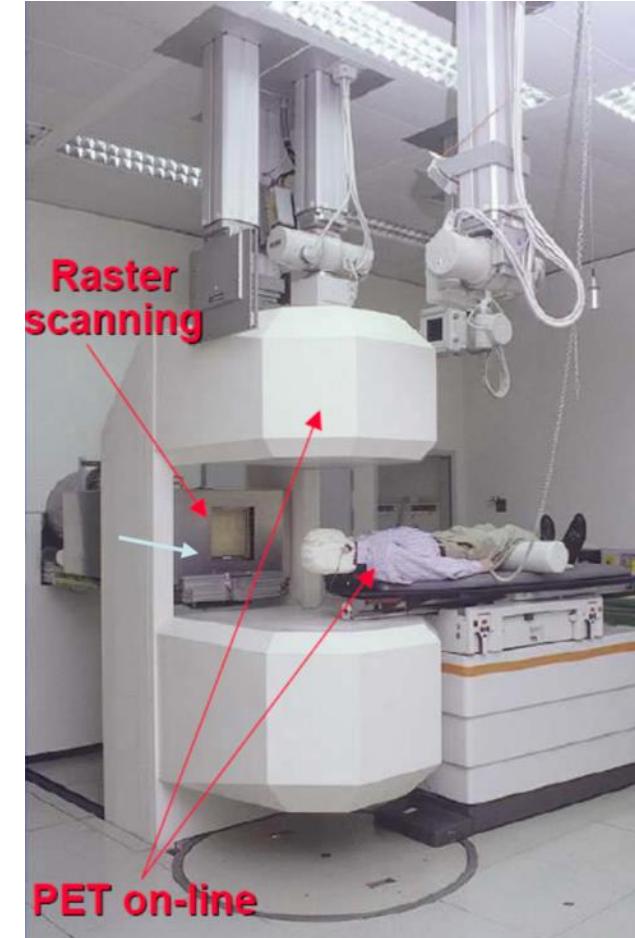
# From the historic GSI therapy room Cave M

[https://www.dropbox.com/scl/fo/y32povwa5jdj7gwrdrmmu2/h  
?dl=0&preview=05-20210609\\_virtual-  
visit\\_therapie\\_en.mp4&rlkey=cqplc473dlrjy1dyi95mfoje](https://www.dropbox.com/scl/fo/y32povwa5jdj7gwrdrmmu2/h?dl=0&preview=05-20210609_virtual-visit_therapie_en.mp4&rlkey=cqplc473dlrjy1dyi95mfoje)



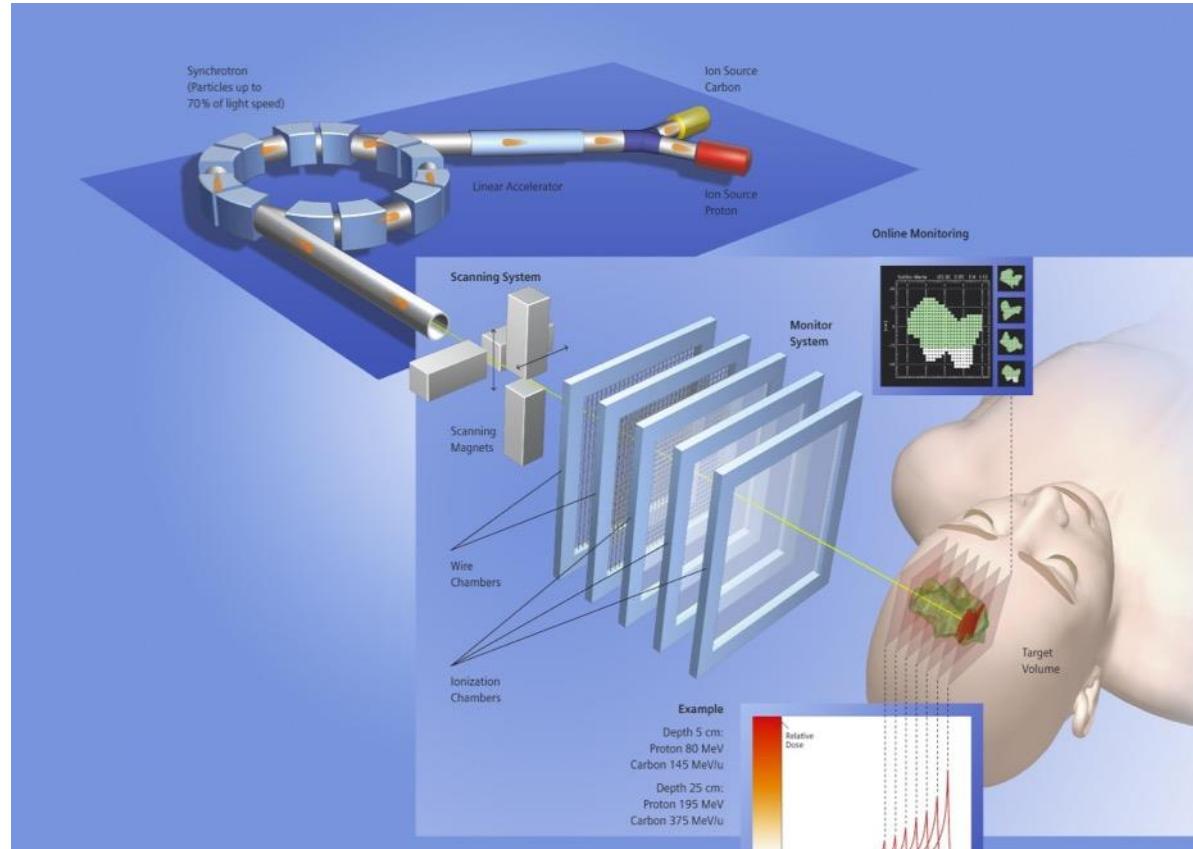


# Heavy-ion research and heavy-ion therapy at GSI



Pioneered heavy-ion (carbon) therapy for cancer tumours in Europe (90s).

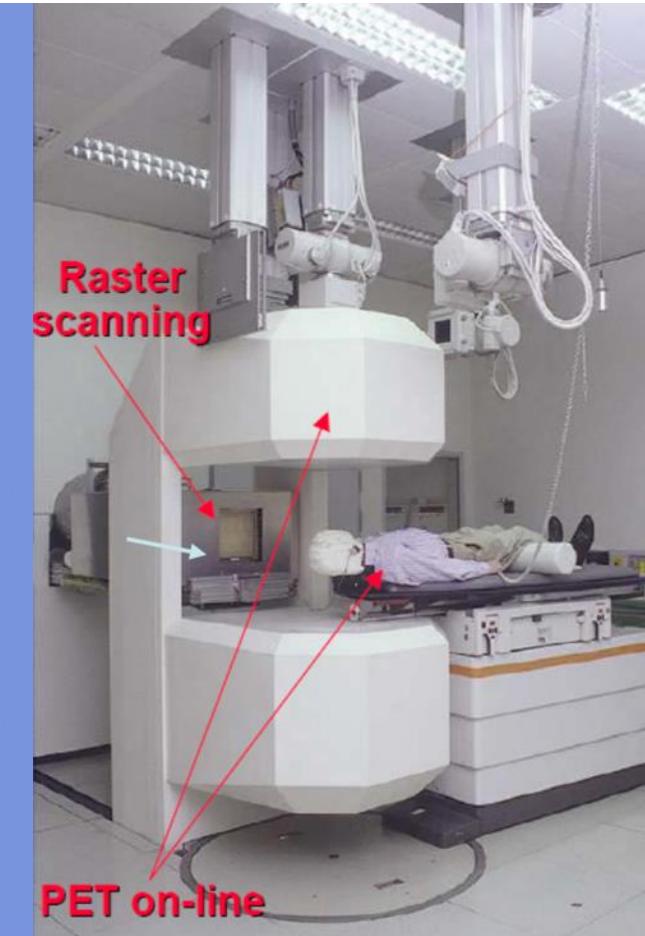
# Heavy-ion research and heavy-ion therapy at GSI



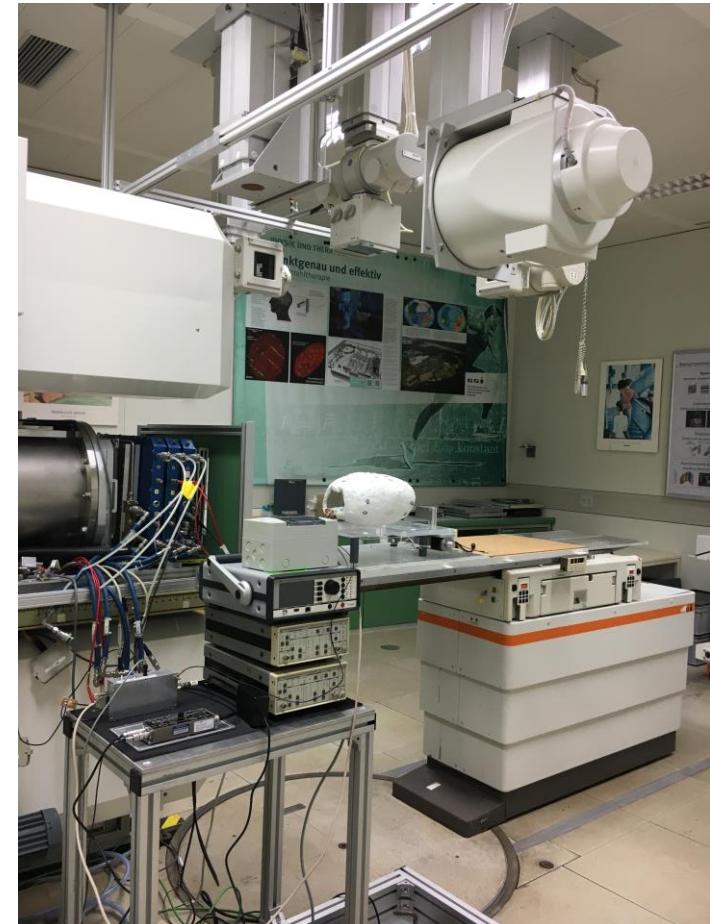
## Rasterscan Method

Haberer et al., NIM A , 1993

Implemented in the Heidelberg and Marburg Ion Treatment centers  
(HIT and MIT) in Germany



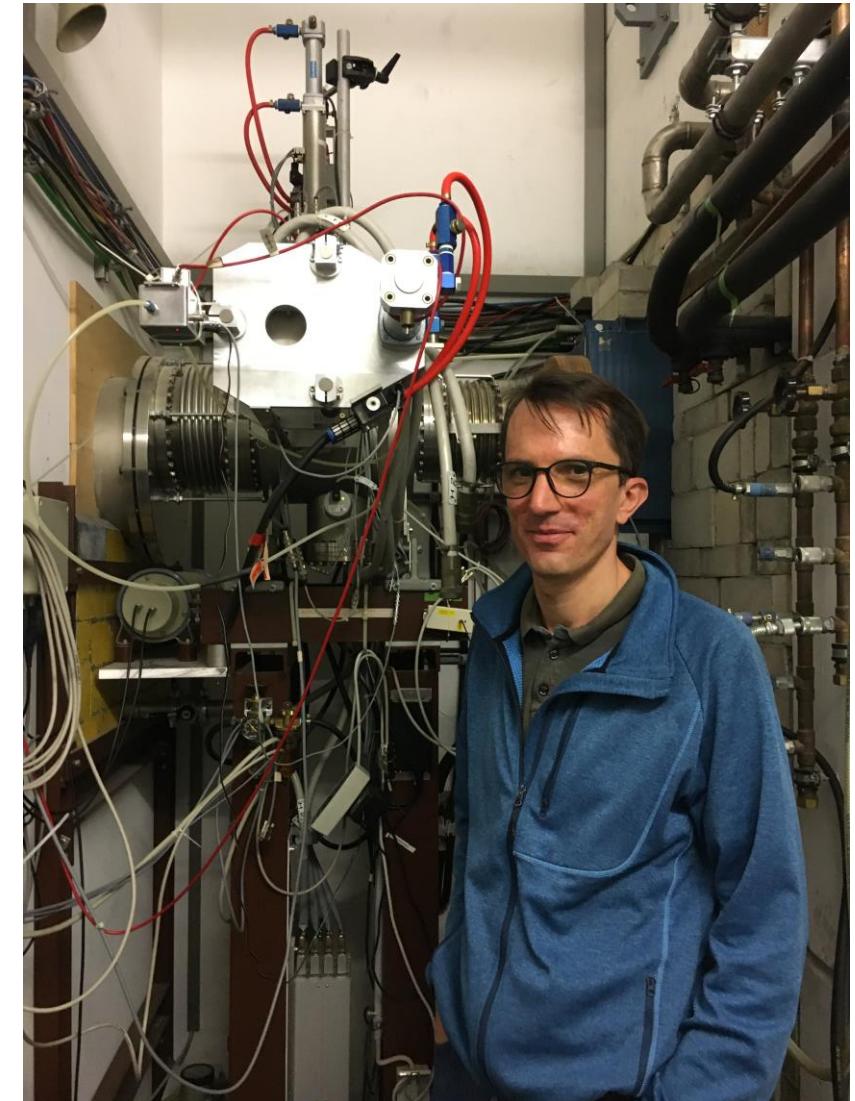
# The heavy-ion therapy room at GSI today



*Haberer et al., NIM A , 1993*

**Implemented in the Heidelberg and Marburg Ion Treatment centers  
(HIT and MIT) in Germany**

# What is behind the wall?



# What is behind the wall?

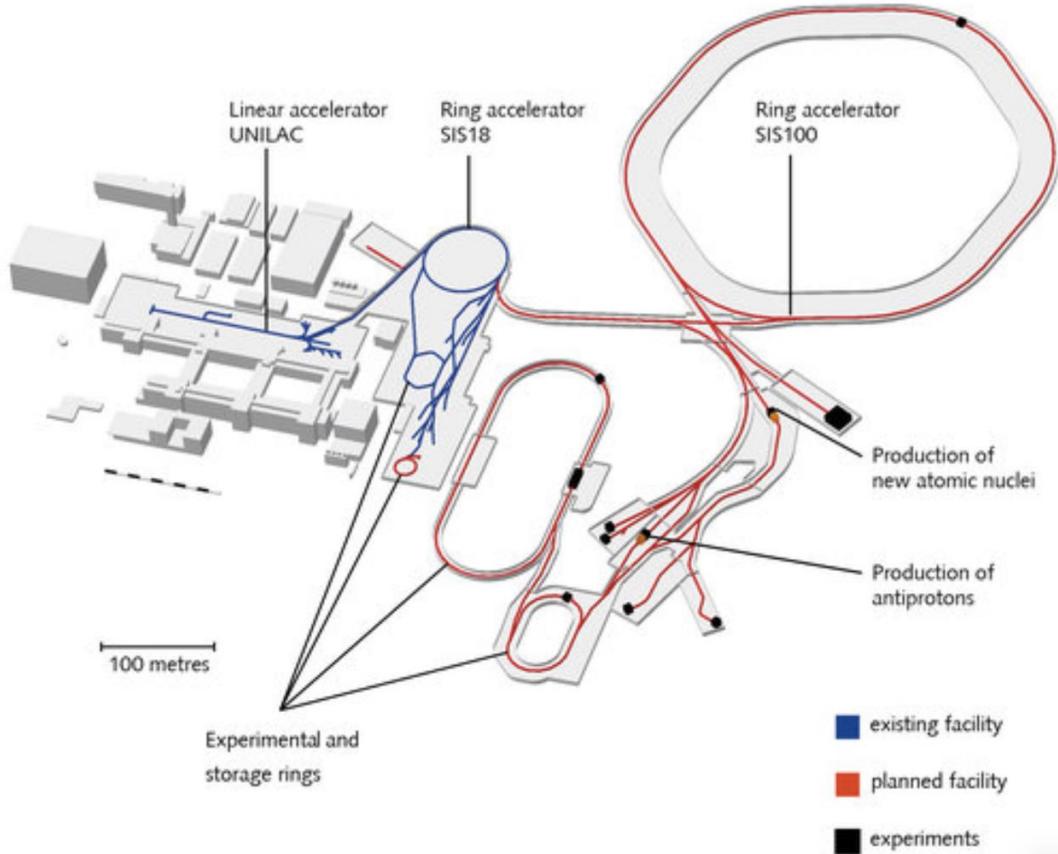


Photo: J. Mai / GSI Helmholtzzentrum für Schwerionenforschung

# Virtual Hadron Therapy Center



# Four carbon-ion cancer therapy centers in Europe



CNAO, Italy



HIT, Germany

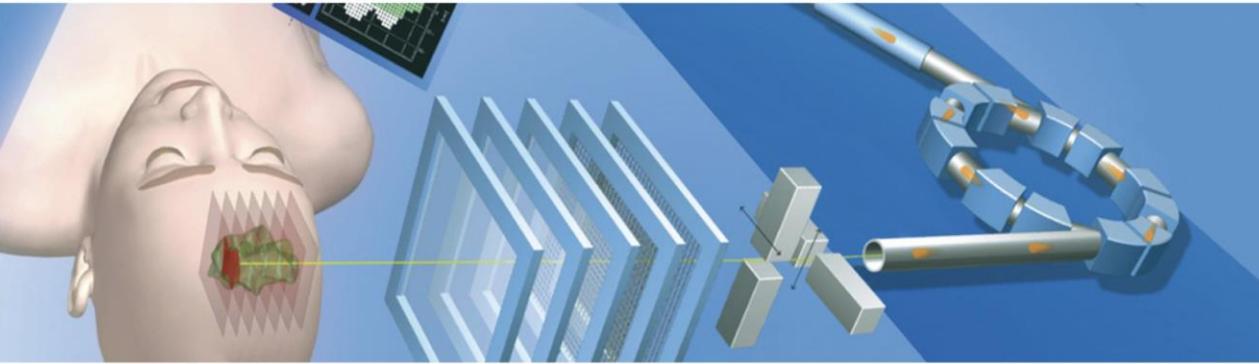


MIT, Germany



MedAustron, Austria





## Particle Therapy Masterclass

Animations

<https://indico.cern.ch/event/840212/page/18000-animations> 

## Research Institutes

	GSI/FAIR general science video, Courtesy of GSI
	CERN Video, Courtesy of CERN

## Therapy Centres

	ENLIGHT Animations, Courtesy of ENLIGHT
	CNAO Video, Courtesy of CNAO
	HIT Video, Courtesy of HIT
	MedAustron Video, Courtesy of MedAustron MedAustron Behind the Scenes, Courtesy of MedAustron