IFIGENEIA

Innovative Facility for Isotope GENeration with Efficient Ion Accelerator

T6.2 Master Classes in Particle Therapy

Yiota Foka, GSI

Kick-off meeting
3-4 April 2025
Thessaloniki, Greece

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T6.2 Description

T6.2 Master Classes in Particle Therapy

The Master Classes in Particle Therapy will offer advanced training opportunities for medical physicists, oncologists, and radiation therapists interested in the clinical application of particle therapy techniques, such as proton and carbon ion therapy.

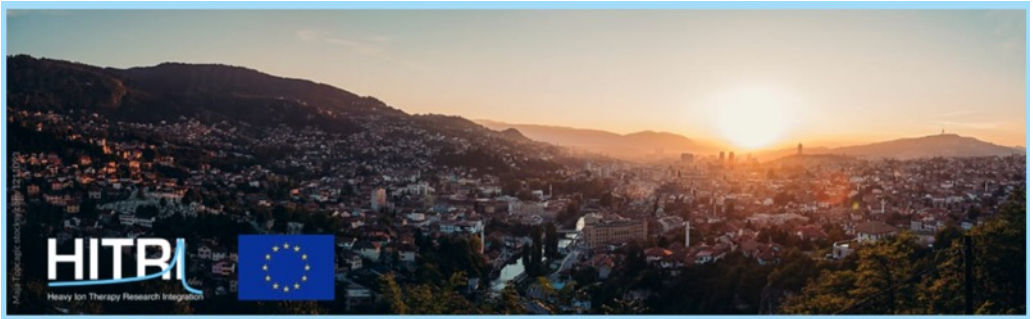
Led by renowned experts in the field, the master classes will delve into topics such as treatment planning, beam delivery systems, dosimetry, and patient management. Participants will benefit from case studies, clinical demonstrations, and interactive discussions, gaining insights into the latest developments and best practices in particle therapy for cancer treatment.

T6.2 Master Classes in Particle Therapy

Start Date:	M7	**Task Leader:**	GSI
End Date:	M48	**Task Contributors:**	All IFIGENEIA collaborators

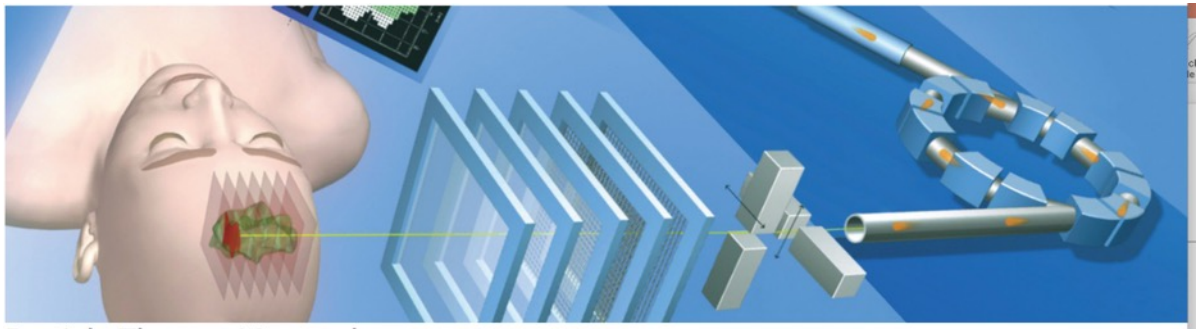
Del.	Deliverable Title	Lead Partner	Diss. Level	Due On
D6.1	Report of the lessons offered	AUTH	PUB	24
D2.3	Report of Training, Secondments and good practices	TPOLIS	PUB	24

Mx	Milestone Title	Lead Partner	Mean of verification	Due On
8	First Mentoring Activities	AUTH	D6.1	24
1	Training Activities finalised	TPOLIS	D2.3	48



Heavy Ion Therapy Masterclass School

https://indico.cern.ch/e/HeavyIonTherapyMasterClass



Particle Therapy Masterclass

https://indico.cern.ch/e/PTMC

Full week course

ONLINE 1050 participants

The MasterClass school is aimed at uni students, early stage researchers and professionals

One day activity

The Particle Therapy MasterClass, is aimed at high-school students (16-18)

Future tutors

Complementary activities:
Same tools and pedagogical elements
Tune the level to the needs

Different options studying physics, for example accelerator physics, medical physics, bio-physics…
that can provide interesting career paths in upcoming fields **where there is lack of specialised personnel**

Information about upcoming modern techniques for cancer tumour therapy and new research avenues, where clearly **the development of technology and the expertise of research laboratories is crucial**

PTMC: Typical MasterClass Day Agenda

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Adapted: online/hybrid modes

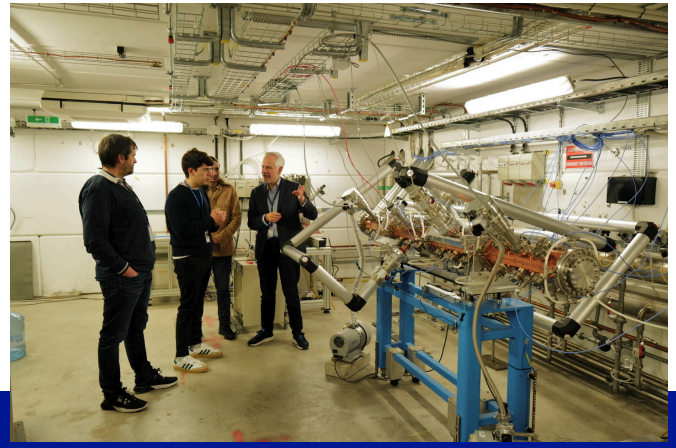
Every day 3-5 institutes participate,
during the months of February-April.
School-children **(15-19 year old)**
are invited **at/by** an institute of their area.

LOCAL TIME:	ACTIVITY
8:30 - 9:00	Registration and Welcome
9:00 - 10:00	Introductory lectures
10:30 - 11:30	Visit of a lab or experiment
12:00 - 13:00	Lunch
13:00 - 15:00	Hands-on session
15:00 - 16:00	Discuss results locally
16:00 - 17:00	**Common Video Conference**

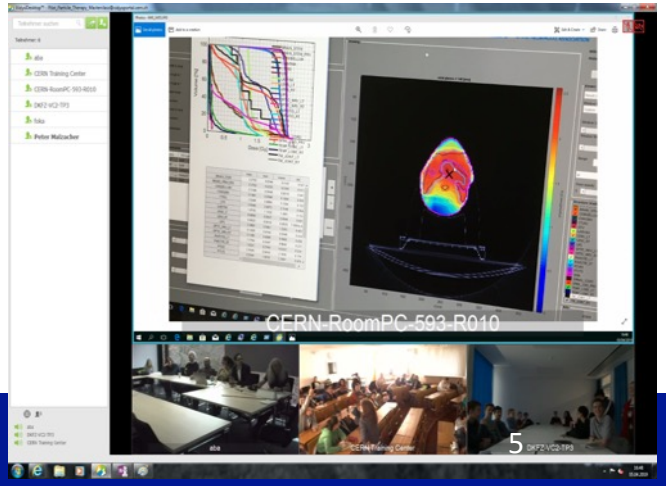
Local: Morning Presentations

Local: Afternoon Hands-on

Local: Morning Visits
real-time online visit



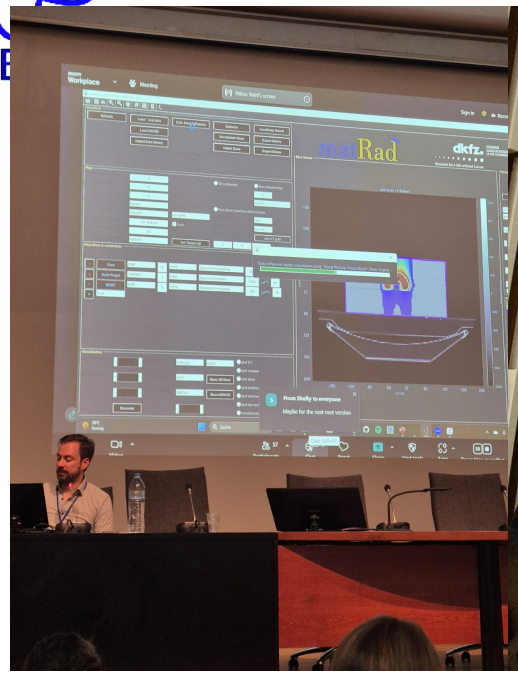
Common: Afternoon at 16:00
Video-Conference



Importance of collaboration for common projects

Treatment Planning MasterClass in Thessaloniki

https://indico.cern.ch/e/TreatmentPlanningMasterClass



Assistance by AUTH/UNSA students

T6.2 Methodology

Pilot 4 April 2025 at CERN, one-day event for school students

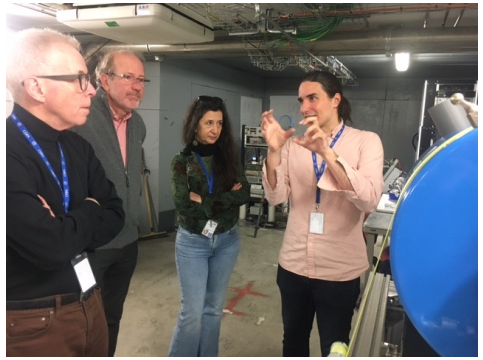
- Visit P2 2250 Test Bench
- Material/Presentation
  - describing the test bench, ion source, (linear) accelerators for societal applications…
  - shooting the target externally with particle beams, or sending the troops internally to the cancer cells
- Hands-on: emphasize the importance of imaging, role of RI

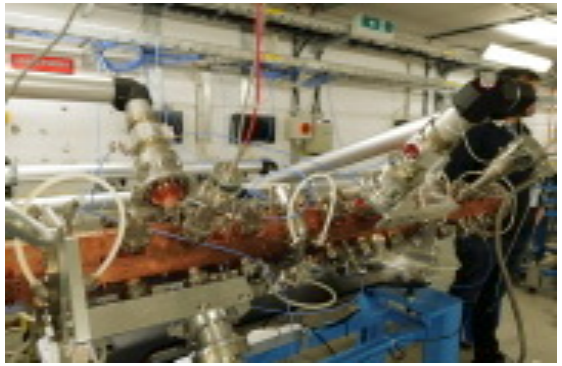
T6.2 Methodology

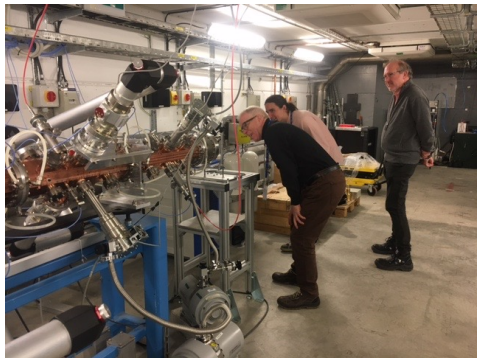
Documenting and collecting visual material at P2 2250

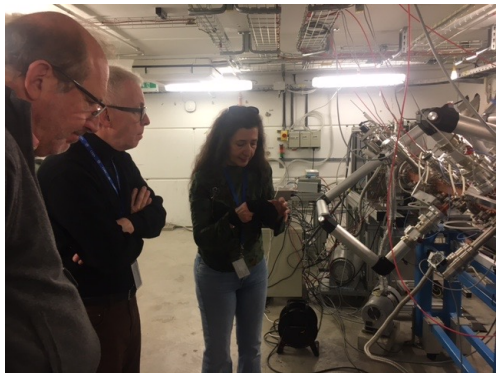
- To use for PR and education
- To use for Virtual Interactive RI tool

Some photos: https://cds.cern.ch/record/2924190









Possibility of developing hands-on based on RFQ Linear accelerators

NOTE: draft articles for CERN news platforms

T.6.2 Timetable - Resources

First Stop: MEDICON Conference in Sarajevo in September 2025, in person

- Keynote and Session
- Students' activities
- Booth, videos….

Align with Accelerator school, IFIGENEIA Annual Meetings

Participant	WP1	WP2	WP3	WP4	WP5	WP6	Total Person-Months
20 - GSI	1.00	6.00	1.00		2.00	6.00	16.00

Interactions with other Tasks

- Use material of WP3 and WP4
- Use the Virtual Interactive RI T6.3
- Use it during the Accelerator School T6.1
- Support activities of all other packages
- T5.3 Contribute to basic sustainability of hubs (RCM)

  continuing public education initiatives…. creating a forum for innovation training ….
  These measures aim to sustain the Hubs beyond the project's conclusion.
- T3.2 Interact with AUTH/UNSA students, CERN groups (learning tool, integrate material)
- WP2 Contribute to all activities (IJS, TPOLIS, GNP, AUTH)
- T1.4 Contribute to capacity building (UCY)

Contribute to B&H quadruple helix (VerLab, Clinical centres Mostar, Sarajevo…)

Explore possibilities for “Hop-On”