HITRI plus
Heavy Ion Therapy Research Integration

WP5
Education and Training

22nd May 2024

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Objectives

- Educate and provide hands-on experience to a new generation of researchers

- Allow them to optimally access and exploit the European research infrastructures

- Students, postdocs, technical staff, early stage researchers from multidisciplinary background and not involved in the field, oncology practitioners

- Specialised courses

- Secondments and internships so that they become facility users and learn best practice

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Tasks & Deliverables

Task	Deliverable	Lead	Due Date	% Completed	Status
5.1	Delivery of Specialised Training Courses	SEEIIST	M30	100%	Completed Deliverable submitted
5.2	Delivery of Masterclasses and train-the-trainer masterclasses	GSI	M47	95%	Completed Report in Progress
5.3	Provision of e-learning courses	UM	M30	100%	Completed Deliverable submitted
5.4	Organisation of secondments and internships: calendar of events	UM	M24	100%	Completed Deliverable submitted

M5.1	Specialised Courses and Masterclass Definition	SEEIIST	M18	100%	Completed Deliverable Submitted

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.1 – Specialised Courses

- 1st course - led by SEEIIST
    - held online limited to 60 participants to maximise student interaction
    - targeting advanced masters, Ph.D., postdocs and researchers from close fields
    - 36 faculty members, 35 hours of material
    - accelerators, magnet tech, biophysics, clinical aspects, radiobiology, treatment planning, simulations, dosimetry, moving targets, arc delivery, imaging, gantry design, beam dynamics, business development, entrepreneurship, certification
    - 44 students obtained attendance certificate
    - included train the trainer session
- students from 30 countries + 8 through nationality (44 EU, 11 third countries, 4 Balkan, 1 Ukraine)

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.1 – Specialised Courses

Organising committee:

Manjit Dosanjh (SEEIIST) (Chair)
Monica Necchi (CNAO)
Angelica Facoetti (CNAO)
Petya Georgieva (SEEIIST/CERN)
Nicholas Sammut (Uni Malta)
Rebecca Taylor (CERN)
Joseph Bateman (Uni Oxford)
Cameron Robertson (Uni Oxford)
Kristaps Palskis (CERN)

Scientific Committee - Manjit Dosanjh (in the chair)

Ugo Amaldi (TERA)
Maurizio Vretenar (CERN)
Elena Benedetto (SEEIIST)
Mariusz Sapinski (PSI)
Kenneth Long (Imperial College)
Klemens Zink (Marburg-MIT)
Eleanor Blakely (Berkeley)
Piero Fossati (MedAustron)
Karen Kirby (INSPIRE - Uni Manchester)
Alex Gerbershagen (Uni Groeningen)
Angelica Facoetti (CNAO)
Monica Necchi (CNAO)
Nicholas Sammut (Uni Malta)
Sandro Rossi (CNAO)
Giovanni Anelli (CERN)
Mario Schrenk (MedAustron)
Thomas Schreiner (MEdAustron)
Yiota Foka (GSI)
Suzie Sheehy (Uni – Melbourne)
Andrea Mairani
Joao Seco (DKFZ)
Anna Subiel (NPL)
Marco Pullia (CNAO)
Lucio Rossi (INFN)
Giusy Bisogni (INFN)
Katia Parodi (Uni Munich)
Steve Myers (ADAM)
Adriano Garonna (EBAMED)
Manuela Cirilli (CERN)

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.1 – Specialised Courses

- 2nd course - clinical aspects - SEEIIST in collaboration with GSI
    - held online 3rd to 7th July:
    - 557 students registered with 150 to 180 students logged in at any one time
    - targeting medical students, clinicians, oncologists
    - 39 hours of lectures, 39 faculty members
    - head and neck, sarcoma, prostate, liver, pancreas, organ motion, treatment planning, re-irradiation, gynae and rare indications, innovative methods, present and future clinical trials and radiobiology
    - included train the trainer session
    - 67 countries world wide; 36% from EU, 17% from SEE, 56% third countries
    - 77 students awarded certificate of attendance (80% attendance, 80% of polls); 27 train the trainer mention
    - network data (students, specialists, contact institutions used in marketing) inputted into WP2

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.1 – Specialised Courses

- 2nd course

Organising Committee

Y. Foka, chair (GSI/SEEIIST)
M. Cirilli (CERN)
P. Fossati (MedAustron)
N. Sammut (Uni. Malta)

M. Dallas (AUTh)
D. Giannakeri (AUTh)
I. Mitsiou (AUTh)
K. Koritsidis (AUTh)
K. Kostakis (AUTh)
A. Puckett Anastasiou (AUTh)
E. Theodoridou (AUTh)
E. Xanthopoulou (AUTh)

Scientific Committee

P. Fossati chair (MedAustron)
E. Orlandi (CNAO)
S. Harrabi (HIT)
S. Yamada (QST)
Y. Foka (GSI/SEEIIST)
N. Sammut (Uni. Malta)

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.1 – Specialised Courses

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.2 – Masterclass School

- led by GSI – Yiota Foka
- Online 17th - 22nd May 2021
- Report underway
- 36 lecturers (15 female)
- undergrads, masters, PhDs postdocs, researchers from close fields
- 1050 registrants
- 992 attended at some point – average of 600 per day (50% from EU, 12% from Balkan region)
- 158 attendance certificates awarded
- 33 hours of engagement time

HITRI
Heavy Ion Therapy Research Integration

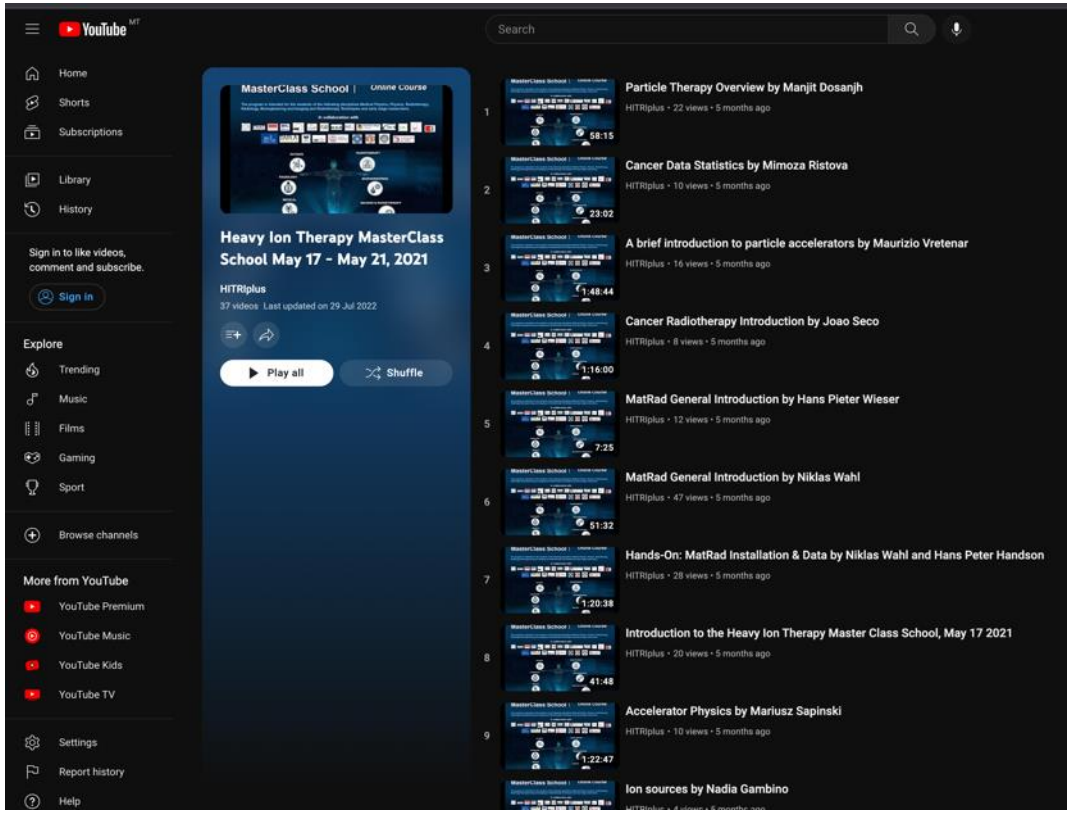
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.3 – e-learning Material

- led by UM
- conversion of task 5.1 and 5.2 into e-learning courses
- editing and cleaning;
- course overview, objectives, learning outcomes; suggested reference books, complementary material

- Task 5.1 1st specialised school recorded and made available online (**3,216 views** to date)
- Task 5.1 2nd specialised school recorded and made available online (**14,434 views** to date)
- Task 5.2 masterclass school recorded and made available online (**2,936 views** to date)

- **1,177 hours** watched by students;
- estimated **319 full course views**



HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Task 5.4 – Secondments & Internships

- UM in collaboration with CNAO
- 8 opportunities available
- €2000/month for internships; €3000/month for secondments
- 56 applications (40 form EU or Balkan states)
- 25 eligible applications
- 2 internships offered ; Microdosimetry, Accelerator Physics
- 3 secondments offered; Radiation Oncology, Medical Physics, Radiotherapy
- 59 weeks in total
- countries represented: Italy/Palestine, Turkey, Albania, Romania
- All internships and secondments are complete

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Milestone 5.1 – Courses and Masterclass Definition

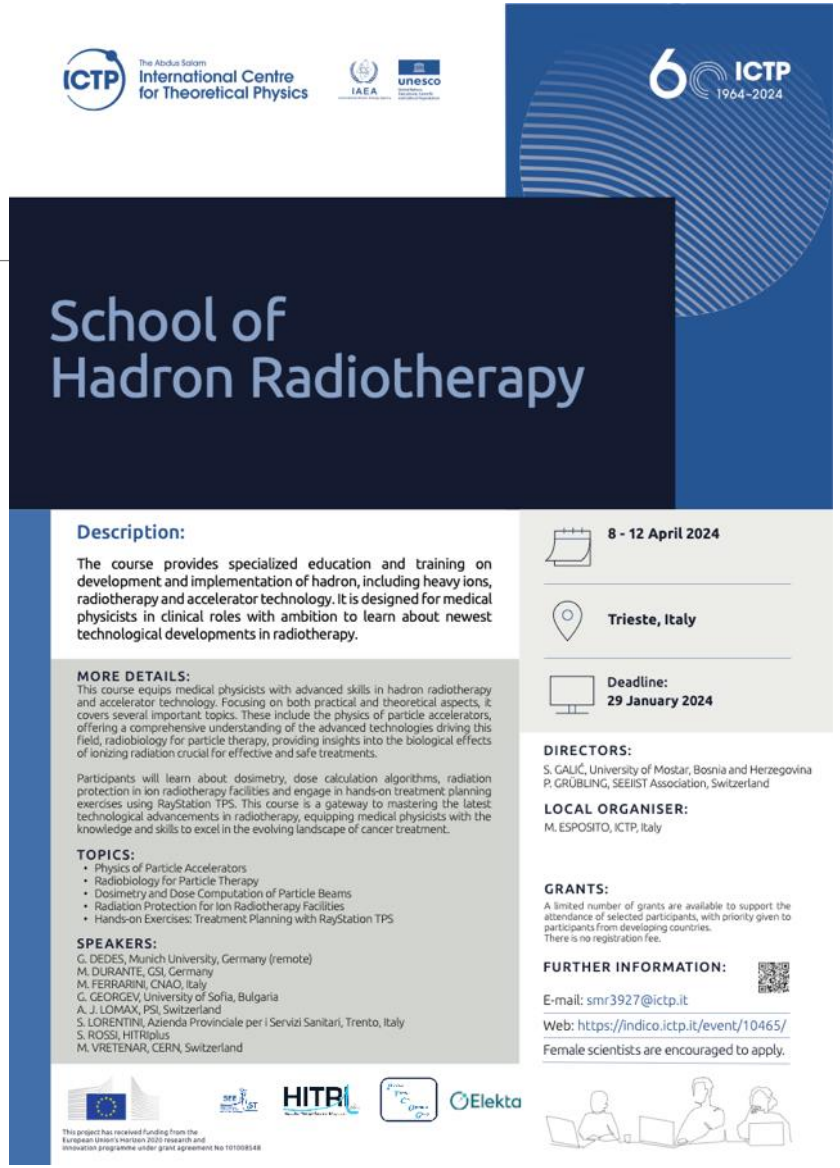
- Led by UM
- scoping the content and level of current courses in particle therapy
- identifying content that can be adapted to focus on heavy ion therapy
- singling out gaps related to heavy ion therapy
- drawing up a syllabus based on a number of discussions with experts and specialists in the field
- report was submitted in M18

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Extra Initiative 1

- School of Hadron Radiotherapy in collaboration with ICTP 8-12 April
- Organised by P. Grubling (SEEIIST), S. Galic (Uni Mostar B&H), M Esposito (ICTP)
- school in-person training + recording
- hadron (including heavy ions) radiotherapy, accelerator technology, radiobiology, dosimetry and dose computation radiation protection, treatment planning
- funded through some SEEIIST savings
- 54 students (48% Third countries, 35% EU, 17% SEE)
- 14 lecturers, 24 hours of lectures
- plan to re-open D5.1, D5.3



HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Extra Initiative 2

- 1 train-the-trainer event on 22nd October 2024 (after Hadron Therapy Symposium)
- Focus on Treatment Planning
- In-person in Thessaloniki, Greece
- Organised by Yiota Foka (SEEIIST, GSI)
- Funded by savings made by SEEIIST

- Plan to include in D5.2

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

Plans for the Future

- Task 5.1 - re-open to include extra initiative 1
- Task 5.2 - Reporting and submission of deliverable
- Task 5.3 - re-open to include extra initiative 1
- Task 5.4 - Concluded

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548

HITRI
Heavy Ion Therapy Research Integration

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008548