

Work Package 2: ¹¹C Carbon PET-aided hadron therapy



Marie Skłodowska Curie Actions
ITN Mid-Term Report
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WP2 ESRs and corresponding Supervisors

ESR	Name	Email	Affiliation	Supervisor	Email
ESR9	KyungDon Choi	miakaj@gmail.com	CNAO	Andrea Mairani	andrea.mairani@cnao.it
ESR11	Simon Stegemann	sstegema@ikp.uni-koeln.de	KULeuven	Thomas Cocolios	thomas.elias.cocolios@cern.ch
ESR3	Johanna Pitters	johanna.pitters@cern.ch	CERN	Fredrik Wenander	Fredrik.Wenander@cern.ch

ESR3

Johanna Pitters

- Secondment: MedAustron, 3-21/07/2017 (Topic: Commissioning of Carbon Ion Source)
- Training: MEDICIS-Promed Specialised Training on Radioisotope Production, Leuven, 4-8/09/2017
- Conference contribution: ICIS (Geneva, 15-20/10/2017): poster contribution (Awarded with *Young Scientist Award: 'Best Poster Presentation'*)
- Publication: ICIS Proceedings, submitted (Title: *Charge Breeding of CO⁺ Beams at REX-ISOLDE*); *Transverse emittance measurements of ion beams from an electron beam ion source* submitted to NIM A.

ESR3

Johanna Pitters

- Outreach: since 11/2017 actively participating as a tutor for high-school students in S'Cool Lab (<http://scool.web.cern.ch/>)

ESR9

KyungDon Choi

- MEDICIS-Promed contract was finished on 11th Nov 2018 and CNAO provide new contract.
- Secondment:
 - HUG (University Hospital of Geneva (HUG)); 19th July-20th August 2017 (Topic: Small animal PET imaging),
 - CERN; FLUKA simulation for 11C SOBP, 26th March – 20th April 2018
- Conference contribution: PTCOG56: poster, PTCOG57: presentation
- Publication: FROG—A New Calculation Engine for Clinical Investigations with Proton and Carbon Ion Beams at CNAO

ESR9

KyungDon Choi

- Outreach:
Interview with Science policy reading guys in South Korea newspaper publish in South Korea
- Lectures:
 - *2018: LUNIT Inc., Asan Seoul Hospital, Pohang accelerator laboratory (PAL), Chungnam university hospital, Korea Advanced Institute of Science and Technology (KAIST), Gangleung-Wonju university, Korea university.*
 - *2017: Korea Institute of Science and Technology Information (KISTI), PAL, University of Seoul*

ESR11

Simon Stegemann

- MEDICIS-Promed contract is valid, when it is over KU Leuven will provide a new contract to finish the project.
- MS6, Optimal ion source/gas for mass separation of CO/CO₂/CH₄ beams. was achieved and deliverable is done about 75%.
- The release efficiency of C-11 from designed target material is measured: the most important parameter for project.
- CERN ISOLDE and CERN MEDICIS are shut down currently.

ESR11

Simon Stegemann

- Conferences:
- EURISOL DF 2016, Leuven, Belgium (18-21/10/16) (Talk)
- 24 th Conference of Application of Accelerator in Research and Industry, Fort Worth, Texas (30/10/16-4/11/16) (Talk & Poster)
- BMIC meeting: Imaging in Drug Discovery & Development, Beerse, Belgium (29/11/16) (Poster)
- Academia-Industry Matching Event on Superconductivity for Accelerators for Medical Applications, CIEMAT-Madrid, Spain (24-25/11/16) (Invited talk)
- 6 th Symposium on Medical Radioisotopes | Challenges in production, transport and applications, Mechelen, Belgium (11/05/17) (Poster)

ESR11

Simon Stegemann

- **Outreach**
- Wetenschapsweek, KU Leuven, IKS (24-28/10/16)
- Falling Walls Lab (12/03/17)

- **Publication**

On-going

Deliverables

Work Package 2

- D2.1: *Collection of mass separated $^{11}\text{CO}/\text{CO}_2/\text{CH}_4$ at high efficiency – month 30, ESR-11.*

Deliverables

Work Package 2

- D2.2: *Fast injection valve to compare C-- >C6+ and C- - >C1+ -- >C6+ - month 40, ESR-3.*