

**OMA Conference**
**Seville 3-6<sup>th</sup> September 2019**

		Wednesday			Thursday			Friday
09:00	Introduction	<b>Welcome and Introduction</b> (CNA, tbc) State of the art in ion beam therapy Carsten P Welsch (ULIV)	09:00	Invited	<b>Monte Carlo Dosimetry</b>  Antonio Lallena	09:00	Invited	<b>4D Patient monitoring</b>  Guido Baroni (CNAO)
09:30	Invited	<b>Next-generation therapy accelerators</b>  Yves Jongen (IBA)	09:30	Contributed	<b>Review of the improved nuclear physics models in FLUKA for helium and carbon ion therapy</b> Giulia Arico	09:30	Contributed	<b>Organ motion quantification and margins evaluation in carbon ion therapy of abdominal lesions</b> Charalampos Kalantzopoulos
10:00	Contributed	<b>FlashTherapy: an innovation in radiation therapy</b> Lucia Giuliano	09:50	Contributed	<b>A data-driven nuclear fragmentation model for a fast Monte-Carlo code, FRED, in Particle Therapy with Carbon beams</b> Micol De Simoni	09:50	Contributed	<b>Optimization of high-performance 3D/4D surface scanning technology for patient monitoring in radiotherapy environment</b> Roland Höfling
10:20	Contributed	<b>Technical Challenges for FLASH Proton Therapy</b> Simon Jolly	10:10	Contributed	<b>Monte Carlo modelling of the Clatterbridge Proton Therapy beamline for Beam Diagnostics integration</b> Jacinta Yap	10:10	Contributed	<b>A Modular Control System for Treating Moving Targets with Scanned Ion Beams: Design, Development, and Preliminary Test Results</b> Michelle Lis
10:40	Contributed	<b>EXPLORING OF ADVANCES IN HIGH GRADIENT TECHNOLOGIES FOR USE IN HADRON THERAPY ACCELERATORS</b> Anna Vnuchenko	10:30	Contributed	<b>A Monte Carlo study of target fragmentation in Protontherapy</b> Alessia Embriaco	10:30	Contributed	<b>Uncertainty Quantification Analysis and Optimization For Proton Therapy Beam Lines</b> Valeria Rizzoglio
11:00	Coffee							
11:30	Invited	<b>Imaging beam in patient</b>  Katia Parodi (LMU)	11:30	Invited	<b>Dosimetry and QA</b>  Simon Marcellis	11:30	Contributed	<b>Digital LLRF system: concepts and requirements for proton therapy based on a linear accelerator</b> Borut Baricevic
12:00	Contributed	<b>PET Imaging and Dose correlation from Proton Activation</b> Victor Valladolid Onecha	12:00	Contributed	<b>Luminescence imaging of proton beams in water: Is this method sufficient for use in clinical quality assurance?</b> Jan Michael Burg	11:50	Contributed	<b>Challenges in assessing risks for particle accelerators as medical devices</b> Roberto Filippini
12:20	Contributed		12:20	Contributed		12:10	Contributed	<b>The upcoming European Joint Research Project "Metrology for advanced radiotherapy using particle beams with ultra-high pulse dose rates"</b> Andreas Schueller
12:40	Contributed		12:40	Contributed		12:30	Contributed	Summary, Carsten P Welsch
13:00	Lunch							
14:30	Invited	<b>Diagnostics</b> Michele Caldara (AVO/Adam)	14:30			####		Departure



15:00	Contributed	<b>Characterisation of the LHCb VELO detector modules as a non-invasive Proton Beam Monitor</b> Roland Schnuerer			Poster session
15:20	Contributed	<b>Beamline characterization of a Dielectric-filled Reentrant Cavity Resonator as a Beam Current Monitor for medical cyclotron beamline at PSI, Switzerland: Its advantages and limits</b> Sudharsan Srinivasan			
15:40	Contributed	<b>Beam and detector characterisation using Medipix3 at MedAustron IR1 using protons and carbon ions at clinical flux rates and full energy range</b> Navrit Bal			
16:00	Coffee				
16:30	Invited	<b>Dose Delivery</b> Tony Lomax (PSI)	16:30	Contributed	<b>Treatment facility optimization</b> Andrea de Franco
17:00	Contributed	<b>Superconducting gantry for proton therapy and imaging</b> Ewa Oponowicz	16:50	Contributed	<b>Preparation of a radiobiology beam-line at the 18 MeV proton cyclotron facility at CNA</b> Anna Barato Roldan
17:20	Contributed	<b>Design considerations of a superconducting gantry with alternating-gradient combined-function magnets</b> Bin Qin	17:10	Contributed	<b>Light ion therapy software for data exchange</b> Carlos Afonso
			17:30	Contributed	<b>Advancements in particle therapy systems - acceleration and delivery</b> Jonathan Farr
19:30	Public Talk	Acelerando partículas para tratar el cáncer			
			20:30		<b>Gala Dinner - midnight</b>

*Reception: Tuesday, 3 September, from 20:30*



## *Poster Session*

1. Design of a fast energy degrader for a compact superconducting gantry with large momentum acceptance  
*Xu Liu*
2. Dosimetric effects of thermoplastic masks on skin dose  
*Olivia Adu-Poku*
3. A collaborative compact linear particle accelerator project for Carbon therapy  
*C. Battaglia, J. M. Carmona, D. Jiménez, A. Larman, M. A. Carrera*
4. Quantifying DNA Damage in Comet Assay images using Neural Networks  
*Selina Dhinsey, Tim Greenshaw, Jason Parsons, Carsten Welsch*
5. Development and calibration of a Multi-Leaf Faraday Cup for the determination of the beam energy of a 50 MeV electron LINAC in real time  
*Christoph Makowski, Andreas Schüller*
6. Assessment of Beam Profile Monitors for medical and research beams in the MedAustron Facility  
*Claus Schmitzer*
7. Non-invasive beam profile monitor for medical accelerators  
*Narender Kumar*
8. FOOT: FragmentatiOn Of Target experiment  
*Yunsheng Dong*



9. Design of SC230 - the new cyclotron for proton therapy  
*Dmitry Popov*
  
10. Spectrum and flux measurements of secondary ultra-fast neutrons produced in Particle Therapy treatments using the innovative MONDO tracker  
*Micol De Simoni*
  
11. A high repetition laser-plasma proton accelerator for radioisotope production  
*Juan Peñas*
  
12. Measurement of PET isotope production cross sections for protons and carbon ions for applications in particle therapy range verification  
*Felix Horst*
  
13. Dosimetric commissioning of a pencil beam algorithm for the scanned carbon ion beam delivery system installed at MedAustron Ion Therapy Center  
*Antonio Giuseppe Amico*
  
14. Characterization of commercial photo-devices as dose-rate sensors  
*Miguel Angel Carvajal Rodríguez*
  
15. PENH, an extension of PENELOPE code which includes proton induced nuclear reactions  
*Jose Manuel Quesada Molina*
  
16. Production cross section of the short-lived  $\beta^+$  emitters  $^{12}\text{N}$ ,  $^{29}\text{P}$  and  $^{38}\text{K}$  for online PET verification in proton therapy  
*Teresa Rodriguez Gonzalez*
  
17. Advances in the FLUKA Particle Therapy Tool and its extensions for ion therapy optimization  
*Wioletta Sandra Kozłowska*



18. Preliminary results of the INSIDE clinical trial for in-vivo treatment verification in particle therapy  
*Elisa Fiorina*
19. The role of image reconstruction and processing in image-based range verification for particle therapy: A Review  
*Magdalena Rafecas*
20. Optimisation of graphite energy degrader geometry for proton therapy facility  
*Ewa Oponowicz*
21. Design and optimization of beam optics for a superconducting gantry  
*Qin Bin*
22. Laser driven plasma X-ray microfocus source for phase contrast tomography  
*Camilo Ruiz*
23. PADC nuclear track detector for ion spectroscopy in laser-plasma acceleration  
*Michael Seimetz*
24. Proton FLASH - a perspective  
*Simon Busold*

