



Scientific programme

# Registration and Welcome Reception

Registration will be open on Sunday, May 5, from 17:00 to 19:00 and at 8:00 for other conference days.

The welcome reception will be held at the conference hotel on Sunday, May 5, from 19:00 to 21:00. We would like to thank High Voltage Engineering Europa B.V. for sponsoring this great event.

**Monday (May 6, 2019)**

8.30-9.00	Opening	
Accelerator technology and development 1 <b>Chair: Tianjue Zhang</b>		
9.00-9.30	<b>Peyman Yousefi</b> <i>University of Erlangen, Germany</i> Applications for an Electron Accelerator on a Chip	I-1
9.30-9.50	<b>Stephanie Stodola</b> <i>National Electrostatics Corporation, USA</i> Expansion of Researcher Need and Applications Drives Manufacturer Innovation	O-1
9.50-10.10	<b>Sotirios Charisopoulos</b> <i>International Atomic Energy Agency (IAEA), Austria</i> IAEA activities in support of the accelerator-based research and applications	O-2
10.10-10.30	<b>M. M. Sezer</b> <i>ASELSAN A.S., Yenimahalle-Ankara, Turkey</i> Design of a Low Emittance High Power Thermionic DC Electron Gun	O-3
10.30-11.00	Coffee break	
Application of novel technologies 1 <b>Chair: Milko Jakšić</b>		
11.00-11.30	<b>Dan Gabriel Ghita</b> <i>Horia Hulubei National Institute for R&amp;D in Physics and Nuclear Engineering, Romania</i> ELI-NP – implementation status and start of the scientific program	I-2
11.30-11.50	<b>Long K. Vo</b> <i>Kansas State University, USA</i> Time dependent signatures: Moisture content interpretation in well logging applications with a D-T pulsed neutron generator	O-4
11.50-12.10	<b>Marcos V. Moro</b> <i>Uppsala University, Sweden</i> In-situ study of the chemical composition of photochromic yttrium oxy-hydrides	O-5
12.10-12.30	<b>Paul Constantin</b> <i>Extreme Light Infrastructure - Nuclear Physics (ELI-NP), Romania</i> The IGISOL radioactive ion beam facility at ELI-NP	O-6
12.30-14.00	Lunch	
Ion beam analysis and applications 1 <b>Chair: Alexander F. Gurbich</b>		
14.00-14.30	<b>Frank Watt</b> <i>National University of Singapore, Singapore</i> Recent advances in MV particle accelerator applications: a review of low current nanobeam techniques	I-3
14.30-14.50	<b>M. Kokkoris</b> <i>National Technical University of Athens, Greece</i> MottCalc: A new tool for calculating Mott scattering differential cross sections for analytical purposes	O-7
14.50-15.10	<b>Christof Vockenhuber</b> <i>ETH Zürich</i> A new accelerator for Material Sciences at the Laboratory of Ion Beam Physics at ETH Zurich	O-8
15.10-15.30	<b>T. Kobayashi</b> <i>Photonics Control Technology Team, RIKEN, Japan</i> In-situ depth profiling of lithium in solid-electrolyte using ion and neutron beams	O-9
15.30-16.00	Coffee break	
<b>16.00-18.00</b>	<b>Poster session A</b>	

Tuesday (May 7, 2019)

Accelerator Mass Spectrometry		Chair: Lucile Beck
9.00-9.30	<b>Arnold Milenko Müller</b> <i>Ionplus AG, Switzerland</i> MILEA - a new 300 kV multi-isotope AMS facility	I-4
9.30-9.50	<b>Eric C. Alderson</b> <i>National Electrostatics Corp., USA</i> Progress and Development of Positive Ion Mass Spectroscopy for Multiple Radiocarbon Dating Applications	O-10
9.50-10.10	<b>Johannes Lachner</b> <i>University of Vienna, Austria</i> Low-level <sup>26</sup> Al AMS analysis by Ion-Laser InterAction Mass Spectrometry	O-11
10.10-10.30	<b>Susan Herb</b> <i>University of Cologne, Germany</i> First AMS measurements of (60Fe/Fe) isotopic ratios at the Cologne 10 MV Tandem Accelerator	O-12
10.30-11.00	Coffee break	
Application to life science		Chair: Frank Watt
11.00-11.30	<b>Alessandra Gianoncelli</b> <i>Elettra Sincrotrone Trieste, Italy</i> Life Science applications of X-ray microscopy combined with XRF and other synchrotron imaging techniques	I-5
11.30-11.50	<b>M.V. Zheltonozhskaya</b> <i>Lomonosov Moscow State University, Russia</i> Production of Zirconium-89 in photonuclear reactions	O-13
11.50-12.10	<b>Tokihiko Ikeda</b> <i>RIKEN Nishina Center for Accelerator-Based Science, Japan</i> Profile measurement of MeV ion microbeam in atmosphere extracted from single tapered glass capillary with an end window	O-14
12.10-12.30	<b>Esther Punzón-Quijorna</b> <i>Jožef Stefan Institute (JSI), Slovenia</i> Particle Induced X-ray Emission (PIXE) for elemental tissue imaging in prosthesis rejection cases	O-16
12.30-14.00	Lunch	
Ion beam analysis and applications 2		Chair: Anna Macková
14.00-14.30	<b>Katarina Vogel-Mikuš</b> <i>Jožef Stefan Institute, Slovenia &amp; University of Ljubljana, Slovenia</i> The use of X-ray and MS based imaging techniques in plant biology for improved food quality and safety	I-6
14.30-14.50	<b>Darko Mekterović</b> <i>University of Rijeka, Croatia</i> Elemental analysis of particulate matter and biological samples of workers exposed to the dust in a metal workshop	O-16
14.50-15.10	<b>Michael F. Vineyard</b> <i>Union College, USA</i> Research and Training in Ion-Beam Analysis of Environmental Materials	O-17
15.10-15.30	<b>Alexander F. Gurbich</b> <i>Institute for Physics and Power Engineering, Russia</i> Calibration of 3 MV Tandatron Accelerator over Nominal Energy Range	O-18
15.30-16.00	Coffee break	
16.00-18.00	Poster session B	
19.00-22.00	ECAART International Committee Meeting	

**Wednesday (May 8, 2019)**

Medical applications		Chair: Stjepko Fazinić
9.00-9.30	<b>Tony Lomax</b> <i>Paul Scherrer Institute (PSI), Switzerland</i> Proton beam therapy: Current status and future trends	I-7
9.30-9.50	<b>Vladimir Zverv</b> <i>Dukhov Research Institute of Automatics, Russia</i> Novel Generators for Nuclear Medicine: Technical and Antitumor Characteristics	O-19
9.50-10.10	<b>Oxana Actis</b> <i>Paul Scherrer Institute (PSI), Switzerland</i> Commissioning of a bi-directional energy sequence for efficient treatment with protons	O-20
10.10-10.40	Coffee break	
Simulation and fundamentals		Chair: Iva Bogdanović Radović
10.40-11.00	<b>Marko Barac</b> <i>Ruder Bošković Institute, Croatia</i> Overview of computational methods for processing MeV TOF SIMS spectra and 2D images at RBI	O-21
11.00-11.20	<b>S. Petrović</b> <i>Vinča Institute of nuclear sciences, Serbia</i> Proton-crystal rainbow interaction potential	O-22
11.20-11.40	<b>E. Ntemou</b> <i>National Technical University of Athens, Greece</i> Measurement of deuteron differential elastic scattering cross sections on light elements, at energies and angles suitable for EBS (Elastic Backscattering Spectroscopy)	O-23
11.40-12.00	<b>A. Guesmia</b> <i>Faculté des Sciences Université Saad Dahleb, Algeria</i> Readjustment of the Bohr stopping power for energies between 0.05 keV/u and 10 MeV/u	O-24
12.00-13.00	Lunch	
<b>13.15-19.00</b>	<b>Excursion</b>	

Thursday (May 9, 2019)

Accelerator technology and development 2		Chair: Timo Sajavaara
9.00-9.30	<b>A. Ibarra</b> <i>Centre for Energy, Environment and Technology, Spain</i> EU approach to the fusion-like neutron source: The DONES Project, present status and other applications	I-8
9.30-9.50	<b>Jean-Michel Lagniel</b> <i>Grand Accélérateur National d'Ions Lourds (GANIL), France</i> Status of the SPIRAL2 facility	O-25
9.50-10.10	<b>Sergey V. Kutsaev</b> <i>RadiaBeam Technologies, LLC, USA</i> Ultra-Compact Accelerator for Radioactive Isotope Sources Replacement in Security, NDT and Medical Applications	O-26
10.10-10.30	<b>Tianjue Zhang</b> <i>China Institute of Atomic Energy, China</i> 52 kW CW Proton Beam Production by CYCIAE-100 and General Design of High Average Power Circular Accelerator	O-27
10.30-11.00	Coffee break	
Applications to art and archaeology		Chair: T. Calligaro
11.00-11.30	<b>Lorenzo Giuntini</b> <i>INFN, Italy &amp; University of Florence, Italy</i> Status of the MACHINA project, the Movable Accelerator for Cultural Heritage In-situ Non-destructive Analysis	I-9
11.30-11.50	<b>S. Mathot</b> <i>European Organization for Nuclear Research (CERN), Switzerland</i> The CERN PIXE-RFQ, a transportable proton accelerator for the MACHINA project	O-28
11.50-12.10	<b>Serena Barone</b> <i>National Institute for Nuclear Physics (INFN), Italy</i> Towards micro-samples radiocarbon dating at INFN-LABEC, Florence	O-29
12.10-12.30	<b>Lucile Beck</b> <i>Laboratoire de Mesure du Carbone 14 (LMC14), France</i> First radiocarbon dating of lead carbonates by AMS - Application to ancient cosmetics and paintings	O-30
12.30-14.00	Lunch	
Application of novel technologies 2		Chair: Arnold Milenko Müller
14.00-14.30	<b>Serguei Molodtsov</b> <i>European XFEL, Germany</i> European XFEL: Unique possibilities for X-ray research	I-10
14.30-14.50	<b>M. De Cesare</b> <i>CIRA Italian Aerospace Research Center, Italy</i> Ion Beam Analysis and IR-Thermography for innovative Aerospace TPS material characterizations and qualifications at CIRA	O-31
14.50-15.10	<b>Timo Sajavaara</b> <i>University of Jyväskylä, Finland</i> A new external beam PIXE setup with transition edge sensor array and polycapillary optics	O-32
15.10-15.30	<b>Markus Schiffer</b> <i>University of Cologne, Germany</i> Ion Beam Techniques for Nuclear Waste Management	O-33
15.30-16.00	Coffee break	

Thursday (May 9, 2019) - Continued

Ion beam modification of materials		Chair: Eduardo Alves
16.00-16.30	<b>Jonathan England</b> <i>University of Surrey, UK</i> Investigating the Formation of Isotopically Pure Layers for Quantum Computers using Ion Implantation and Layer Exchange	I-11
16.30-16.50	<b>O. Toader</b> <i>University of Michigan, USA</i> Transporting Ion Beams into a TEM for In-Situ Irradiation Observation	O-34
16.50-17.10	<b>G. Gawlik</b> <i>Institute of Electronic Materials Technology, Poland</i> Modification of the graphene adhesion to the substrate by ion beam bombardment	O-35
17.10-17.30	<b>E. Aradi</b> <i>University of Huddersfield, UK</i> Effects of He ion irradiation on microstructure of 4H-SiC nanowhiskers	O-36
<b>18.30-22.00</b>	<b>Conference dinner</b>	

**Friday (May 10, 2019)**

Quantum and nano technology applications		Chair: Jonathan England
9.00-9.30	<b>Jan Meijer</b> <i>Felix-Bloch Institute for Solid state physics, Germany</i> Application of ion beam accelerators for Quantum technology	I-12
9.30-9.50	<b>E. Alves</b> <i>Instituto Superior Técnico, Portugal</i> Structural and optical studies of aluminosilicate films doped with (Tb <sup>3+</sup> , Er <sup>3+</sup> ) / Yb <sup>3+</sup> by ion implantation	O-37
9.50-10.10	<b>Tobias Herzig</b> <i>Felix Bloch Institute for Solid State Physics, Germany</i> Creation of quantum and classical light emitters in silicon using spatial selective, high-resolution ion implantation	O-38
10.10-10.40	Coffee break	
Nuclear and particle physics applications		Chair: M. Kokkoris
10.40-11.00	<b>Eva Montbarbon</b> <i>CERN EN-EA, Switzerland</i> Studies of the Conventional Beams Working Group within the Physics Beyond Colliders framework at CERN	O-40
11.00-11.20	<b>Maxim D. Karetnikov</b> <i>Dukhov Research Institute of Automatics, Russia</i> Generators of tagged neutrons and their applications	O-39
11.20-11.50	<b>Andrey Starodumov</b> <i>Ruđer Bošković Institute, Croatia</i> Single event upsets in CMS pixelated detector	I-13
11.50-12.30	Final Remarks & Closing	