

22nd International Conference on Ion Beam Analysis (IBA 2015) program
Congress centre Tamaris, Grand Hotel 4 opatijska cvijeta, Opatija

Sunday, June 14, 2015	
14:00 – 18:00	Registration – Congress centre Tamaris
18:00	<i>IBA 2015 Welcome reception in front of the Hotel Royal</i>

Monday, June 15, 2015		
8:00 – 16:00	Registration – Congress centre Tamaris	
8:10 – 8:30	Opening remarks and welcome address Iva Bogdanović Radović – IBA 2015 chair Tome Antičić – RBI Director General Ian Vickridge – chair of the IBA International Advisory Committee	
	<i>Session 1: Plenary session 1 (Orhideja Hall)</i> <i>Chair: Iva Bogdanović Radović</i>	
8:30 – 9:15	PL-1 Marek Rubel, KTH-Royal Institute of Technology, Stockholm, Sweden, "The Role and Application of Ion Beam Analysis for Studies of Plasma-Facing Components in Controlled Fusion Devices"	
9:15 – 10:00	PL-2 Andre Vantomme, KU Leuven, Belgium, "50 years of ion channeling in materials science – where do we go next?"	
10:00 – 10:30	Coffee break (Mimoza I and III Halls)	
	<i>Session 2: Cross sections (Orhideja Hall)</i> <i>Chair: Matej Mayer</i>	<i>Session 3: Channeling (Mimoza II Hall)</i> <i>Chair: Andre Vantomme</i>
10:30 – 11:00	I-1 Alex Gurbich, IPPE, Obninsk, Russia, "SigmaCalc recent development and present status of the evaluated cross-sections for IBA"	I-2 Debdulal Kabiraj, Inter University Accelerator Centre, India, "Study on dependence of structural evolution on S _e sensitivity of semiconductors by c-RBS"
11:00-11:20	O-1 Wei-Kan Chu, University of Houston, USA, "Mott vs Rutherford Scattering: Wave-Particle Duality of MeV Carbon, and Boron Ion Scattering from Thin Graphite Foil"	O-4 Daniel J. Silva, IFIMUP and IN- Institute of Nanoscience and Nanotechnology, Universidade do Porto, Portugal, and KU Leuven, Belgium "Drawing the geometry of 3d transition metal – boron pairs in silicon by means of electron emission channeling experiments"
11:20-11:40	O-2 Michael Kokkoris, National Technical University of Athens, Greece, "A Review on Benchmarking of Proton Elastic Scattering - Implementation in the cases of ^{nat} Si, ¹⁹ F, ^{nat} B and ^{nat} O"	O-5 Wenjie Yang, Australian National University, Australia, "Atom location and ion damage studies of gold hyperdoped silicon via ion implantation followed by pulsed laser melting"

11:40-12:00	O-3 Paraskevi Dimitriou, International Atomic Energy Agency, Austria, "IAEA CRP on Development of a Reference Database for Particle-Induced Gamma-ray Emission (PIGE) spectroscopy"	O-6 Barney L. Doyle, Sandia National Laboratories, USA, "Ion Channeling Revisited"
12:00 – 13:30	Lunch (Restaurant Camellia, Grand Hotel 4 opatijska cvijeta)	
	Session 4: Secondary Ion Mass Spectrometry – from keV to MeV (Orhideja Hall) Chair: Roger Webb	Session 5: Art and Archeometry (Mimoza II Hall) Chair: Žiga Šmit
13:30-14:00	I-3 Kenji Kimura, Kyoto University, Kyoto, Japan, "Transmission secondary ion mass spectrometry using 5 MeV C ₆₀ ⁺ ions"	I-4 Thomas Calligaro, Centre for Research and Restoration of the Museums of France, Paris, France, "Ion beam analysis of light elements in cultural heritage materials"
14:00-14:20	O-7 Sofia Gorondy Novak, CEA, France, "HI-ERDA versus SIMS to study helium profiling in pure bcc metals"	O-10 Chris Jeynes, University of Surrey, UK, "Glass deterioration mechanisms using Total-IBA of Rosslyn glass"
14:20-14:40	O-8 Toshio Seki, University of Kyoto, Japan, "Ambient Analysis of Liquid Materials with Wet-SIMS"	O-11 Dubravka Jembrih – Simbürger, Academy of Fine Arts, Austria, "MeV SIMS - a tool to study modern paint materials and their stability"
14:40-15:00		O-12 Caroline Czelusniak, INFN Sezione di Firenze, Italy, "Development of the time-resolved ion beam luminescence technique and its application to the provenance studies of lapis lazuli"
15:00 – 15:30	Coffee break (Mimoza I and III Halls)	
15:30 – 17:30	Poster Session 1 (Mimoza I and III Halls)	
17:30 – 19:00	IAEA Panel on Ion Beam Techniques Roadmap (Orhideja Hall) Panel co-ordinator: Aliz Simon, IAEA Panel Members: Nuno Pessoa Barradas, Massimo Chiari, David Cohen, Ian Vickridge, Roger Webb, Iva Bogdanovic Radovic, Julien Demarche	

Tuesday, June 16, 2015		
8:00 – 16:00	Registration – Congress centre Tamaris	
	Session 6: Plenary session 2 (Orhideja Hall) Chair: Stjepko Fazinić	
8:30 – 9:15	PL-3 Hans Arno Synal, ETH Zurich, Switzerland, “Progress in Accelerator Mass Spectrometry”	
9:15 – 10:00	PL-4 Jiro Matsuo, Kyoto University, Kyoto, Japan, “Secondary Ion Mass Spectrometric Analysis of Soft Materials - Current Challenges and Future Applications”	
10:00 – 10:30	Coffee break (Mimoza I and III Halls)	
	Session 7: Imaging with keV ions (Orhideja Hall) Chair: Barney Doyle	Session 8: Environmental and Earth Applications (Mimoza II Hall) Chair: Massimo Chiari
10:30 – 11:00	I-5 Gregor Hlawacek, Helmholtz- Zentrum Dresden-Rossendorf, Germany, “Materials analysis using channeling and ionoluminescence in a helium ion microscope”	I-6 Silvia Nava, INFN, University of Florence, Italy, “State of the art of IBA analysis of high time resolution aerosol samples”
11:00 – 11:20	O-13 Patrick Philipp, Advanced Instrumentation for Ion Nano- Analytics (AINA), Luxembourg, “SIMS on FIB instruments: a powerful tool for high-resolution high- sensitivity analytics at the nano scale”	O-16 Keizo Ishi, Tohoku University, Japan, “Application of micro-ion-beam analysis to investigate the distribution of Cs in silt particles for environmental remediation of Fukushima”
11:20 – 11:40	O-14 Rene Heller, Helmholtz- Zentrum Dresden-Rossendorf, Germany, “Ion Beam Analysis in the Helium Ion Microscope”	O-17 Guy Terwagne, University of Namur, Belgium, “Application of IBA to taphonomy and paleontology”
11:40 – 12:00	O-15 Ernst Jan Vesseur, FEI, "Applications and benefits of a Xe plasma FIB-SEM "	O-18 Mohamad Roumie, Accelerator Laboratory, Lebanese Atomic Energy Commission, National Council for Scientific Research, Beirut, Lebanon, “Evaluation and mapping of PM2.5 atmospheric aerosols in Arasia region using PIXE and gravimetric measurements”
12:00 – 13:30	Lunch (Restaurant Camellia, Grand Hotel 4 opatijska cvijeta)	

	Session 9: Experimental developments and novel IBA techniques (Orhideja Hall) Chair: Theva Thevuthasan	Session 10: Stopping and Straggling (Mimoza II Hall) Chair: Nuno Barradas
13:30 – 13:50	O-19 Patrick Reichart, Universität der Bundeswehr, Germany, “Increased Accuracy and Sensitivity in Hydrogen Analysis”	O-24 Peter Sigmund, University of Southern Denmark, Denmark, “Structure in the velocity dependence of heavy-ion energy-loss straggling”
13:50-14:10	O-20 Hao Shen, Institute of Modern Physics, China, “Developments and applications of nuclear microprobes in China”	O-25 David N Jamieson, University of Melbourne, Australia, “Direct imaging of straggled ions for top-down fabrication of Si:P qubits using atom probe tomography”
14:10-14:30	O-21 Jaakko Julin, University of Jyväskylä, Finland, “Advanced pulse processing for Time-of-Flight ERD”	O-26 Moni Behar, Federal University of Rio Grande do Sul, Brazil, “Stopping power study of H and He in Hydropoxyapatite films: A study with implications in ion-beam therapy”
14:30-14:50	O-22 Tilo Reinert, University of North Texas, USA, “Performance Tests of a Scalable Multi-Detector Digital Spectrometer with Eight Channels”	O-27 Pedro Grande, Federal University of Rio Grande do Sul, Brazil, “Neutralization and wake effects on the Coulomb explosion depth profiling”
14:50-15:10	O-23 Martina Schulte-Borchers, ETH Zurich, Switzerland, “Recent progress on the new MeV SIMS setup at ETH Zurich”	O-28 Abdelkader Guesmia, iThemba Labs, South Africa, “Energy loss straggling of Cu, Si, O and C heavy ions through Si ₃ N ₄ thin foils over a range of energies 0.1–0.6 MeV/n by Time-of-Flight spectrometry”
15:10-15:40	Coffee break (Mimoza I and III Halls)	
15:40-17:40	Poster Session 2 (Mimoza I and III Halls)	
19:00-22:00	IBA International Advisory Committee Meeting (Antica Ostaria de Ugo, Hotel Continental)	

Wednesday, June 17, 2015		
8:00 – 16:00	Registration – Congress centre Tamaris	
	Session 11: Computer Simulations and Analysis (Orhideja Hall) Chair: Kai Arstila	Session 12: Modification and Damage (Mimoza II Hall) Chair: Devesh Avashti
8:30 – 9:00 (Orhideja)	I-7 Udo von Toussaint, Max-Planck-Institut für Plasmaphysik, Garching, Germany,	O-33 Lionel Thomé, CSNSM Orsay, CEA Saclay France,
8:40-9:00 (Mimoza II)	"Modern data analysis techniques for ion beam analysis"	"Combination of RBS/C and Raman techniques for the investigation of the SNEEL phenomenon in ion-irradiated materials"
9:00 – 9:20	O-29 Tiago F. Silva, Instituto de Física da Universidade de Sao Paulo, Brazil,	O-34 Philipp Ernst, University of Duisburg-Essen, Germany,
	"MultiSIMNRA: a computational tool for self-consistent ion beam analysis using SIMNRA"	"Graphene to Graphane Transition Induced by Highly Charged Ion Irradiation"
9:20 – 9:40	O-30 Micaela Fonseca, LIBPhys, Caparica, Portugal,	O-35 Ettore Vittone, University of Torino, Italy,
	"ERYAProfiling: a code for depth profiling of light elements in inhomogeneous samples by PIGE"	"A new protocol to evaluate the charge collection efficiency degradation in semiconductor devices induced by MeV ion beam irradiation"
9:40 – 10:00	O-31 François Schiettekatte, Université de Montréal, Canada,	O-36 Javier Garcia-Lopez, University of Sevilla, Spain,
	"Spectrum simulation of rough and nanostructured targets from their 2D and 3D image by Monte Carlo methods"	"A modified drift-diffusion model for evaluating the carrier lifetimes in radiation-damaged semiconductor detectors"
10:00 – 10:20	O-32 Marija Čargonja, University of Rijeka, Croatia,	O-37 Gyorgy Vizkelethy, Sandia National Laboratories, USA,
	"VIBA-Lab 4.0: Computer program for Simulation and Quantitative analysis of PIXE, XRF and RBS Spectra"	"Determination of recombination radius in Si for Binary Collision Approximation (BCA) codes"
11:00 – 22:00	Conference outing - Istria tour – Motovun & Pula guided tour	

Thursday, June 18, 2015		
	Session 13: Plenary session 3 (Orhideja Hall) Chair: Milko Jakšić	
8:30 – 9:15	PL-5 Peter Bauer, Johannes Kepler University, Linz, Austria, "Quantitative Low Energy Ion Scattering - accomplishments and challenges"	
9:15 – 10:00	PL-6 Lyudmila Goncharova, University of Western Ontario, London, Canada, "High-resolution ion depth profiling: beyond high-k materials"	
10:00 – 10:30	Coffee break (Mimoza I and III Halls)	
	Session 14: Microprobe and Nanoprobe Analysis (Orhideja Hall) Chair: Lucile Beck	Session 15: MEIS, LEIS (Mimoza II Hall) Chair: Lyudmila Goncharova
10:30 – 11:00	I-8 Andrew Bettiol, NUS, Singapore, "Super-resolution imaging with focused MeV ions: Fluorescence and Structural imaging"	I-9 Denis Jalabert – CEA/INAC, Grenoble, France, "MEIS analysis at the nanoscale, advantages/disadvantages versus X-Rays and TEM"
11:00 – 11:20	O-38 Pablo Jobim, Fedral University of Rio Grande do Sul, Brazil, Elemental signature of memory recall	O-41 Sahar Mirzaei, ANU, Australia, "Structural properties of SiGe nanoparticles in LPCVD Si ₃ N ₄ "
11:20 – 11:40	O-39 Claire Pacheco, Centre de Recherche et de Restauration des Musees de France, France, "Towards RBS/EBS mapping at the AGLAE facility: a new implement to apprehend Cultural Heritage materials"	O-42 Victor Alarcon-Diez, Sorbonne Universités, UPMC, CNRS, Paris, France, "IBA analysis of Iron-doped Bi ₂ Se ₃ topological insulator"
11:40 – 12:00	O-40 Iva Božičević Mihalić, RBI, Croatia, "Capabilities of miniature high resolution X-ray spectrometer on ion microprobe"	O-43 Thomas Grehl, ION-TOF GmbH, Münster, Germany, "TRBS modelling of LEIS spectra - fundamentals and applications"
12:00 – 13:30	Lunch (Restaurant Camellia, Grand Hotel 4 opatijska cvijeta)	
	Session 16: New detectors (Orhideja Hall) Chair: Gyorgy Vizkelethy	Session 17: Molecular and chemical imaging (Mimoza II Hall) Chair: Andrew Bettiol
13:30 – 14:00	I-10 Timo Sajavaara, University of Jyväskylä, Finland, "PIXE using large area transition-edge sensor array"	I-11 Katarina Vogel-Mikuš, University of Ljubljana, Slovenia, "Complementing X-ray and MS based techniques in studies of trace elements in biological systems"
14:00 – 14:20	O-44 Tomihiro Kamiya, Japan Atomic Energy Agency, Japan, "Study of diamond membrane detector aiming at highly-efficient and position-sensitive particle"	O-47 Zdravko Siketić, Ruđer Bošković Institute, Zagreb, Croatia, – "Submicron molecular imaging of cells by combined use of MeV SIMS and STIM"

	detection for ion beam applications”	
		Session 18: Ion induced luminescence (Mimoza II Hall) Chair: Andrew Bettiol
14:20 – 14:40	O-45 Daniel Spemann, University of Leipzig, Germany, “Concept of single ion detector for deterministic ion implantation at the nanoscale”	O-48 Zhaohong Mi, CIBA, NUS, Singapore, “Lanthanide-doped nanocrystals as bio-probes for ion beam induced fluorescence imaging”
14:40 – 15:00	O-46 Jan Pallon, University of Lund, Sweden, “Technology steps to fabricate a thin Silicon Carbide membrane based particle detector”	O-49 Diana Bachiller-Perea, Université Paris-Sud, CNRS/IN2P3, France, “Ionoluminescence as a sensor of the defects creation and damage kinetics: application to fused silica”
15:00 – 15:30	Coffee break (Mimoza I and III Halls)	
	Session 19: Materials science (Orhideja Hall) Chair: Pedro L. Grande	Session 20: Energy Applications (Mimoza II Hall) Chair: Tonči Tadić
15:30 – 15:50	O-50 Craig M. Comrie, University of Cape Town, South Africa, “RBS-Channelling analysis into the effect of thermal annealing on GeSn strained layers”	O-55 Elisabetta Carella, CIEMAT – UNED, Spain, “Deuterium behavior in ceramics for Fusion Breeder Blanket after γ -irradiation: a comparison between different characterization techniques”
15:50 – 16:10	O-51 D.Nd. Faye, IPFN, University of Lisbon, Portugal, “Mechanisms of damage formation in AlGaN alloys implanted with Ar and Eu ions”	O-56 Yongqiang Wang, Los Alamos National Laboratory, USA, “Deuterium Retention Studies in Ion Beam Damaged W”
16:10 – 16:30	O-52 Noriaki Toyoda, University of Hyogo, Japan, “Isolated defects created by gas cluster ion impact and their use for templates of carbon nanotube growth”	O-57 Eduardo Alves, IST, Universidade de Lisboa, Portugal, “Total IBA a quantitative tool to study plasma wall interactions”
16:30 – 16:50	O-53 Sergio Costa Miranda, KU Leuven, Belgium, “Rutherford backscattering study of Ni(Pt/Pd)Ge formation on Ge (100)”	O-9 Lucile Beck, JANNUS, France, “Hydrogen behavior in materials after single and triple-beam irradiations characterized by SIMS and μ Raman”
16:50 – 17:10	O-54 Agenor Hentz, Instituto de Física, Universidade Federal do Rio Grande do Sul, Brazil, “Structural changes in quantum dots core-shell CdSe/ZnS by thermal	O-59 Suntharampillai Thevuthasan, Qatar Environment and Energy Research Institute, Qatar Foundation, “In Situ NRA, RBS, XPS and UPS Studies of Hydrogen Diffusion in TiO ₂

	treatment”	Single Crystals”
19:00 – 22:00	Conference banquet - Hotel Royal Ballroom Julien Demarche, University of Surrey, Guilford, UK - “Log-periodicity and the epistemic dynamics of Ion Beam Analysis research” Best Poster Awards Best Manuscript Awards Music: Dino Antonić & 4 Shades, guest: Marijana Varašanec	

Friday, June 19, 2015		
	Session 21: Facilities and Instrumentation (Orhideja Hall) Chair: Hidde Brongersma	
8:30 – 8:50	O-60 Nicolae C. Podaru, HVE, The Netherlands, “Requirements on ion source performance for ion beam analysis”	
8:50 – 9:10	O-61 Andreas Markwitz, GNS Science, New Zealand, “Ion beam analysis of advanced coating products and air particulate matter”	
9:10 – 9:30	O-62 Nemitala Added, University of Sao Paulo, Brazil, “External milibeam imaging applications at LAMFI-USP”	
9:30 – 9:50	O-63 Chaohui Lan, Institute of Fluid Physics, China Academy of Engineering Physics, China, “Ion Component Diagnosis of Metal Hydride Cathode Vacuum Arc Ion Source by Using an in-Cavity Minitype Magnetic Mass Spectrometer”	
9:50 – 10:20	Coffee break (Mimoza I and III Halls)	
	Session 22: Analysis of light elements by IBA (Orhideja Hall) Chair: Michael Kokkoris	
10:20 – 10:40	O-64 William A. Lanford, University at Albany, USA, “Nuclear Reaction Analysis for H, Li, Be, B, C, N, O and F with an RBS Completeness Check”	
10:40 – 11:00	O-65 Masahiro Saito, Toray Research Center, Shiga, Japan, “TOF-ERDA analysis on the effect of water for SEI formation in Li-ion batteries”	
11:00 – 11:20	O-66 Jacek Jagielski, Institute for Electronic Materials Technology, National Centre for Nuclear Research, Poland, “Hydrogen release from irradiated elastomers measured by Nuclear Reaction Analysis”	
11:20 – 11:40	O-67 Manfredo H. Tabacniks, Institute of Physics, University of Sao Paulo, Brazil, “Boron quantification limits using Ion Beam Analysis techniques”	
11:40	Closing remarks	