Zpráva ze služební cesty v ČR

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| Jméno a příjmení účastníka cesty | Jitka Neoralová  |
| Pracoviště – dle organizační struktury | 1.4.1<http://www.icxom24.it/> |
| Pracoviště – zařazení |  Oddělení vývoje a výzkumných laboratoří – výzkumný pracovník |
| Důvod cesty |  **ICXOM24 – 24th International Congress on X-ray Optics and Microanalysis** |
| Místo – město | **Terst** |
| Místo – země | **Itálie** |
| Datum (od-do) | **25. -30. 9. 2017** |
| Podrobný časový harmonogram | 25. 9. 2017 Přílet do Terstu, ubytování26. – 29. 9. 2017 Přednášky, prezentace, exkurze30. 9. 2017 Odlet do Prahy |
| Spolucestující z NK |  |
| Finanční zajištění | IV 139 |
| Cíle cesty |  Účast na mezinárodní konferenci na téma aplikace rentgenových a optických technologií při ochranně kulturního dědictví. Získání nových poznatků v oblasti interdisciplinární spolupráce v oboru péče, ochrany a analýz materiálů kulturního dědictví.Navázání osobních kontaktů se zahraničními odborníky v dané oblasti, spolupráce na společných tématech, sdílení zkušeností. |
| Plnění cílů cesty (konkrétně) | Získání kontaktů na výrobce mapovacího XRF pro zobrazování spodních vrstev např. iluminací, předvedení automatického posunu. Konzultována spolupráce se zahraničními kolegy z Washington and Lee University (Erich Uffelman), University of Anteverp (prof. Koen, Janssens) Technickou univerzitou v Krakově (Pavel Wrobel, Artur Surowka), The Metropolitan Museum of Art (Louisa Smieska), CEITEC Brno (Tomáš Zigmund)a ČVUT v Praze. |
| Program a další podrobnější informace | Viz příloha  |
| Přivezené materiály |  Sborník abstraktů. Letáky dodavatelů analytických přístrojů. K dispozici v OVVL. |
| Datum předložení zprávy | 10. 10. 2017 |
| Podpis předkladatele zprávy | Mgr. Jitka Neoralová |
| Podpis nadřízeného | Datum: | Podpis: Ing. P. Vávrová, Ph.D |
| Vloženo na Intranet | Datum: | Podpis: |
| Přijato v domácím oddělení | Datum: | Podpis: |

**Podrobná zpráva**

Ve dnech 26. – 29. září 2017 se konala v italském Terstu 24. Mezinárodní konference rentgenoskopických technologií a mikroanalýz - ICXOM. Konference ICXOM je mezinárodní sympozium věnovaném vývoji a pokroku v oblasti technologií, přístrojového vybavení, metod a aplikací v oblasti rentgenové mikro- a nanoanalýzy. Konference se konají od roku 1956, kdy byla první ze série pořádána v Cambridge ve Velké Británii. Konference se začaly pořádat v reakci na poptávku odborníků z oborů fyziky, vývojářů technologií a těch, kteří využívají rentgenové mikroskopy a analýzy pomocí elektronových sond. V návaznosti na trendy v posledním desetiletí se konference zaměřila na využití synchrotronového záření. Neopomenut nebyl ani poslední vývoj laboratorních přístrojů na bázi XRF. Vedle mikrorentgenové fluorescence a absorpční spektroskopie byly prezentovány materiálové analýzy a zobrazovací techniky založené na rentgenové difrakci a full-field zobrazování v kombinovaných aplikacích v oblasti výzkum živé přírody, materiálových věd, geologických a environmentálních věd a v neposlední řadě také kulturního dědictví. Přednášky a prezentace se věnovaly těmto tématům: Optické technologie pro mikroanalýzu, skenovací mikroskopie

Zobrazování ve full-field (celoplošné), koherentní difraktivní zobrazování, mikrodifrakce, rentgenová fluorescence, absorpční spektroskopie, analýza dat z vybraných technologií a analýz, detektory. Prezentované aplikace v materiálových analýzách historických materiálů se zabývaly kovovými artefakty, identifikace zlacení, zobrazení vrstev maleb a polychromií či složení minerálních omítek. Součást konference byla odborná exkurze na pracovištích v synchrotronu Elettra a u výrobce speciálních magnetů KYMA Undulators. Kompletní program konference je přiložen na konci tohoto dokumentu.

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| C:\Users\Jita\Pictures\elettra.jpg | C:\Users\Jita\Pictures\kyma.jpg |
| *Mikro XRF v synchrotronu fy Elettra* | *Ukázka výroby speciálních magnetů ve firmě KYMA.* |
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Tuesday, 26 September 2017

**ICXOM24 conference**

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| 08:15 - 08:45 | Registration  |

**Welcome**

*Chair: Alessandra Gianoncelli (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| --- | --- |
| 08:45http://www.icxom24.it/pub/images/da.gif | ***Alfonso Franciosi - Elettra Director and President***Welcome  |
| 09:00http://www.icxom24.it/pub/images/da.gif09:10 | *Zachary Lapin - Associate Editor, Nature Communications*Publishing with Nature Communications  |

**X-ray Microscopy**

*Chair: Maya Kiskinova (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| --- | --- |
| 09:10http://www.icxom24.it/pub/images/da.gif | *Burkhard Kaulich - Diamond Light Source Ltd***I08-SXM: The Scanning X-ray Microscopy Facility at the Diamond Light Source** [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Kaulich_Burkhard-20170525_1011.doc) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Hyunjoon Shin - Pohang Accelerator Laboratory, POSTECH*A scanning soft x-ray microscope in absorption and fluorescence modes at the Pohang Light Source (PLS) [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Shin_HyunJoon-20170322_1032.pdf) |
| 10:10http://www.icxom24.it/pub/images/da.gif | *Yong Chu - Brookhaven National Laboratory*Nanoscale Multimodal Imaging Capability of the Hard X-ray Nanoprobe at the NSLS-II [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Chu_Yong-20170522_0433.doc) |
| 10:30http://www.icxom24.it/pub/images/da.gif10:50 | *Marie-christine Zdora - Diamond Light Source, University College London*X-ray phase-contrast imaging and metrology using periodic and random wavefront modulators [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Zdora_Marie-Christine-20170512_2314.pdf) |
| 10:50http://www.icxom24.it/pub/images/da.gif11:20 | **Conference picture & Coffee break**  |

**X-ray Microscopy and X-ray Fluorescence**

*Chair: Maya Kiskinova (Elettra Sincrotrone Trieste)*

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| --- | --- |
| 11:20http://www.icxom24.it/pub/images/da.gif | *Juergen Thieme (NSLS-II, USA)***X-ray Fluorescence Imaging and Spectroscopy with High Spatial Resolution at NSLS-II**  |
| 12:00http://www.icxom24.it/pub/images/da.gif | *Laurence Lemelle - LGL-TPE, ENS de Lyon*Analytical requirements for quantitative X-ray fluorescence nano-imaging of metal traces in solid samples [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Lemelle_Laurence-20170524_1009.pdf) |
| 12:20http://www.icxom24.it/pub/images/da.gif | *Augusto Marcelli - Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali di Frascati*Focusing and Diffraction Properties of Micro-Channel Plates for Transmitted X-ray Radiation [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-MARCELLI_Augusto-20170525_1534.pdf) |
| 12:40http://www.icxom24.it/pub/images/da.gif13:00 | *Chiara Gramaccioni - Univ. of Cosenza, CNR-Nanotec, Univ. Sapienza, Roma.*Nanotomography and X-Ray Fluorescence Microscopy for quantitative Iron concentration map in inflamed cells [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-gramaccioni_chiara-20170516_1256.pdf) |
| 13:00http://www.icxom24.it/pub/images/da.gif14:50 | Lunch  |

**Detectors**

*Chair: Ralf Menk (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| --- | --- |
| 14:50http://www.icxom24.it/pub/images/da.gif | *Peter Siddons (BNL, USA)***Multi-element Germanium Detectors for Synchrotron Applications**  |
| 15:30http://www.icxom24.it/pub/images/da.gif | *Giovanni Bellotti - Politecnico di Milano and INFN Milano*ARDESIA: 4-Channels Fast SDD X-ray Spectrometer for Synchrotron Applications [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Fiorini_Carlo-20170515_1415.pdf) |
| 15:50http://www.icxom24.it/pub/images/da.gif16:10 | *Shaul Barkan - Hitachi High-Technologies*Seven-Element SDD with Optimized Packing Factor to Reduce Scattering Background [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Barkan_Shaul-20170524_2058.pdf) |
| 16:10http://www.icxom24.it/pub/images/da.gif16:40 | Coffee break  |

**Detectors and Instrumentation**

*Chair: Ralf Menk (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| --- | --- |
| 16:40http://www.icxom24.it/pub/images/da.gif | *Alessandro Migliori - International Atomic Energy Agency*X-ray microanalytical activities at the IAEA Nuclear Science and Instrumentation Laboratory  |
| 17:00http://www.icxom24.it/pub/images/da.gif17:20 | *Arthur Woll - Cornell University*Fast switching between 2D and direct, 3D XRF imaging using Collimating Channel Arrays and the Maia detector [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Woll_Arthur-20170601_2354.pdf) |
| 17:10http://www.icxom24.it/pub/images/da.gif19:00 | **Drinks and Poster Session**  |

Wednesday, 27 September 2017

**ICXOM24 conference**

**Tomography**

*Chair: Gerd Schneider (Helmholtz-Zentrum Berlin, Germany)*

**Room: Oceania ABC**

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| --- | --- |
| 08:30http://www.icxom24.it/pub/images/da.gif | *Marco Di Michiel - ESRF, France***Time resolved X-ray diffraction computed tomography for studying real systems under operando conditions**  |
| 09:10http://www.icxom24.it/pub/images/da.gif | *Emanuel Larsson - Helmholtz-Zentrum Geesthacht, Germany*Evaluation of the XTM setup at the P05 Imaging Beamline at PETRA III using a sample of Nanoporous gold [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Larsson_Emanuel-20170525_2327.pdf) |
| 09:30http://www.icxom24.it/pub/images/da.gif | *Anton Maksimenko - Australian Synchrotron*Extreme Imaging with the synchrotron pink beam [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Maksimenko_Anton-20170508_0514.pdf) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Nicola Viganò - CWI, Netherlands*Inspecting sub-grain level deformation in poly-crystals [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Vigan___Nicola-20170524_1215.pdf) |
| 10:10http://www.icxom24.it/pub/images/da.gif10:30 | *Anton Davydock - Helmholtz-Zentrum Geesthacht, Germany*P03 nanofocus end-station for material science [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Davydok_Anton-20170524_1035.pdf) |

**X-ray Optics**

*Chair: François Polack (Soleil, Paris, France)*

**Room: Vulcania I**

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| 08:30http://www.icxom24.it/pub/images/da.gif | *Christian David - PSI, Switzerland***Diffractive X-ray Optics for Synchrotrons and Free Electron Lasers**  |
| 09:10http://www.icxom24.it/pub/images/da.gif | *Pavel Dudin - Diamond Ltd, UK*Fresnel zone plates for nanoARPES [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Dudin_Pavel-20170515_1311.docx) |
| 09:30http://www.icxom24.it/pub/images/da.gif | *Jakob Soltau - Institute for X-Ray Physics, Goettingen, Germany*Imaging with Nanometer Resolution from 8 to 100 keV using Multilayer Zone Plates (MZP) [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Soltau_Jakob-20170512_1004.pdf) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Evgeny Nazaretski - NSLS-II, USA*Fabrication and characterization of monolithic multilayer Laue lens nanofocusing optics for hard x-ray microscopy [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Nazaretski_Evgeny_-20170512_1547.doc) |
| 10:10http://www.icxom24.it/pub/images/da.gif10:30 | *Anatoly Snigirev - Immanuel Kant Baltic Federal university, Russia*Development of X-ray refractive optics for new diffraction limited X-ray sources [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Snigirev_Anatoly-20170515_2004.pdf) |
| 10:30http://www.icxom24.it/pub/images/da.gif11:00 | Coffee break  |

**Tomography and Materials Science**

*Chair: Lucia Mancini (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| 11:00http://www.icxom24.it/pub/images/da.gif | *Andrea Sorrentino - ALBA Light Source, Spain*Visualizing batteries discharge products at Mistral [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Sorrentino_Andrea-20170516_0933.pdf) |
| 11:20http://www.icxom24.it/pub/images/da.gif | *Luigi Allocca - Istituto Motori - C.N.R., Italy*3-D structure of a gasoline spray by polycapillary X-ray micro-tomography [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Allocca_Luigi-20170524_1602.docx) |
| 11:40http://www.icxom24.it/pub/images/da.gif | *Samuel Flewett - Pontificia Universidad Católica de Valparaíso, Chile*Three-dimensional characterization of magnetic multilayer thin films using resonant soft X-ray scattering [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Flewett_Samuel-20170525_2256.pdf) |
| 12:00http://www.icxom24.it/pub/images/da.gif12:20 | *Irina Snigireva - ESRF, France*Hard X-ray in-situ full-field microscopy for material science  |

**Data Analysis for XRF and CT**

*Chair: Chris Ryan (CSIRO, Australia)*

**Room: Vulcania I**

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| 11:00http://www.icxom24.it/pub/images/da.gif | *Martin De Jonge - Australian Synchrotron, Australia*Fully-fractionated microprobe analysis [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-de_Jonge_Martin-20170503_1302.pdf) |
| 11:20http://www.icxom24.it/pub/images/da.gif | *Matthias Alfeld - Sorbonne Universités, UPMC Univ Paris 06, CNRS, LAMS, France*Matrix Factorization for the near real time analysis of XRF imaging data [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Alfeld_Matthias-20170523_1543.pdf) |
| 11:40http://www.icxom24.it/pub/images/da.gif | *Mirna Lerotic - 2nd Look Consulting, Croatia*Analyzing 4D Tomographic X-Ray Spectromicroscopy Data with Mantis [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Lerotic_Mirna-20170524_0843.pdf) |
| 12:00http://www.icxom24.it/pub/images/da.gif12:20 | *Rongchang Chen - Shanghai Institute of Applied Physics, CAS, China*Monochromatic beam based quantitative dynamic micro computed tomography [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Chen_Rongchang-20170525_1449.doc) |
| 12:20http://www.icxom24.it/pub/images/da.gif14:00 | Lunch  |
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**Detectors and Instrumentation**

*Chair: Peter Siddons (BNL, USA)*

**Room: Oceania ABC**

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| 14:00http://www.icxom24.it/pub/images/da.gif | *Anna Bergamaschi - PSI, Switzerland***Advances in hybrid pixel detectors for photon science** [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Bergamaschi_Anna-20170920_1525.pdf) |
| 14:40http://www.icxom24.it/pub/images/da.gif | *Stefan Brandstetter - Dectris Ltd, Switzerland*EIGER and PILATUS3 CdTe detector systems for advanced X-ray studies [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Brandstetter_Stefan-20170524_1839.docx) |
| 15:00http://www.icxom24.it/pub/images/da.gif | *Chris Ryan - CSIRO, Australia*Maia Mapper: High definition XRF imaging in the lab [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Ryan_Chris-20170525_0632.pdf) |
| 15:20http://www.icxom24.it/pub/images/da.gif | *Jeffrey Davis - PNDetector*High Speed, Simultaneous XRD-XRF Mapping [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Davis_Jeffrey-20170524_1109.doc) |
| 15:40http://www.icxom24.it/pub/images/da.gif | *Benedikt Günther - Chair of Biomedical Physics, TUM; Max-Plank-Institute of Quantum Optics, Germany*The Munich Compact Light Source: Performance upgrades and biomedical research [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Guenther_Benedikt-20170512_1546.pdf) |
| 16:00http://www.icxom24.it/pub/images/da.gif | *Robert Mroczka - The John Paul II Catholic University of Lublin, Poland*Micro-X-Ray fluorescence spectrometer with X-ray single bounce gold capillary optics for light element analysis [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Mroczka_Robert-20170525_1320.pdf) |
| 16:20http://www.icxom24.it/pub/images/da.gif16:40 | *Dariush Hampai - INFN - LNF, Italy*Volume Elemental Mapping in Confocal Geometry for Spectroscopy Studies of Biological Samples [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Hampai_Dariush-20170523_1614.doc) |

**Ptychography and Phase Contrast**

*Chair: Georgios Kourousias (Elettra Sincrotrone Trieste)*

**Room: Vulcania I**

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| 14:00http://www.icxom24.it/pub/images/da.gif | *Michael Jones - Queensland University of Technology, Brisbane, Australia***Is the future bright for simultaneous X-ray ptychography and fluorescence microscopy?**  |
| 14:40http://www.icxom24.it/pub/images/da.gif | *Bjoern Enders - Advanced Light Source, Lawrence Berkeley National Laboratory, USA*Higher dimensional ptychography at the ALS [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Enders_Bjoern-20170525_2206.pdf) |
| 15:00http://www.icxom24.it/pub/images/da.gif | *Jan Garrevoet - DESY, Germany*Simultaneous XRF and Ptychographic imaging of FCC Particles [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Garrevoet_Jan-20170525_1155.pdf) |
| 15:20http://www.icxom24.it/pub/images/da.gif | *Qing Wu - Bern University of the Arts, Switzerland*Understanding the structure and aging of Zwischgold [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Wu_Qing-20170514_1346.pdf) |
| 15:40http://www.icxom24.it/pub/images/da.gif | *Margie Olbinado - European Synchrotron Radiation Facility, France*Ultra high-speed X-ray phase-contrast imaging using single-pulse synchrotron radiation [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Olbinado_Margie-20170412_1055.pdf) |
| 16:00http://www.icxom24.it/pub/images/da.gif16:40 | *Juliane Reinhardt - DESY, Germany & Australian Synchrotron***(Resonant) Hard X-ray Ptychography for High-Sensitivity Imaging with Chemical Contrast**  |
| 17:10http://www.icxom24.it/pub/images/da.gif19:00 | **Coffee break and Poster Session**  |

Thursday, 28 September 2017

**ICXOM24 conference**

**Life Sciences**

*Chair: Gerald Falkenberg (DESY, Germany)*

**Room: Oceania ABC**

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| 08:30http://www.icxom24.it/pub/images/da.gif | *Lorella Pascolo - University of Trieste, Trieste, Italy***Elemental imaging at micro and nanoscale in toxicology research: from occupational diseases to reproductive medicines**  |
| 09:10http://www.icxom24.it/pub/images/da.gif | *Maria Grzelak - AGH University of Science and Technology in Cracow, Poland*X-ray fluorescence imaging as a tool for recognition of different types of the ovarian cancer tissues [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Grzelak_Maria-20170525_1707.doc) |
| 09:30http://www.icxom24.it/pub/images/da.gif | *Erika Sales - Rio de Janeiro State University, Brazil*Characterization of cortical bone demineralization by X-ray-based techniques: A micro and nano scale study [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Sales_Erika-20170525_2026.pdf) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Gert Nuyts - University of Antwerp, Belgium*X-ray based micro- and nanoimaging of nanoparticles in exposed biota [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Nuyts_Gert-20170602_1056.pdf) |
| 10:10http://www.icxom24.it/pub/images/da.gif10:30 | *Carlo Meneghini - La Sapienza University, Rome, Italy*Investigating differences in Nanoscale distribution of trace metals in biominerals [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-de_giudici_giovanni-20170515_1744.docx) |

**X-ray Optics and FEL**

*Chair: Marco Zangrando (Elettra Sincrotrone Trieste)*

**Room: Vulcania I**

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| 08:30http://www.icxom24.it/pub/images/da.gif | *François Polack - Soleil, Paris, France***X-ray optics, state of the art and current issues**  |
| 09:10http://www.icxom24.it/pub/images/da.gif | *May Ling Ng - SLAC, Stanford University, USA*Stitching capabilities at the LCLS Metrology Laboratory [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Ng_May_Ling-20170601_1955.docx) |
| 09:30http://www.icxom24.it/pub/images/da.gif | *Angel Rodriguez Fernandez - Paul Scherrer Institut, Switzerland*Diagnostic of Forward Bragg Diffraction Hard X-ray beams for Self-Seeding applications SwissFEL [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Rodriguez_Fernandez_Angel-20170602_1601.pdf) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Mikhail Lyubomirskiy - DESY, Germany*Hard X-ray interferometers fabricated by Si planar technologies [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Lyubomirskiy_Mikhail-20170515_1746.pdf) |
| 10:10http://www.icxom24.it/pub/images/da.gif10:30 | *Simone Sala - University College London, UK*Wavefront sensing using ptychography at FELs [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Sala_Simone-20170516_1641.pdf) |
| 10:30http://www.icxom24.it/pub/images/da.gif11:00 | Coffee break  |

**Life Sciences and Environment**

*Chair: Lorella Pascolo (University of Trieste, Trieste, Italy)*

**Room: Oceania ABC**

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| 11:00http://www.icxom24.it/pub/images/da.gif | *Katarina Vogel Mikuš - University of Ljubljana and Joseph Stefan Institute, Slovenia***Imaging of chemical composition in plant tissues: revealing physiological mechanisms to improve food quality and safety**  |
| 11:40http://www.icxom24.it/pub/images/da.gif | *Zou Finfrock - Canadian Light Source Inc.*Confocal X-Ray Fluorescence Microscopy at the Advanced Photon Source Sector 20 [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Finfrock_Zou-20170413_2133.doc) |
| 12:00http://www.icxom24.it/pub/images/da.gif | *Christopher Heirwegh - Jet Propulsion Laboratory, California Institute of Technology*A first look at the quantification capabilities of the prototype Mars 2020 Planetary Instrument for X-ray Lithochemistry [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Heirwegh_Christopher-20170524_1729.pdf) |
| 12:20http://www.icxom24.it/pub/images/da.gif12:40 | *Alexandre Simionovici - ISTerre, Univ. Grenoble Alpes*QESA - Quarantine Extraterrestrial Sample Analyses: methodology and setup [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Simionovici_Alexandre-20170906_1210.pdf) |

**X-ray Optics and FEL**

*Chair: Christian David (PSI, Switzerland)*

**Room: Vulcania I**

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| 11:00http://www.icxom24.it/pub/images/da.gif | *Alexander Firsov - Helmholtz Zentrum Berlin, Germany*Diffractive/Reflection optical elements. From Bragg reflection to total external reflection [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Firsov_Alexander-20170414_1000.pdf) |
| 11:20http://www.icxom24.it/pub/images/da.gif | *Corey Hardin - SLAC National Accelerator Laboratory, USA*Wavefront preserving mirrors at LCLS [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Hardin_Corey-20170601_2011.docx) |
| 11:40http://www.icxom24.it/pub/images/da.gif | *Kazushi Sumitani - Japan Synchrotron Radiation Research Institute*Development of kinoform lenses made of quartz for microbeam X-ray diffraction [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Sumitani_Kazushi-20170525_0747.pdf) |
| 12:00http://www.icxom24.it/pub/images/da.gif | *Jörn Volkher Wochnowski - Professor at the University of Applied Sciences Luebeck*Coated Hollow Capillaries as X-Ray Optics [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Wochnowski_J__rn_Volkher-20170514_1850.pdf) |
| 12:20http://www.icxom24.it/pub/images/da.gif12:40 | *Elisa Kornemann - Karlsruhe Institute of Technology*Miniaturized X-ray zoom lens [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Kornemann_Elisa-20170512_0959.pdf) |
| 12:40http://www.icxom24.it/pub/images/da.gif | Lunch  |

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**Optics system**

*Chair: Ralf Menk (Elettra Sincrotrone Trieste)*

**Room: Vulcania I**

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| 14:15http://www.icxom24.it/pub/images/da.gif | *Jared Sachs - XOS*Optimized High Energy Performance of Polycapillary Optics for µXRF Analysis [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Sachs_Jared-20170601_1622.pdf) |
| 14:30http://www.icxom24.it/pub/images/da.gif | *Malcolm Lindqvist - Excillum AB, Sweden*Polycapillary Optic for Liquid-Metal-Jet X-Ray Tubes [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Lindqvist_Malcolm-20170512_1449.pdf) |
| 14:45http://www.icxom24.it/pub/images/da.gif | *Luca Peverini - Thales SESO SAS*Optimized High Energy Performance of Polycapillary Optics for µXRF Analysis [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-PEVERINI_Luca_-20170515_1623.doc) |
| 15:00http://www.icxom24.it/pub/images/da.gif | **Visit to Elettra and Kyma**  |

Friday, 29 September 2017

**ICXOM24 conference**

**Full-field and tomography**

*Chair: Juergen Thieme (NSLS-II, USA)*

**Room: Oceania ABC**

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| 08:30http://www.icxom24.it/pub/images/da.gif | *Gerd Schneider - Helmholtz-Zentrum Berlin, Germany***Nanoscale spectroscopy and tomography with the HZB full-field transmission X-ray microscope**  |
| 09:10http://www.icxom24.it/pub/images/da.gif | *Fabio Alessio Vittoria - University College London, UK*Beam tracking phase tomography with laboratory sources [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Vittoria_Fabio_Alessio-20170509_1704.pdf) |
| 09:30http://www.icxom24.it/pub/images/da.gif | *Tomas Zikmund - CEITEC BUT, Brno University of Technology*Comparison of CCD and sCMOS Detector for Sub-micron Resolution in Lab-based X-ray Computed Tomography [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Zikmund_Tomas-20170525_0812.docx) |
| 09:50http://www.icxom24.it/pub/images/da.gif | *Phil Cook, ESRF, France*X-rays, microscopy, and rock and roll [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Cook_Phil_-20170523_1712.pdf) |
| 10:10http://www.icxom24.it/pub/images/da.gif10:30 | *Pawel Wrobel - AGH University of Science and Technology in Cracow*The Full-Field XRF Imaging System For Investigation Of Paintings [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Wrobel_Pawel-20170525_1007.docx) |
| 10:30http://www.icxom24.it/pub/images/da.gif11:00 | Coffee break  |

**Cultural Heritage**

*Chair: Franco Zanini (Elettra Sincrotrone Trieste)*

**Room: Oceania ABC**

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| 11:00http://www.icxom24.it/pub/images/da.gif | *Loic Bertrand - IPANEMA CNRS MCC UVSQ MNHN*Discrimination of organic compounds in ancient and historical materials with in situ synchrotron-based X -Ray Raman scattering [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Bertrand_Loic-20170504_1924.pdf) |
| 11:20http://www.icxom24.it/pub/images/da.gif | *Paula Allegro - Institute of Physics, University of São Paulo*Monte Carlo simulation and EDXRF analysis of the pigments used in “Natura Morta” (1946) by Mario Mafai [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Allegro_Paula_-20170601_1947.pdf) |
| 11:40http://www.icxom24.it/pub/images/da.gif | *Wantana Klysubun - Synchrotron Light Research Institute*Synchrotron XRF/XAS Applications on Heritage glasses in Thailand [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Klysubun_Wantana-20170605_1105.docx) |
| 12:00http://www.icxom24.it/pub/images/da.gif | *Martin Radtke - Bundesanstalt für Materialforschung und –prüfung (BAM)*The Bernstorf Gold u2013 A Challenge to the Flexibility of SRXRF [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Radtke_Martin-20170515_1406.pdf) |
| 12:20http://www.icxom24.it/pub/images/da.gif12:40 | *Karen Cloete - iThemba Laboratory for Accelerator Based Sciences, National Research Foundation*In-air PIXE, MeV-SIMS, and DAPNe-MS: a multidimensional analytical approach for unlocking chemical information in scalp hair [Abstract](http://www.icxom24.it/uploads/abstracts/abstract-ICXOM24-Cloete_Karen-20170515_0351.doc) |

**Room: Oceania ABC**

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| 12:40http://www.icxom24.it/pub/images/da.gif13:00 | *Alessandra Gianoncelli (Elettra Sincrotrone Trieste)***Concluding remarks**  |

**Confirmed Invited Speakers**

The following scientists have already agreed to give invited talks:

Anna Bergamaschi (*PSI, Switzerland*) - [**Advances in hybrid pixel detectors for photon science**](http://www.icxom24.it/uploads/Main/Bergamaschi_ICXOM24.pdf) 

Christian David (*PSI, Switzerland*) - [**Diffractive X-ray Optics for Synchrotrons and Free Electron Lasers**](http://www.icxom24.it/uploads/Main/David) 

Burkhard Kaulich (*Diamond Light Source, UK*) - [**I08-SXM: The Scanning X-ray Microscopy Facility at the Diamond Light Source**](http://www.icxom24.it/uploads/Main/ICXOM24-Kaulich.pdf) 

Marco di Michiel (*ESRF, France*) - [**Time resolved X-ray diffraction computed tomography for studying real systems under operando conditions**](http://www.icxom24.it/uploads/Main/DiMichiel.pdf) 

Lorella Pascolo (*University of Trieste, Trieste, Italy*) - [**Elemental imaging at micro and nanoscale in toxicology research: from occupational diseases to reproductive medicines**](http://www.icxom24.it/uploads/Main/ICXOM24_pascolo.pdf) '

François Polack (*Soleil, Paris, France*) - [**X-ray optics, state of the art and current issues**](http://www.icxom24.it/uploads/Main/Polack.pdf) 

Juliane Reinhardt (*DESY, Germany*) - [**(Resonant) Hard X-ray Ptychography for High-Sensitivity Imaging with Chemical Contrast**](http://www.icxom24.it/uploads/Main/JReinhardt_ICXOM.pdf) 

Gerd Schneider (*Helmholtz-Zentrum Berlin, Germany*) - [**Nanoscale spectroscopy and tomography with the HZB full-field transmission X-ray microscope**](http://www.icxom24.it/uploads/Main/Gerd.pdf) 

Pete Siddons (*BNL, USA*) - [**Multi-element Germanium Detectors for Synchrotron Applications**](http://www.icxom24.it/uploads/Main/Siddons.pdf) 

Juergen Thieme (*NSLS-II, USA*) - [**X-ray Fluorescence Imaging and Spectroscopy with High Spatial Resolution at NSLS-II**](http://www.icxom24.it/uploads/Main/ICXOM_Thieme.pdf) 

Michael Jones (*Queensland University of Technology, Brisbane, Australia*) - [**Is the future bright for simultaneous X-ray ptychography and fluorescence microscopy?**](http://www.icxom24.it/uploads/Main/ICXOM_Jones.pdf) 

Katarina Vogel Mikuš (*University of Ljubljana and Joseph Stefan Institute, Slovenia*) - [**Imaging of chemical composition in plant tissues: revealing physiological mechanisms to improve food quality and safety**](http://www.icxom24.it/uploads/Main/Vogel-Mikus.pdf) 