



14th Biennial Conference on High Resolution X-Ray Diffraction and Imaging

XTOP 2018

3rd – 7th September 2018
Bari, Italy

XTOP 2018 – Program

Sunday September 2nd – School Opening

17:00-19:00	Registration
20:00-22:00	School Welcome party

Monday September 3rd

08:00 – 09:00	Registration
09:00	SCHOOL OPENING
Chair: Till Metzger, <i>Max Planck Institute of Colloids and Interfaces Potsdam</i>	
09:00 – 10:00	School Tutorial 1 Ulli Pietsch , <i>University of Siegen</i> “X-ray diffraction in nanoscience”
10:00 – 11:00	School Tutorial 2 Tilo Baumbach , <i>KIT, Karlsruhe</i> “Full Field Imaging methods”
11:00 - 11:30	Break
Chair: Dritan Siliqi, <i>Institute of Crystallography CNR</i>	
11:30 – 12:30	School Tutorial 3 Oliver Bunk , <i>PSI, Villigen</i> “Scanning Imaging methods”
12:30 – 13:30	School Tutorial 4 Gerardina Carbone , <i>MAX IV, Lund</i> “Recent synchrotron radiation sources”
13:30 – 15:30	Lunch
Chair: Cinzia Giannini, <i>Institute of Crystallography CNR</i>	
15:30 – 16:30	School Tutorial 5 Gilles Renaud , <i>Univ. Grenoble Alpes</i> “X-ray surface science methods”

16:30 – 17:30	School Tutorial 6 Vladimir Kaganer , <i>Paul-Drude-Institut für Festkörperelektronik, Berlin</i> <i>“X-ray scattering from imperfect crystals”</i>
20:00-22:00	Conference Welcome Party

Tuesday September 4th – Conference Opening

09:00 - 10:45	Session 1: Imaging I / Full Field Microscopy Chairs: Tilo Baumbach, <i>KIT, Karlsruhe</i> Ullrich Pietsch, <i>Siegen University</i>
09:00 - 09:45	Keynote Peter Cloetens , ESRF, Grenoble <i>“A journey is space and time using X-ray full field microscopy”</i>
09:45 - 10:00	Jörg Grenzer , Helmholtz-Zentrum Dresden-Rossendorf, Dresden <i>“Ultra-High-Speed X-Ray Imaging Of Laser Driven Processes Using Synchrotron Light”</i>
10:00 - 10:15	Yishay Klein , Phys. Depart. and Institute of Nanotechnology and Advanced Materials, Bar Ilan University, Israel <i>“X-Ray Computational Ghost Imaging With A Single Pixel Detector”</i>
10:15 - 10:30	Mathias Kಾಗias , Institute of Biomedical Engineering, ETH Zurich and SLS <i>“Simultaneous Real And Reciprocal Space Imaging”</i>
10:30 - 10:45	Francesco De Carlo , Advanced Photon Source , Argonne National Laboratory <i>“X-Ray Imaging Of Dynamic Systems”</i>
10:45 - 11:15	Break
11:15-13:00	Session 2: Imaging II / Microscopy in scanning mode Chairs: Oliver Bunk, <i>PSI, Villigen</i> Carlo Lamberti, <i>Università di Torino</i>
11:15-12:00	Keynote Marianne Liebi , Chalmers University of Technology, Göteborg, Sweden and MAX IV Laboratory <i>“Scanning Small-Angle X-ray Scattering from 2D to 3D”</i>
12:00-12:15	Klaus Wakonig , PSI Villigen and ETH Zurich <i>“X-Ray Fourier Ptychography”</i>
12:15-12:30	Tiago Ramos , Technical University of Denmark <i>“Combined phase and tomographic reconstruction of scanning coherent diffraction patterns”</i>

12:30-12:45	Davide Altamura , CNR-IC, Bari <i>"Table-Top Scanning SAXS/WAXS Microscopy Of Engineered Nano/Bio-Materials"</i>
12:45-13:00	Arman Davtyan , Faculty of Science and Eng., Univ. of Siegen <i>"2D Ptychography From Semiconductor Nanowires"</i>
13:00-15:00	Lunch
15:00-17:45	Session 3: Probing matter with coherent X-rays Chairs: Vaclav Holy, <i>CEITEC, Brno</i> Cinzia Giannini, <i>CNR-IC, Bari</i>
15:00 - 15:45	Keynote Ana Diaz , PSI, Villigen <i>"X-ray imaging with coherent X-rays"</i>
15:45-16:00	Ian Robinson , London Center of Nanotechnology <i>"Imaging Domain Structures In Strongly Correlated Oxide Crystals"</i>
16:00-16:30	Industrial clips
16:00-16:15	Emil Espes (Excillum) <i>"Liquid-MetalJet And Ultra High Resolution X-Ray Tube Technology For X-Ray Imaging And Microscopy Applications"</i>
16:15-16:30	Alex Ulyanenkov (Atomicus) <i>"Atomicus: analytical software for high-tech and scientific applications"</i>
16:30 - 17:00	Break
17:05-17:25	Florian Lauraux , Aix-Marseille Univ., Univ. de Toulon, CNRS <i>"In Situ Nano-Indentation of Single Au Nano Crystals In combination with Bragg Coherent Diffraction Imaging"</i>
17:25-17:45	Denis Bodorin , Phys. Depart. and Institute of Nanotechnology and Advanced Materials, Bar Ilan University, Israel <i>"Evidence For Collective Non Linear Interactions In X-Ray Into Ultraviolet Parametric Down Conversion"</i>
17:45-19:45	POSTER SESSION

Wednesday September 5th

09:00 - 10:45	Session 4: New Generation sources Chairs: Ivan Vartaniants, <i>DESY, Hamburg</i> Gerardina Carbone, <i>MAX IV, Lund</i>
09:00 - 09:45	Keynote Pantaleo Raimondi , ESRF, Grenoble <i>"Status update of the ESRF's Extremely Brilliant Source project to design and build a low-emittance, high-brilliance storage ring, opening up new horizons for accelerator science"</i>
09:45 - 10:00	Helio Tolentino , LNLS, Campinas <i>"The Coherent X-Ray Nanoprobe Beamline (Carnaúba) At The Sirius-LNLS Source"</i>
10:00-10:15	Andreas Galler , European XFEL <i>"The Femtosecond X-Ray Experiments (FXE) Instrument: Exploring The Ultrafast"</i>
10:15-10:30	Ruxandra Cojocaru , ESRF, Grenoble <i>"A Speckle-Based Method For Hard X-Ray Pulse Wavefront Characterization"</i>
10:30-10:45	Sergey Lazarev , Deutsches Elektronen-Synchrotron DESY <i>"Structural changes in a single GaN nanowire under applied voltage bias"</i>
10:45 - 11:15	Break
11:15-13:00	Session 5: Theory: high throughput computing, phase retrieval, statistical approaches Chairs: Robert Feidenhans'l, <i>European XFEL</i> Dritan Siliqi, <i>CNR-IC, Bari</i>
11:15-12:00	Keynote Stefano Marchesini - Lawrence Livermore National Lab.- USA <i>"High Throughput Phase Retrieval"</i>
12:00-12:15	Giovanni Fevola , Technical University of Denmark <i>"Monte Carlo ray tracing of scanning coherent diffraction imaging"</i>
12:15-12:30	Zirui Gao , PSI Villigen and ETH Zurich <i>"High Speed SAXS Tensor Tomography Via Novel Iterative Reconstruction Tensor Tomography (IRTT) Algorithm"</i>
12:30-12:45	Alessandro Colombo , Università degli Studi di Milano <i>"Memetic Phase Retrieval For Coherent Diffraction Imaging"</i>
12:45-13:00	Michal Odstreil , PSI, Villigen <i>"Improved Reconstruction Methods For High Resolution Ptycho-Tomography"</i>
13:00-15:00	Lunch
16:00-20:00	VISITING TOUR

Thursday September 6th

<p>09:00 - 10:45</p>	<p>Session 6: X-ray scattering from imperfect crystals Chairs: Vladimir Kaganer, <i>Paul Drude Institut für Festkörperelektronik, Berlin</i> Till Metzger, <i>ex Max Planck Institute of Colloids and Interfaces Potsdam</i></p>
<p>09:00 - 09:45</p>	<p>Keynote Andrei Benediktovitch, Belarusian State University <i>X-ray diffraction from imperfect crystals: theoretical approaches applied to laboratory measurements</i></p>
<p>09:45 - 10:00</p>	<p>Lutz Kirste, Fraunhofer Institute for Applied Solid State Physics (IAF), Freiburg <i>“Defect Structure Analysis Of GaN Substrates: From Laboratory To Synchrotron X-Ray Diffraction Techniques”</i></p>
<p>10:00-10:15</p>	<p>Arturas Vailionis, Geballe Laboratory for Advanced Materials, Stanford University <i>“Tuning Interfacial Ferromagnetism Via Crystallographic Symmetry Mismatch”</i></p>
<p>10:15-10:30</p>	<p>Philipp Schrot, Institute for Photon Science and Synchrotron Radiation, KIT, Karlsruhe <i>“Structural Characterization Of regular Arrays Of self-Catalyzed GaAs Nanowires By X-Ray Diffraction”</i></p>
<p>10:30 – 10:45</p>	<p>Vaclav Holy, CEITEC, Masaryk University & Faculty of Math. and Phys., Charles University <i>“Diffuse X-Ray Scattering from Local Chemical Inhomogeneities in InGaN Epitaxial Layers”</i></p>
<p>10:45 - 11:15 Break</p>	
<p>11:15-13:00</p>	<p>Session 7: Strain analysis and mechanical properties Chairs: Olivier Thomas, <i>Aix Marseille Université, CNRS, IM2NP</i> Brian Tanner, <i>Durham University</i></p>
<p>11:15-12:00</p>	<p>Keynote Henning Friis Poulsen, Depart. of Phys., Lyngby, Denmark <i>“X-ray diffraction microscopy”</i></p>
<p>12:00-12:20</p>	<p>Daniel Hänschke, Institute for Photon Science and Synchrotron Radiation (IPS), KIT, Karlsruhe <i>“3D Characterization Of Crystal Defects By X-Ray Diffraction Laminography: Status and Prospects”</i></p>
<p>12:20-12:40</p>	<p>Mariana Verezhak, PSI, Villigen <i>“Strain Field In Deformed InSb Micropillars Revealed By In-Situ Laue Microdiffraction and Post-Mortem Ptychographic Topography”</i></p>

12:40-13:00	Nikita Marchenkov , Federal Scientific Research Centre “Crystallography and Photonics” of Russian Academy of Sciences, Moscow, Russia <i>“Time-Resolved X-Ray diffraction for investigation of effects induced in non-centrosymmetric crystals by external electric field”</i>
12:40-13:00	Dorian Ziss , Inst. of Semiconductor and Solid State Physics, Johannes Kepler University Linz <i>“Determine The Lattice Parameters Of Hexagonal Si-Ge, Realized In Core-Shell-Shell Nanowires”</i>
13:00-15:00	Lunch
15:00-17:30	Session 8: Industrial Applications with X-ray diffraction Chairs: Fabia Gozzo, <i>Excelsus Structural Solutions, Belgium & Switzerland</i> Peter Zaumseil, <i>IHP Microelectronics, Frankfurt (Oder)</i> Alex Ulyanenko, <i>Atomicus GmbH, Karlsruhe</i>
15:00 - 15:30	Keynote Maxim Myronov , Warwick University, UK <i>“X-ray diffraction from advanced epitaxial group-IV semiconductor structures”</i>
15:30-16:00	Keynote Erik Mejdal Lauridsen , Xnovo technology <i>“Nondestructive Materials Characterization in 3D by Laboratory Diffraction Contrast Tomography – Applications and Future Directions”</i>
16:00-16:30	Industrial Clips
16:00-16:15	Zhaohui Bao (Malvern Panalytical) <i>“Recent Developments For Analysis Of Advanced Materials With A Lab X-Ray Diffraction System”</i>
16:15-16:30	Artem Shalimov (Rigaku) <i>“New Generation Of SmartLab Multipurpose XRD System From Rigaku”</i>
16:30-17:00	Break
17:00-17:30	Keynote Raj Suryanarayanan , University of Minnesota Pharmaceutical <i>“Applications of Powder X-ray diffractometry”</i>
17:30-19:45	POSTER SESSION
20:00-23:30	CONFERENCE DINNER
20:30-21:00	Keynote Robert Feidenhans'l European XFEL, Schenefeld, Germany <i>“The European XFEL – a powerhouse for new X-ray Science”</i>

Friday September 7th

<p>09:00 - 10:45</p>	<p>Session 9: In-situ and operando experiments I Chairs: Vaclav Holy, <i>CEITEC, Brno</i> Andrea Di Cicco, <i>Università di Camerino</i></p>
<p>09:00 - 09:45</p>	<p>Keynote Marie-Ingrid Richard, Institut Matériaux Microélectronique et Nanosciences de Provence <i>"In Situ & Operando X-Ray Investigation of Single Nanoparticles"</i></p>
<p>09:45 - 10:00</p>	<p>Brian Tanner, Department of Physics, Durham University <i>"In-Operando X-Ray Diffraction Imaging Of Fully Packaged Silicon Power Devices"</i></p>
<p>10:00-10:15</p>	<p>Rocco Caliendo, CNR-IC, Bari <i>"Multivariate Analysis For In Situ Characterization Of Structural Dynamic"</i></p>
<p>10:15-10:30</p>	<p>Jesper Wallentin, Synchrotron radiation research and NanoLund, Lund University <i>"Nanoscale X-Ray Imaging Of Carrier Collection In Solar Cells"</i></p>
<p>10:30-10:45</p>	<p>Julian Moosmann, Institute of Materials Research, Helmholtz-Zentrum Geesthacht (HZG) <i>"In Situ Tomography Of Biodegradable Implants In Bone Under Mechanical Load"</i></p>
<p>10:45 - 11:15</p>	<p>Break</p>
<p>11:15-13:00</p>	<p>Session 10: In-situ and operando experiments II Chairs: Petr Mikulik, <i>CEITEC, Brno</i> Gilles Renaud, <i>Univ. Grenoble Alpes</i></p>
<p>11:15-12:00</p>	<p>Keynote Tao Zhou, ESRF, Grenoble <i>Grazing Incidence X-ray Scattering and Full Field Diffraction X-ray Microscopy for in situ and operando studies</i></p>
<p>12:00-12:15</p>	<p>Mikhail Shipilin, Division of Chemical Physics, Stockholm University & DESY <i>"In Operando High-Energy Surface X-Ray Diffraction (HESXRD) Studies Of Pd Model Catalysts For Co Oxidation Under Semi-Realistic Reaction Conditions"</i></p>
<p>12:15-12:30</p>	<p>Julian Jakob, Laboratory for Application of Synchrotron Radiation, KIT, Karlsruhe <i>"GaAs NW During The Nucleation Stage Studied By Simultaneous Time-Resolved In Situ XRD And RHEED"</i></p>
<p>12:30-12:45</p>	<p>Olivier Thomas, Aix-Marseille Université, Université de Toulon, CNRS <i>"Combined In Situ X-Ray Synchrotron Measurements For Investigating Amorphous-To-Crystal Transition In Thin GeTe"</i></p>

	<i>Film</i>
12:45 – 13:00	Anton V. Targonskiy , Shubnikov Institute of Crystallography of Federal Scientific Research Centre “Crystallography and Photonics” of Russian Academy of Sciences <i>“X-Ray Acoustooptics Based On Longwave Ultrasound: Current State And Prospects”</i>
13:00-13:30	Conference closing, poster prizes
13:30-15:30	Lunch