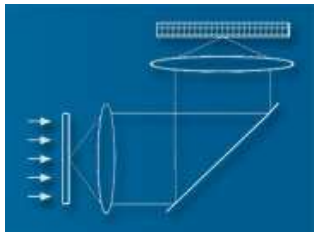
Workshop on X-Ray Micro Imaging of Materials, Devices, and Organisms
22-24 October 2008 Dresden, Germany



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Program

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Registration starts on Tuesday, 21 October at 16:00-19:00 and continues on Wednesday, 22 October at 07:30- 08:30.
The registration office is in Artotel.

All speakers are asked to give their presentations in electronic form as early as possible to the registration officers, in order to avoid technical problems which might occure during their talks.

Program: Oral Sessions

Wednesday, 22.10.08

08:30-10:30	**Plenary Session I - Methods & Instrumentation (Section: Radioscopy and Computed Tomography)**			
08:30-9:00	Welcoming and Introduction			Chair: Alexander Flisch (EMPA, Duebendorf, Switzerland) Uwe Hampel (FZ Dresden, Germany)
09:00-9:30	Theobald Fuchs (Fraunhofer IIS, Fuerth, Germany) "Task-driven Design of X-ray Systems for Industrial Inspection" [T01_1]			
09:30-10:00	Peter Degischer (Uni. Vienna, Austria) Tomographic Examples of Heterogeneous Metals [T01_2]			
10:00-10:30	Coffee Break			
10:30-12:00	**Plenary Session II - Methods & Instrumentation (Section: Nano-Tomography Coherent Imaging and Microscopy)**			
10:30-11:00	Andrew Peele (University of Melbourne, Australia) "Coherent Diffractive Imaging: A New Tool for High Resolution X-ray Imaging" [T02_1]			Chair: Peter Cloetens (ESRF, Grenoble, France)
11:00-11:30	Martin Dierolf (PSI, Villingen,Switzerland) "Super-Resolution Coherent Scanning X-Ray Diffraction Microscopy" [T02_2]			
11:30-12:00	Michael Feser (Xradia, USA) "Sub-micron Resolution CT for Material Science, Energy, and Biomedical Applications" [T02_3]			
12:00-13:30	Lunch Break			
13:30-15:30	**Parallel Session I - Methods & Instrumentation**			
	Section: μ- CT, nano-CT		Section: Microscopy Coherent Imaging	
13.30-14:00	Peter Cloetens (ESRF, Grenoble, France) "From Micro-Tomography to Nano-Tomography" [T11a_1]	Chair: Francesco De Carlo (APS, Chicago, USA)	Yeukuang Hwu (Academia Sinica, Taipei, Taiwan) "Biomedical Imaging with 30nm Resolution" [T11b_1]	Chair: Christian David (Paul Scherrer Institut,Villingen, Switzerland)
14.00-14:20	Yong Chu (APS,Chicago, USA) "Three Dimensional Nanoscale Imaging of Dense Materials" [T11a_2]		Michael Shevchenko (Academy of Science, Ukraine) "Interbranch "Fine Structure" Effect in X-Ray Plane Wave Topography from Deformed Crystal" [T11b_2]	
14.20-14:40	Marco Stampanoni(PSI, Switzerland) "Nanoimaging with Broad Band Radiation: the Tomcat Hard X-Ray Nanoscope" [T11a_3]		Daniele Pelliccia (CNR-IFN, Italy) "X-Ray Holography and Coherent Diffraction Imaging with Curved Wavefronts" [T11b_3]	
14.40-15:00	Bernd Mueller (BAM, Berlin, Germany) "Refraction enhanced micro-CT for non-destructive materials characterisation" [T11a_4]		Inna Bukreeva (IFN Italy, Russian Academy of Science, Russia) "Sub-Micrometer Phase Contrast Imaging with Laboratory Sources Using X-Ray Waveguides" [T11b_4]	

15:00-15:30	Coffee Break			
15:30-17:00	**Parallel Session II - Methods & Instrumentation**			
	Section: Synchrotron-CT		Section: Methods and Instrumentation	
15.30-16:00	Christian David (Paul Scherrer Institut,Villingen, Switzerland) "Towards 10 nm resolution in x-ray microscopy" [T12a_1]	Chair: Francesco De Carlo (APS, Chicago, USA) Marco Stampanoni (PSI, Villigen, Switzerland)	Arndt Last (Uni. Karlsruhe, Germany) "X-ray Lithographic Fabrication of Refractive X-ray Lenses in SU-8" [T12b_1]	Chair: Mark Mildner (COMET AG, Flamatt, Switzerland)
16.00-16:20	Federico Sket (MPI, Germany) "In-Situ Investigation of Creep Damage Using Synchrotron Microtomography" [T12a_2]		Chiara Guazonni (Politecnico di Milano, Italy) "Experimental characterization with micro-beam analysis of the spectral re-sponse of a polycapillary lens to be used in PIXE" [T12b_2]	
16.20-16:40	Oliver Brunke (phoenix/x-ray, Germany) "Comparision Between X-Ray Tube Based and Synchrotron Radiation Based µCT" [T12a_3]		Marian Cholewa (Monash University, Australia) "Imaging with X-rays with submicron resolution" [T12b_3]	
16.40-17:00	Peter Modregger (Humboldt Uni., Germany) "The Bragg Magnifier: a phase-sensitive imaging technique with sub-micrometer resolution" [T12a_4]		Frantisek Dubecky (Inst. Of Electrical Engineering, Slovakia) "Development of Portable Quantum X-CT System Using Semi-Insulating GaAs Detectors: Present Status and Performance Testing" [T12b_4]	
17:00-18:00	**Poster Session I (Methods & Instrumentation)**			
from: 20:00				

Thursday, 23.10.08

08:30-10:30	**Plenary Session III - Methods & Instrumentation (Section: Imaging Detectors, algorithms and image analysis)**	
08:30-9:00	Michael Fiederle (Uni. Freiburg, Germany) (Semiconductor X-ray pixel detectors: Overview of CdZnTe and CdTe materials and detector performance) [T03_1]	Chair: Alexander Rack (ESRF, Grenoble, France)
09:00-9:30	Klaus Bavendiek (Yxlon, Hamburg, Germany)"Digital Detector Arrays (DDA) for X-Ray Micro Imaging" [T03_2]	
09:30-10:00	Katja Schladitz (Fraunhofer ITWM, Kaiserslautern, Germany) "Geometric characterisation of pore space in volume images" [T03_3]	
10:00-10:30	Coffee Break	
10:30-12:00	**Plenary Session IV - Applications (Section: Materials diagnostics)**	
10:30-11:00	Andras Borbely (MPI, Duesseldorf, Germany) "Application of Microtomography to Engineering Materials" [T04_1]	Chair: Peter Degischer (TU Vienna, Austria) Jean-Yves Buffiere (Uni.Lyon, INSA, France)
11:00-11:30	Oskar Paris (MPI, Postdam, Germany) "Material diagnostics using microbeam diffraction as an imaging tool" [T04_2]	
11:30-12:00	Jean-Yves Buffiere (Uni. Lyon, INSA, France) "3D Characterisation of Fatigue Damage in Metals" [T04_3]	
12:00-13:30	Lunch Break	
13:30-15:30	**Parallel Sessions III - Applications**	
	Section: Real time Radioscopy ultrafast Radioscopy	Section: Detectors, Algorithms and Image analysis
13.30-14:00	Alexander Rack (ESRF, Grenoble, France) "High speed synchrotron micro-radioscopy" [T13a_1]	Chair: Timm Weitkamp (ESRF, Grenoble, France) Jean Claude Labiche (ESRF, Grenoble, France) "A high dynamic range and a high throughput X-ray imaging system (FReLoN camera)" [T13b_1] Chair: Michael Fiederle (Uni. Freiburg, Germany)
14.00-14:20	Stephan Boden (FZ Dresden, Germany) "Observation of Melt Flow Effects and Dendritic Growth during Directional Solidification of Ga-In Alloys by X-Ray Radioscopy" [T13a_2]	Stephan Mohr (Fraunhofer IIS, Germany) "Extraction of Shape-Fitted Layers from CT-Data" [T13b_2]

14.20-14:40	Axel Griesche (DLR, Germany) "Time resolved X-ray radiography for measuring diffusion processes" [T13a_3]		Tom Schulman (Oy Ajat Ltd., Finland) "X- and Gamma Ray Imaging Systems Based on CDTE-CMOS Detector Technology" [T13b_3]	
14.40-15:00	Hermann Stoll (MPI, Stuttgart, Germany) "Time-Resolved Magnetic Scanning Transmission X-Ray Microscopy" [T13a_4]		Gareth Moorhead (Commonhealts Scientific and Ind. Research, Australia) "A High Speed Xray Fluorescence Microprobe Detector System" [T13b_4]	
15:00-15:30	Coffee Break			
15:30-17:00	**Parallel Sessions IV - Applications**			
	Section: Ultrafast CT		Section: Paleontology, Archeology, Heritage	
15.30-16:00	Lukas Helfen (FZK/ANKA, Karlsruhe, Germany) "Rapid Tomographic Micro-Imaging of Materials and Devices" [T14a_1]	Chair:	Joris Dik, (Delft University of Technology, Netherlands) "Medieval Microfabrication: Synchrotron based Tomographic and Laminographic Visualization of Religious Artwork" [T14b_1]	Chair:
16.00-16:20	Uwe Hampel (FZ Dresden, Germany) "Ultra Fast Electron Beam X-Ray Tomography and ist Application to Multiphase Flow Measurement" [T14a_2]	Alexander Flisch (EMPA, Switserland)	Jasper Groenewegen (TU Deft, Netherlands) "Early 20th century CdS painting pigment degradation process identified by synchrotron radiation µ-XRD, µ-XRF and µ-XANES" [T14b_2]	Koen Janssens (Uni. Antwerpen, Belgium)
16.20-16:40	Federica Marone (PSI, Switzerland) "Towards Real-Time Tomography: Fast Reconstruction Algorithms and GPU Implementation" [T14a_3]		Hong Yu (Shanghai Inst. Of Optics, China) "Combined Simulation on In-Line Fresnel Diffractive Phase-contrast Imaging with Partially Coherent Hard X-ray" [T14b_3]	
16.40-17:00	Peter Krueger (Fraunhofer IzfP, Germany) "High Resolution Computed Laminography (HRCL) - A Tool for Laboratory Scale High Resolution Investigation of Large Assemblies" [T14a_4]		Yoni de Witte (Ghent University, Belgium) "Application of X-ray micro CT in multi-disciplinary research" [T14b_4]	
17:00-18:00	**Poster Session II (Applications)**			
20:00-23:00	Banquet Location link: Steigenberger Hotel			

Friday, 24.10.08

08:30-10:30	**Plenary Session V - Applications (Section: Industrial application)**	
08:30-9:00	Manfred Sindel (Audi, Neckarsulm, Germany) (Application of Computertomography for Quality Assurance in Automotive at AUDI) [T05_1]	Chair:
09:00-9:30	Hubert Lettenbauer (Carl Zeiss GmbH, Oberkochen, Germany) "New Industrial Applications demand Integration of Metrotomography® in Industrial Processes" [T05_2]	Randolf Hanke(Fraunhofer IIS, Fuerth, Germany)
09:30-10:00	Alexander Flisch (EMPA, Switserland) "Correction of scattered radiation for Cone-beam Computed Tomography at high X-ray energies" [T05_3]	Walter Bauer (Robert Bosh GmbH, Gerlingen, Germany)
10:00-10:30	Coffee Break	
10:30-12:00	**Plenary Session VI - Applications (Section: Life science and Heritage)**	
10:30-11:00	Koen Janssens (Uni. Antwerpen, Belgium) "Vizualization of a Hidden Van Gogh Painting by means of High-Energy XRF mapping and other methods" [T06_1]	Chair:
11:00-11:30	Maria Luisa de Carvalho (University of Lisboa, Portugal) "Elemental Distribution in Human Teeth by X-Ray Synchrotron Microprobe" [T06_2]	Ziyu Wu (Beijing Synchrotron Radiation Facility, China)
11:30-12:00	Georg Schulz (Uni. of Basel, Switserland) "Sub-Cellular Resolution X-Ray Tomography of Human Tissue and Biomaterials" [T06_3]	
12:00-13:30	Lunch Break	
13:30-15:30	**Parallel Sessions V - Applications**	
	Section: Organics, life science	Section: NDT

13.30-14:00	J.F.C.A. Veloso (I3N - Physics Dept., University of Aveiro, Aveiro, Portugal) "Energy Resolved X-Ray Fluorescence Imaging Based on a Micropattern Gas Detector" [T15a_1]	Chair:	Norman Uhlmann (Fraunhofer IIS, Fuerth, Germany) "High Resolution Applications in NDT" [T15b_1]	Chair:
14.00-14:20	Timm Weitkamp (ESRF, Grenoble, France) "Synchrotron microtomography for the Life Sciences in the X-Ray Imaging Group at ESRF" [T15a_2]	Maria Luisa De Carvalho (Uni. De Lisboa, Portugal)	Steven Oeckl (Fraunhofer IIS, Germany) "Real Inline X-Ray 3D CT with short Cycle Times for Light Metal Casting Inspection in Production" [T13b_1]	Bernd Mueller (BAM, Berlin, Germany)
14.20-14:40	Giuliana Tromba (Uni. Trieste, Italy) "Application of X-ray microtomography to the study of coralline algae" [T15a_3]		Rainer Stoessel (EADS Innovation Works Muenich, Germany) "µ-Computed Tomography for CFRP-material characterisation" [T15b_1]	
14.40-15:00	Alan Michette (King's College London, London, UK) "Soft X-Ray Spectromicroscopy of Wood Fibre Composites" [T15a_4]		Frank Schubert (Fraunhofer IZFP, Germany) "When X-Ray Imaging Fails - Delamination, Crack, and Micro-Pore Detection Using Ultrasonic Reflection Tomography in a Scanning Acoustic Microscope" [T15b_1]	
15:00-15:30	Coffee Break			
15:30-17:00	**Parallel Sessions VI - Applications**			
	Section: Materials Diagnostics		Section: Geometrical Measuring	
15.30-16:00	Felix Beckmann (GKSS, Geesthacht, Germany) "High-Density Resolution Microtomography Using Synchrotron Radiation at Desy" [T16a_1]	Chair: Philip J. Whithers (University of Manchester, UK)	Sven Gondrom (MacroScience, Unterhaching, Germany) "Inline Planar Computed Tomography (IPCT) for the Inspection of Flat Components like e.g. PCBAs" [T16b_1]	Chair: Hubert Lettenbauer(Carl Zeiss GmbH, Oberkochen, Germany)
16.00-16:20	Thiemo Theile (WSL, Switszerland) "Time-Lapse Micro Tomography of Snow Deformation" [T16a_2]		Marion Kuhlmann (DESY, Germany) "Development of SAXS Microtomography and Related Methods" [T16b_2]	
16.20-16:40	Domokos Tolnai (Vienna Uni., Austria) "Characterization of AlSi8Mg5 alloy by X-ray microtomography" [T16a_3]		Frank Nachtrab (Fraunhofer IIS, Germany) "Progress in sub-micrometer resolution computed tomography" [T16b_3]	
16.40-17:00	Summary - discussions, suggestions (16:45-17:30)			
17:00-18:00				
from: 20:00				

Program: Poster Sessions

All Posters should be printed by the participants in A0 size.
The registration officers will provide you poster strips to fix your poster on the poster walls.
The posters should be put in their places by the participants themselves until Wednesday, 22 October at 17:00

Poster Session I - Methods and Instrumentation

No.	Given by	Title
P1_1	A. Ershov (Institute for Synchrotron Radiation, Forschungszentrum Karlsruhe, Germany)	Automated Temporal X-ray Image Analysis using Optical Flow and Occlusion Detection
P1_2	E. B. Fohtung (Institute for Synchrotron Radiation, Forschungszentrum Karlsruhe, Eggenstein-Leopoldshafen, Germany)	Investigation of Deformation Fields in Crystals by X-Ray Diffraction Using Direct Methods)
P1_3	A. Haibel (GKSS Research Centre Geesthacht, Germany)	The Imaging Beamline at PETRA III
P1_4	C.Heinzl (Upper Austrian University of Applied Sciences, Wels Campus, Austria)	High Dynamic Range Imaging for Contrast Enhancement of X-Ray-Images
P1_5	J. Herzen (GKSS Research Centre, Geesthacht, Germany)	Differential phase contrast - new imaging method for HARWI-II beamline at DESY using hard x-ray grating interferometer
P1_6	D. Korytar (Institute of Electrical Engineering, Slovak Academy of Sciences, Piestany, Slovakia)	Analysis and Preliminary Results with Laboratory Microfocus X-Ray Source for Imaging Purposes)
P1_7	Ali Mohamed-Tahar, (Laboratory of Image and Signal Processing (LTSI), Research Centre in Welding and Control, Alger-Algeria)	G-A Optimization of Fuzzy Penalty for Image Reconstruction from Projections In X-Ray Tomography

P1_8	R. Mokso (Swiss Light Source, Paul Scherrer Institut, 5232 Villigen, Switzerland)	Towards Real-Time Tomography Fast Data Acquisition Schemes)
P1_9	M. Reiter (FH OO Forschungs & Entwicklungs GmbH, Franz-Fritsch-Strasse 11 / Top 3, A-4600 Wels, AUSTRIA)	Simulation of an industrial x-ray cone beam computed-tomography system
P1_10	Yasuko Terada (Japan Synchrotron Radiation Research Institute, SPring-8, Sayo, Hyogo, Japan)	Scanning X-ray microprobe for heavy element analysis at BL37XU in SPring-8
P1_11	Yoshio Suzuki (Japan Synchrotron Radiation Research Institute, SPring-8, Sayo, Hyogo, Japan)	X-Ray Microbeam with Total-Reflection Mirror in 8-100 keV Regions
P2_12	R. P. Winarski (Center for Nanoscale Materials, Argonne National Laboratory , USA)	Nanotomography at the Argonne Hard X-ray Nanoprobe Beamline
P1_13	U.H. Wagner (Diamond Light Source Ltd., Didcot (Oxfordshire), United Kingdom)	Optical Design of the X-Ray Imaging and Coherence Beamline at Diamond
P1_14	S. S. Flewett (ARC Centre of Excellence for Coherent X Ray Science, The University of Melbourne, Australia)	Iterative Recovery of the Coherence Function for an X-Ray Wavefield
P1_15	N. Schell (GKSS-Research Center Geesthacht, Germany)	The New High Energy Materials Science Beamline (HEMS) at PETRA III
P1_16	C. Maass (Institute of Medical Physics, University of Erlangen-Nuernberg, Germany)	Short Scan Tomography with Displaced Detector
P1_17	Kejun Kang, (Department of Engineering Physics, Tsinghua University, Beijing, China)	X-Ray Phase contrast imaging under incoherent condition

Poster Session II - Applications

No.	Given by	Title
P2_1	S. Braun (IWS Dresden, Germany)	Temperature stability of nanometer multilayers for X-ray optics
P2_2	M. Iovea (Accent Pro 2000 Ltd, Bucharest, Romania)	Preliminary experiments for X-Ray dual-energy Micro-Tomography quantitative analysis
P2_3	Valery Kalentiev (Kazan Technological University, Kazan, Russia)	Radiographic Industrial Films Used for Nondestructive Testing (NDT)
P2_4	Tatjana Kalenteva (Kazan Technological University, Kazan, Russia)	Photoprocessing of Radiographic Industrial Films in Cupric Borohydride Physical Developers
P2_5	A. Mannschatz (Fraunhofer Institut fuer Keramische Technologien und Systeme, Dresden, Germany)	X-ray Computed Tomography for Characterization of Powder Injection Moulded Ceramic Green Parts
P2_6	T.Schulman (Oy Ajat Ltd., Espoo, Finland)	X- and gamma ray imaging systems based on CdTe-CMOS detector technology
P2_7	I. Tiseanu (National Institute for Lasers, Plasma and Radiation Physics, Bucharest, Romania)	Characterisation of Superconducting Wires by Cone-Beam Micro-Tomography
P2_8	S. V. Naydenov (Institute for Scintillation Materials of NAS of Ukraine, Kharkov, Ukraine)	A spectrometric approach in radiography for detection of materials by their effective atomic number
P2_9	L. Mancini (Sincrotrone Trieste S.C.p.A., Basovizza-Trieste, Italy)	Pore 3D: a program for quantitative image analysis of porous media
P2_10	Y. De Witte (Ghent University - Dept. of Subatomic and Radiation Physics, Ghent, Belgium)	Octopus: high-performance software for reconstruction and visualisation of CT-data
P2_11	P. Wyss (Empa, Laboratory for Electronics and Metrology, Duebendorf, Switzerland)	FIB-milled objects furnish proof of true 3D XTM resolution
P2_12	V. L. Vengrinovich (Institute of Applied Physics, Minsk, Belarus)	New Parallel-Fan Beam 3D Tomography
P2_13	Isabella Huber (Forschungszentrum Karlsruhe, Germany)	Numerical reconstruction of a crystal sample Microdiffraction Imaging
P2_14	U. Hassler (Development Center for X-ray technology (EZRT), Saarbruecken, Germany)	Carbon fibre preform inspection by circular X-ray tomosynthesis
P2_15	J. Rosc (Austrian Foundry Research Institute, Leoben, Austria)	Investigation of Metallic Materials by Using Novel Multidimensional Transfer Functions
P2_16	M. Stoll (MacroScience Technology GmbH, Unterhaching, Germany)	Why to put the Sample in Focus in order to achieve Highest Quality µCT Results
P2_17	J. Schneider (Schneider Digital, Germany)	3D/Stereoscopic Monitors Cover
P2_18	R. Burchert (PerkinElmer Optoelectronics, Wiesbaden, Germany)	Driving growth and innovation in HealthSciences and Photonics to improve the quality of life Cover
P2_19	T. Scheler (European Synchrotron Radiation Facility, Grenoble, France)	The mechanical properties of nano-sized objects investigated by a combination of in-situ AFM and m-XRD

The program will be updated constantly.