Program of the High Resolution X-ray CT Symposium 2010 Dresden

Tuesday, August 31

08:30	**Registration open**	
09:45	**Welcoming + Introduction**	Juan Mario Gomez, O. Brunke, GE Sensing & Inspection Technologies
10:00 - 11:30	**Session 1: 3D Metrology**	
	Using reference objects to characterise dimensional control of µCT measurements	M. Schulze; M. Bartscher; M. Neugebauer; U. Neuschaefer-Rube, Physikalisch-Technische Bundesanstalt (PTB) Braunschweig and Berlin, Germany; A. Staude; K. Ehrig, BAM Federal Institute for Materials Research and Testing, Germany
10:00		
	Dual-beam CT for measurements of precision mechanical components and optical systems	G. Notni, P.Kühmstedt, I. Schmidt, C.Grossmann, Fraunhofer Institute for Applied Optics and Precision Engineering, Jena, Germany
10:30		
10:50	**Computed Tomography in polymer processing and tool making**	S. Hachtel, Hachtel Werkzeugbau GmbH & Co. KG, Aalen, Germany
	Quantitative comparison between 3D Dimensional Metrology using High Resolution X-ray Tomography with conventional Coordinate Measurement Machines (CMMs)	O. Brunke, GE Sensing & Inspection Technologies, Wunstorf, Germany; P. Krines, Continental AG, Frankfurt, Germany; H. Puder, AC Tech Engineering, Freiberg, Germany
11:10		
11:30 - 11:45	***Coffee Break***	
11:45 - 13:15	**Session 2: Developments 1: CT Systems, Methods, Equipment**	
	Recent developments of Hard- and Software for high resolution CT systems	E. Neuser, O. Brunke, A. Suppes, GE Sensing & Inspection Technologies, Wunstorf, Germany
11:45		
	Micro and Nano Tomography using Synchrotron Radiation at DESY	F. Beckmann, GKSS Research Center, Geesthacht, Germany
12:15		
	Macro- to Nano-focus High Resolution X-ray Source Thermal Design Considerations	V.S. Robinson; F. Hopkins; X.Zhang; GE Global Research Center, Niskayuna, NY, USA
12:35		
	Analysis of tomography artefacts using Digital Volume Correlation	J.-Y. Buffière; J. Adrien; N. Limodin, Laboratoire Matériaux, Ingénierie et Sciences (MATEIS), INSA-Lyon / UMR CNRS 5510, Villeurbanne, France; J. Réthoré, Laboratoire de Mécanique des Contacts et des Structures (LaMCoS), INSA-Lyon / UMR CNRS 5259, Villeurbanne, France; F. Hild; S. Roux, Laboratoire de Mécanique et Technologie (LMT-Cachan) ENS Cachan / CNRS / UPMC / PRES UniverSud Paris, Cachan Cedex, France
12:55		
13:15 - 14:30	***Lunch Break***	
14:30 - 16:00	**Session 3: CT in Material Reseach 1: Polymers, Fibers and composites**	
	CT inspection of micro scale damage in textile-reinforced composites	W. Hufenbach, H.-J. Ullrich, N. Modler, M. Gude, M. Danczak, Institut für Leichtbau und Kunststofftechnik, TU Dresden, Germany
14:30		
	Damage evaluation of fiber reinforced polymers under impact	F. Sket; J. Molina, IMDEA Materials, Calle Profesor Aranguren s/n, 28040 Madrid, Spain; A. Enfedaque; J. Llorca, Departamento de Ciencia de Materiales, Universidad Politécnica de Madrid. E. T. S. de Ingenieros de Caminos, 28040-Madrid, Spain
15:00		
	Finite Element characterization of polymeric foams with X-ray CT	J.G.F. Wismans; L.E. Govaert; J.A.W. van Dommelen; Computational and Experimental Mechanics, Mechanical Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands
15:20		
	Dispersion of silica in rubber	G. ÖRLYGSSON; G. Gunnarsson, Innovation Center Iceland, Keldnaholt, 112 Reykjavík, Iceland
15:40		
16:00 - 17:00	***Coffee break + Machine presentation***	
17:40	**Walk through historic City center to ILK**	
19:00	**Salutatory to ILK by Prof. Hufenbach / Dr. Modler, Institute introduction presentation**	
19:30	**Institute visitation in 3 Groups**	
20:15	**Dinner**	
21:15	**"A Chemist´s Comedy" - Science show by Dr. Andreas Korn Müller**	

Wednesday, Sept. 1

09:00 - 10:10	**Session 4: CT in Material Research 2: Metals & More**	
	Visualisation-driven data analysis & exploration and its verification	G. Geier; J. Rosc, Austrian Foundry Research Institute, Leoben, Austria; L. Fritz, VRVis Research Center for Virtual Reality and Visualization Ltd, Vienna, Austria; M. Hadwiger, King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi-Arabia; D. Habe, Austrian Foundry Research Institute, Leoben, Austria
09:00		
	Comparative study of high resolution cone beam X-ray computed tomography methods and discussion of temperature influence on nanotom stability	D. Salaberger; J. Kastner; B. Plank; B. Harrer, Upper Austria University of Applied Sciences, Wels, Austria; H.-P. Degischer, Vienna University of Technology, Institute of Materials Science and Technology, Vienna, Austria; O. Brunke, GE Sensing & Inspection Technologies, Wunstorf, Germany
09:30		
	Granular packings analysis	M. Neudecker, Max-Planck-Institute for Dynamics and Self-Organisation, Göttingen, Germany
09:50		
10:10 - 10:30	**Session 5: Poster Presentations**	
	3D Micro-Computer tomography	H. Giertzsch; T. Burkhart, Institut für Verbundwerkstoffe, Kaiserslautern, Germany
	An innovative technique for the internal structure analysis of composite materials	
10:10		
	High Resolution Low Energy X-ray Microradiography Using Single Crystal Scintillators	J. Tous; P Horodynsky: K. Blazek, Crytur Ltd, Turnov, Czech Republic; J.A. Mares, M. Nikl, Institute of Physics, Academy of Sciences, Praha, Czech Republic
10:15		
	General identification and characterization of rock-forming minerals in CT images	M. Halisch; W. Hübner; C. Müller, Leibniz Institute for Applied Geophysics, Hanover, Germany
10:20		
	From prehistoric to modern times: visualization of fossils with micro-CT scans	S. Engels, C. Schwarz, Steinmann-Institut, Bonn, Germany
10:25		

10:30 - 10:45	***Coffee break***	
10:45 - 12:15	**Session 6: CT for Geosciences**	
10:45	**From 3D images to Pore Network Models to assess petrophysical properties of rocks**	E. Rosenberg; S. Youssef; D. Bauer; S. Bekri; O. Vizika, IFP, Rueil-Malmaison Cedex, France
11:15	**Combination of petrophysical research, high resolution CT imaging and pore space extraction**	M. Halisch; W. Hübner; C. Müller, Leibniz Institute for Applied Geophysics, Hanover, Germany
11:35	**Reactive transport experiments in porous carbonates: what can be learned from 3D micro tomographic images?**	D. Bernard, CNRS, Université de Bordeaux, Pessac, France; A. Chirazi, TOMOMAT, Pessac, France; P. Benezeth, LMTG-OMP-CNRS, Toulouse, France
11:55	**Imaging of drill cuttings and comparison with NMR based pore space characterisation**	W. Hübner; M. Halisch; C. Müller, Leibniz Institute for Applied Geophysics, Hanover, Germany
12:15 - 13:15	***Lunch Break***	
13:15 - 15:05	**Session 7: CT in Biomedical Research**	
13:15	**Recent advances in high-resolution X-ray CT for human tissues and biomaterials science**	B. Müller, Biomaterials Science Center, University of Basel, Switzerland
	Evaluation of bone tissue formation in rat mandible, effect of bioactive implants	G. Örlygsson(1); J. M. Einarsson(2); H. Jónsson jr.(3,4); E. H. Laxdal(3,4,5); B. Eiríksdóttir(6); A. Dagbjartsson(3); E. Gunnarsson(7), C.-H. Ng(2), J. Gíslason(2) (1)Innovation Center Iceland, Reykjavík, Iceland, (2)Genís ehf., Reykjavík, Iceland, (3)Landspítali-University Hospital, Reykjavík, Iceland, (4)Faculty of Medicine, University of Iceland, Reykjavík, Iceland, (5)Department of Surgical Sciences, University of Bergen, Bergen, Norway, (6)ArcticLAS, Reykjavík, Iceland, (7)Institute for Experimental Pathology, University of Iceland, Reykjavík, Iceland
13:45		
	X-ray computerized tomography parameter optimization for volumetric quantification of internal quality characteristics in fresh chestnuts	I.R. Donis González; B.D. Guyer, Department of Biosystems and Agricultural Engineering, Michigan State University, East Lansing, MI, USA; C.A.Pease, Department of Small Animal Clinical Sciences, D211 Veterinary Medical Center, Michigan State University, East Lansing, MI, USA; D.D. Fulbright, Department of Plant Pathology, 107 Center for Integrated Plant Systems, Michigan State University, East Lansing, MI, USA
14:05		
	See Through Soil: Imaging Plant Roots and Soil Physical Properties with X-ray µCT	S. Mairhofer; S. Zappala; M. Bennett, University of Nottingham / School of Biosciences, Nottingham, UK; T. Pridmore, University of Nottingham / School of Computer Science, Nottingham, UK; S. Mooney, University of Nottingham / School of Biosciences, Nottingham, UK
14:25		
14:45	**microCT applications in the biomedical research**	Eric Pichon, Antoine Bachour; GE HC PCI, Buc, France
15:05 - 15:45	***Coffee Break***	
15:45 - 17:15	**Session 8: CT for Failure Analysis**	
15:45	**Industrial Application of Computer Tomography on Automotive Supplier Parts**	M. Hald, Continental Teves, Quality Automotive, Frankfurt a.M., Germany
16:15	**Deformation Analysis by means of CT**	W. Faust, J. Hammacher, L. Scheiter, R. Erb, B. Michel, Fraunhofer ENAS, Chemnitz, Germany
	X-ray Computed Tomography for Nano Packaging – A Current Challenge	M. Oppermann, T. Zerna, Technical University Dresden, Center of Microtechnical Manufacturing (ZµP), Dresden, Germany; K. Wolter, Technical University Dresden, Electronics Packaging Lab (IAVT), Dresden, Germany
16:35		
	X-ray Imaging of NaMx Battery Cells	C. Bueno; D. Hall; M. Osterlitz, GE Global Research, Niskayuna, NY, USA; J. Urbanski, GE Sensing & Inspection Technologies, Lewistown, PA, USA
16:55		
17:15 - 18:15	***Coffee Break + Meet the poster authors + Machine presentation***	
17:15 - 18:15	***Coffee Break + Meet the poster authors + Machine presentation***	
19:10	**Walk to the river cruise jetty**	
19:30 - 23:00	**Evening Event: "Elbe River Cruise" with dinner on board**	

Thurdsday, Sept. 2

09:00 - 10:20	**Session 9: CT Data Processing: Analysis, Visualization**	
	VGStudio MAX: Application examples from science and industry	C. Reinhart, Volume Graphics GmbH, Heidelberg, Germany
09:00		
	Avizo® **Visualizing and understanding** **scientific and industrial data**	P. Westenberger, VSG Visualization Sciences Group, Düsseldorf, Germany
09:20		
09:40	**Automatic inspection of plastic parts with PolyWorks**	P. Duwe, Duwe-3d AG, Lindau, Germany
	3D-Characterization of Fibre-Reinforced Composites	O. Wirjadi, Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Kaiserslautern, Germany
10:00		
10:20 - 10:40	***Coffee Break***	
10:40 - 11:50	**Session 10: Developments 2: CT Systems, Methods, Equipment**	
10:40	**Inline CT - A new concept for fast CT inspection in mass production**	I. Stuke, GE Sensing & Inspection Technologies, Ahrensburg, Germany; O. Brunke, GE Sensing & Inspection Technologies, Wunstorf, Germany
11:10	**Comparison between two microtomography systems**	M. Binkowski, University of Silesia, Department of Biomedical Computer Systems, Institute of Computer Science, Sosnowiec, Poland; B. Błażejowski, Polish Academy of Science, Institute of Pleobiology
11:30	**Applications of in-situ measurements under load and high temperature in x-ray tomography**	R. Hamilton, Department of Materials, Imperial College London, Great Britain
11:50-12:00	**Closing Remarks**	O. Brunke, Juan Mario Gomez, GE Sensing & Inspection Technologies