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8th World Conference On Neutron Radiography (WCNR-8)

NIST, October 16 - 19, 2006

Sunday Evening Conference Reception at the Gaithersburg Hilton Hotel - 7 p.m. October 15, 2006

7:30 AM -8:30 AM	**Continental Breakfast - NIST Cafeteria**		
Day 1 - 10/16/06 Session Chairs	**Opening Ceremony**		
8:30	Opening Remarks: M Arif		
8:35	NIST Deputy Director's Welcome : James E. Hill		
8:40	NCNR Director's Welcome: Patrick D. Gallagher		
8:50	Administrative Remarks: M. Arif		
M. Arif J. Lindsay	**SESSION 1**	**Speaker**	**Neutron Imaging - New Advances**
9:00	T111	Wolfgang Treimer	Neutron Radiography and Tomography : New Techniques – New Results
9:20	T112	Christian Grünzweig	Neutron Phase Imaging and Tomography
9:40	T113	Winfried Kockelmann	Energy-Selective Neutron Radiography at a Pulsed Source
10:00	Coffee Break		
B. Schillinger N. Takenaka	**SESSION 2**	**Speaker**	**Facilities and Instrumentation I**
10:30	T121	Eberhard Lehmann	Recent Improvements in Neutron Imaging Methods at PSI
10:50	T122	Martin Balasko	Comparison Radiography and Tomography Possibilities of FMR-2 (20 MW) and Budapest (10 MW) Research Reactors
11:10	T123	David Jacobson	Neutron Radiography and Tomography Facilities at NIST to Analyze In-Situ PEM Fuel Cell Performance
11:30	T124	Stéphane Gaillot	In-pool Neutron Radiography for the Jules Horowitz Reactor
11:50	T125	Nikolay Kardjilov	Multifunctional Tomography Instrument with Cold Neutrons at HMI
12:10	Lunch Break		
E. Lehmann M. Balasko	**SESSION 3**	**Speaker**	**Development of Imaging Technology I**
1:30	T131	Burkhard Schillinger	Continuous Neutron Radioscopy with 1000 fps and 10 Microsecond Time Resolution
1:50	T132	Oswald Siegmund	Neutron Imaging with High Spatial and Temporal Resolution Microchannel
2:10	T133	Koh-ichi Mochiki	Neutron Color Image Intensifier
2:30	T134	Muhammad Zin	Cold Thermal Neutron Radiography Experiment CCD Camera at Primary Flight Tube of TRIGA Mark II Research Reactor
2:50	T135	Markus Strobl	Imaging with Monochromatic Neutrons @ HMI Berlin - Part II: Various Contrast Imaging at V12
3:10	Coffee Break		
J. Brenizer H. Kobayashi	**SESSION 4**	**Speaker**	**Application in Hydrogen Economy I**
3:30	T141	Masahito Matsubayashi	Application of Neutron Radiography to Developments of Hydrogen Storage Alloys
3:50	T142	Matthew Mench	Interaction of Design, Materials, and Interfacial Forces on Liquid Water Storage and Distribution in Polymer Electrolyte Fuel Cells
4:10	T143	Ingo Manke	Neutron Radiography and Tomography on Fuel Cells: Recent Developments at CONRAD
4:30	T144	Jon Owejan	Voltage Instability in a Simulated Fuel Cell Stack Correlated to Water Accumulation Measured Via Neutron Radiography
4:50	T145	Kevin Coakley	Statistical Learning Methods for Neutron Transmission Tomography of Fuel Cells
5:10	**End**		

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7:30 AM -8:30 AM	**Continental Breakfast - NIST Cafeteria**		
Day 2 - 10/17/06 **Session Chairs**			
R. Lanza C. Sim	**SESSION 1**	**Speaker**	**Novel Imaging Methods and Results**
8:30	T211	Burkhard Schillinger	First Neutron Phase Contrast Tomography at the ANTARES Facility
8:50	T212	Dmitry Pushin	Reciprocal Space Neutron Imaging
9:10	T213	Peter Vanier	Coded Aperture Thermal Neutron Imaging: Comparison of Data with Simulations
9:30	T214	Nikolay Kardjilov	Phase-Contrast Tomography with Cold Neutrons Using Propagating Technique
9:50	T215	Antonio Damato	Coded Source Imaging for Neutron Radiography
10:10	Coffee Break		
D. Jacobson I. Manke	**SESSION 2**	**Speaker**	**Non- Destructive Testing and Evaluation I**
10:30	T221	Nobuyuki Takenaka	Visualization of Cavitation Phenomena at a Nozzle Hole and a Seat in a Fuel Injection Nozzle by Neutron Radiography
10:50	T222	Hal Egbert	Using Neutrons to Fight Forest Fires
11:10	T223	Leonard Liese	Overview of the Development and Implementation of Thermal Neutron Radiography To Detect Shell Inclusions in Ti-HIP Castings
11:30	T224	Hisashi Umekawa	Void Distribution around a Distributor Nozzle of Fluidized Bed
11:50	T225	Cheul Muu Sim	MCNPX Simulation on Fast Neutron Interrogation Systems for Detection of Explosive Materials
12:10	Lunch Break		
K. Mochiki G. Downing	**SESSION 3**	**Speaker**	**Development of Imaging Technology II**
1:30	T231	Gabriel Frei	Optimization of Neutron Sensitive Imaging Scintillators
1:50	T232	Anton Tremsin	The Efficiency of Neutron Detection and Collimation with Microchannel and MicroFiber Plates
2:10	T233	Jeffrey Lacy	Performance of 1-Meter Straw Detector for High Rate Neutron Imaging
2:30	T234	Christine Sweetapple	A Water Sensitivity Gauge for Neutron Radiology of CF188 Flight Control Surfaces
2:50	T235	Yi-kyung Kim	Nuclear Track Radiography Study at HANARO
3:10	Coffee Break		
U. Matsushima L. Bennett	**SESSION 4**	**Speaker**	**Applications in Archeology and Paleontology**
3:30	T241	Emma Hammarlund	Neutron Raduiography for Understanding Evolution of Life
3:50	T242	Frikkee de Beer	Hidden Structure of Fossils Revealed by Neutron and X-ray Tomography
4:10	T243	Yuji Kawabata	Trials of Neutron Ct and its PGAA Assurance Procedure for Archeological Objects
4:30	T244	Martin Balasko	Study of Museum Object by Neutron-, Gamma-, X- Ray Radiography
4:50	T245	Martin Muehlbauer	Investigation of an Early Medieval Sword by Neutron Tomography
5:10	**End**		
7:00	**CONFERENCE BANQUET** **CHART HOUSE RESTAURANT** **ALEXANDRIA, VIRGINIA**		

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7:30 AM -8:30 AM	Continental Breakfast - NIST Cafeteria		
Day 3 - 10/18/06 Session Chairs			
J. Hall S. Lee	**SESSION 1**	**Speaker**	**Tomographic Techniques and Analysis**
8:30	T311	Thomas Buechrel	Tomography Using Fission Neutrons
8:50	T312	Martin Muehlbauer	Testing a Compact Tomography Setup at Aerotest Radiography and Research Reactor, San Ramon, California
9:10	T313	Andreas Van Overberghe	Highly Time Resolved Neutron Tomography
9:30	T314	Burkhard Schillinger	Detection of Texture Alteration in Steel and Al Parts Using Small Angle Scattering in Neutron Radiography and Computed Tomography
9:50	T315	Hendrik Ballhausen / Andreas Van Overberghe	Recent Developments in Neutron Radiography and Tomography at ILL
10:10	Coffee Break		
R. Tsukimura F. de Beer	**SESSION 2**	**Speaker**	**Applications in Hydrogen Economy II**
10:30	T321	Daniel Hussey	Tomographic Imaging of an Operating Proton Exchange Membrane Fuel Cell
10:50	T322	Tadanobu Ueda	Visualization and Measurement of Dynamic Water Behavior in PEFC by Neutron Radiography
11:10	T323	Michael Hickner	Exploring Liquid Water Distribution and Local-Heating Effects in an Operating PEM Fuel Cell Using Neutron Radiography
11:30	T324	TaeJoo Kim	Research for Water Removal at PEMFC by Using Neutron Imaging Technique at NRF, HANARO
11:50	T325	Yoshiaki Kiyanagi	Pulsed Neutron Spectroscopic Imaging for Investigating Micro-Structure of Material
12:10	Lunch Break		
D. Hussey T. Bücherl	**SESSION 3**	**Speaker**	**Facilities and Instrumentation II**
1:30	T331	Ian Anderson	Overview of The Spallation Neutron Source and Some Concepts of Novel Methods in Neutron Imaging at Pulsed Source
1:50	T332	Frodobertus Klassen	The HFR HB8 Neutron Radiography Facility
2:10	T333	James Hall	High-Energy Neutron Imaging Development at LLNL
2:30	T334	Ayman Hawari	Research Facilities using Radiation Beams at the NC State University Pulstar Reactor
2:50	T335	Liang Shi	The Penn State University Neutron Computed Tomography Facility
3:10	Coffee Break		
3:30	**CONFERENCE PHOTO SESSION**		
3:40	**POSTER SESSION**		
	P001	André Hilger/Nikolay Kardjilov	Industrial Applications at the New Neutron Tomography Station at HMI - CONRAD
	P002	Andreas Van Overberghe	Time Resolved and High Contrast Neutron Imaging
	P003	Kaushal Mishra	Development of Neutron Phase Contrast Imaging at the NC State University PULSTAR Reactor
	P004	Burkhard Schillinger	Neutron Computed Micro Tomography using a Tele-Centric Lens a New PSI Scintillation Screen
	P005	Bin Du	Applications of Neutron Radiography in PEM Fuel Cell Research and Development
	P006	Burkhard Schillinger	Neutron Radiography with Multiple Energy Range Filters at the ANTARES Facility
	P007	Daryl Ludlow	PEM Fuel Cell Membrane Hydration Measurement by Neutron Imaging
	P008	Fayçal Kharfi	Neutron and X-ray Radiography Images Mixing and Analyzing

	P009	Frikkee de Beer	The Effect of Chlorides in Concrete: a Neutron and X-ray Radiography/Tomography Study
	P010	Frikkee de Beer	Scattered Neutrons and Their Effect on Quantitative Neutron Radiography (The Problem)
	P011	Hitoshi Asano	Visualization and Measurement of Hygroscopic Water Distribution in a Unit Cell of Silica-Gel Adsorber by Neutron Radiography
	P012	Jae Eun Cha	Application of Dynamic Neutron Radiography to Measure the Liquid-Metal Velocity Field in the Narrow Channel
	P013	Jaroslav Rehacek	Maximum-Entropy Assisted Maximum-Likelihood Estimation for Neutron Radiography
	P014	Muhammad Zin	Modification of NUR II Neutron Beam Profile of MINT's TRIGA Mark II Research Reactor for Digital Neutron Radiography
	P015	Maria Silvani	Using Scintillating Screens as Converter in Neutron Radiography
	P016	Roberto Rosa	Neutron Radiography Facility Combined with X-ray Industrial Type Generator
	P017	Martin Balasko	Reference Library of Defects in Helicopter Rotor Blades from Neutron-, and X- Ray Radiography, Vibration Diagnostics and Ultrasound Measurements
	P018	Martin Balasko	Inner Structure of Damaged Control Rods Tested by Neutron-, X- Ray Radiography and Discrete Tomography
	P019	Marin Dinca	Detector for Neutron and Gamma Radiography Based on CCD Cameras
	P020	Shiping Jiang	Fast Neutron Imaging Based on Accelerator and Isotope Sources
	P021	Tadanobu Ueda	Void Fraction Characteristic of Gas-Liquid Two-Phase Flow in Mini-Channels
	P022	TaeJoo Kim	The Investigation of Water Discharge Characteristics at PEMFC by Using Neutron Imaging Technique at CONRAD, HMI
	P023	Takashi Kamiyama	Neutron Resonance Imaging - a Reconstruction of Time-of-flight Spectra
	P024	Toufik Zergoug	Neutron Radiography at NUR Reactor: Status and Prospects
	P025	Yukio Tanaka	Thermo-Luminescence Imaging by using a Two-Dimensional Photon Counter
	P026	Zhiyu Guo	Thermal Neutron Radiography Using D-Be Reaction
	P027	Daniel Hussey	Neutron Coded Source Imaging
	P028	Eberhard Lehmann	Correction Software Tool for Neutron Tomography
	P029	Yasushi Saito	3-D Flow Field Measurement by Using Neutron Radiography
	P030	R. van Laugh	A Neutron Radiographic - Tomographic and Time of Flight Diffraction Study of Two Early Italian Renaissance Sculptures. A New Tool for Art Historians.
	P031	Dirk Visser	A Neutron Radiographic and Tomographic Study of $LiCl.xNH(D)_3$ in a Medium Pressure/High Temperature Gas Flow Cell. An Energy Storage System.
	P032	Markus Strobl	Imaging with monochromatic neutrons @ HMI Berlin - Part I: A Double Monochromator Device For CONRAD
	P033	Masaki Katagiri/Masahito Matsubayashi	Development of High-Brightness Scintillators for Neutron Radiography
	P034	Hiroshi Iikura/Masahito Matsubayashi	Development of High Frame-Rate Neutron Radiography with High-Brightness Scintillators and High-Speed Digital Video Camera
	P035	Christian Grünzweig	Neutron Phase Imaging and Tomography
5:00	**End**		
TBA	**ISNR BOARD MEETING**		
TBA	**NCNR TOUR**		

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Day 4 - 10/19/06 Session Chairs			
R. Rosa W. Lewis	**SESSION 1**	**Speaker**	**Novel Instrumentation and Applications**
8:30	T411	Yasushi Saito	Visualization of Water-Steam Two-Phase Bubble Evaporating in a Liquid-Metal Pool
8:50	T412	Burkhard Schillinger	Observation of the Filling Level of the Cold Source by Pinhole Neutron Radiography
9:10	T413	Bruce Feller	Gamma Insensitive Highly Borated Microchannel Plates for Neutron Imaging
9:30	T414	Lei Cao	A High Spatial Resolution Neutron Radiography System by Using Micro-channel Plate Detector
9:50	T415	Gregory Downing	Imaging Neutron Fields with Submicron Resolution
10:10	Coffee Break		
M. Matsubayashi P. Vontobel	**SESSION 2**	**Speaker**	**Non- Destructive Testing and Evaluation II**
10:30	T421	John Lindsay	Evaluation of Gravity Driven Gas Diffusion Cooling Systems
10:50	T422	Michael Zawisky	Investigation of Calcareous Arenites from St. Stephans Cathedral, Vienna
11:10	T423	Donah Tran	Neutron Imaging and Automotive Technology Development Uses
11:30	T424	Brian Tang	POD Assessment of RMC Neutron Radiology System for Water Detection in CF188 Hornet Flight Control Surfaces
11:50	T425	Md. Alam	Study on Water Uptake Behavior of Jute Reinforced Polymer Composites Using NEUTRA Facility at SINQ
12:10	Lunch Break		
W. Treimer K. Viswanathan	**SESSION 3**	**Speaker**	**Image Visualization and Reconstruction**
1:30	T431	Arthur Heller	Error Analysis of Water Quantification Using Neutron Imaging
1:50	T432	Seung Lee	A Preliminary Study of Iterative Reconstruction Algorithms for Neutron Tomography
2:10	T433	Ryoichi Taniguchi	Comparative Study on Neutron Sensitivity and Noise Characteristics
2:30	T434	Takehisa Yoshida	Visualization in a Self-Vibration Heat Pipe by Neutron Radiography
2:50	T435	Fayçal Kharfi	3D Reconstruction, Image Processing and Analyzing in Neutron Tomography
3:10	Coffee Break		
N. Kardjilov W. Richards	**SESSION 4**	**Speaker**	**Applications in Biology and Geology**
3:30	T441	Uzuki Matsushima	Visualization of Water Flow in Tomato Seedlings Using Neutron Imaging
3:50	T442	Hyun-Ho Kim/	Development of Techniques for Ginseng Root Growth Analysis using Neutron Radiography
4:10	T443	Peter Vontobel	Neutron Imaging for Soil-Physics and Geology at Paul Scherrer Institute
4:30	T444	Thomas Cleveland	The use of Neutron Tomography for the Structural Analysis of Corn Kernels
4:50	**Remarks by Current ISNR Authorities**		
4:55	**Closing Remarks**		
5:00	**Conclusion of WCNR-8**		