

Program

1st Day April 17 Friday AM: Nihon University CASALS HALL

9:00-9:30	Opening Ceremony
Plenary Lecture 1 Chair: B. Hoyle	
9:30-10:30	Navier-Stokes flows and non-stationary inversion in process tomography Professor Jari KAPIO (University of Kuopio, Finland)
Plenary Lecture 2 Chair: Y. Murai	
10:30-11:30	Time Resolved Tomographic Applications Professor Koji OKAMOTO (University of Tokyo, Japan)

1st Day April 17 Friday PM: Meiji University Shikon-kan Room A

Velocity & Flow Rate Measurement Chair : D. Scott

12:30-12:50 #4	Design of Inductive Flow Tomography (CIFT) sensors for liquid metal flow in refractory tubes Wuliang Yin, W Yin, A J Peyton, F. Stefani, G. Gerbeth
12:50-13:10 #90	Visualization and velocity measurements of multi-phase unsteady flow in Oscillatory Baffled Reactor using ERT M. Issa, M Wang, G. Vilar, H. I. Schlaberg , R. A. Williams
13:10-13:30 #26	3D Velocity Profiles of Multi-Phase Flow Systems Using Electrical Capacitance Volume Tomography Q. Marashdeh, F. Wang, W. Warsito, L. S. Fan
13:30-13:50 #85	Validation of tomographic measurements from high-conductivity multiphase flows Jiabin Jia, Mi Wang, H. Inaki Schlaberg, Hua Li
13:50-14:10 #45	Flow Measurement in Open Channel using Ultrasonic Array Sensor Yusuke SHIMIZU, Daisuke ITO, Hiroshige KIKURA, Masanori ARITOMI, Masahiro TAKEI
14:10-14:30 #56	Solution of 3D Electromagnetic Flow Meter Equations Based on a Resistor Network Equivalent Method W Yin, B Dekdouk, A J Peyton

Micro Structure Chair : E. Palchikov

14:40-15:00 #37	Micro Bubbly Flow Measurement using Narrow Wire-Mesh Sensor Yasuaki SHIMOHARA, Daisuke ITO, Hiroshige KIKURA, Masanori ARITOMI, Masahiro TAKEI
15:00-15:20 #74	Preliminary performance evaluation of Micro-CT system for small animal imaging Shouping Zhu Jie Tian Guorui Yan
15:20-15:40 #86	Cross-sectional Impedance Measurement of Nano Particle Flow in Microchannel Je Eun Choi, Masahiro Takei
15:40-16:00 #23	Advanced 3D Multiphase Flow Simulation in Porous Media Using the He-Chen-Zhang Lattice Boltzmann Model C.L. Lin, A.R. Videla , J.D. Miller

Electrical & Electro-Magnetic Tomography(1) Chair : A. Peyton

16:10-16:30 #96	A Collaborative Visualization System for Complex CFD Results on a Tiled Display Wall Hiroshi Kuwano, Takuma Kawamura, Naohisa Sakamoto, Koji Koyamada, Kazunori Nozaki
16:30-16:50 #13	Applications of Electrical Capacitance Tomography for On-line Monitoring of Pharmaceutical Particle Fabrications Chi-Hwa Wang, Alireza Rezvanpour, Yung C. Liang
16:50-17:10 #6	Cross-Section Measurement of Electromagnetic Tomography Based on Symmetric Coil-compensation Mode Dong Liu, Feng Dong
17:10-17:30 #7	Galerkin Boundary Element Method for the Forward Problem of ERT Yaoyuan Xu, Feng Dong

**1st Day April 17 Friday PM: Meiji University Shikon-kan
Room B**

Gas-Liquid Flow Chair : M. Kureta

12:30-12:50 #89	Application of PIV to clarify the dynamic interaction between a bubble swarm and liquid-phase motion Yoritomo Ueda, Koichi Morikawa , Toshiyuki Sanada , Takayuki Saito
12:50-13:10 #14	ERT Visualization of Gas-Liquid Mixing in an Agitated vessel M.S. Takriff , J. Abdullah
13:10-13:30 #87	Experimental study of Liquid motion and Mass transfer induced by Single rising bubbles via PIV/LIF Manabu Yamamoto, Masato Yamada , Koichi Morikawa , Toshiyuki Sanada , Takayuki Saito
13:30-13:50 #88	Liquid motion through the collision of a pair of bubbles via PIV measurement Kenjo Yoshimoto, Daiji Sone, Toshiyuki Sanada , Takayuki Saito
13:50-14:10 #25	Pulse X-ray few-projection tomography of cavitation process Palchikov E. I
14:10-14:30 #39	Characterization of on-line fluid sampling using gamma-ray tomography Erik Magnus Bruvik ,Bjørn Tore Hjertaker

Laser Chair : T. Saito

14:40-15:00 #27	3-D Measurement of Smoke Density Distribution by Backward Projection of Integral Colour Information Yuichi Murai, Tetsushi Kanda, Yuji Tasaka, Yasushi Takeda
15:00-15:20 #73	Proper orthogonal decomposition based tomography analysis of concentration gradients around a KDP crystal growing in mixed convection regime Atul Srivastava, Dhruv. Singh, K. Muralidhar, K. Tsukamoto
15:20-15:40 #79	Computed Tomographic Measurement of Suic Flow Field by Stripe-Patterned Background Oriented Schlieren (SPBOS) Masanori Ota, Kenta HAMADA, Nurul H. B. ZULKIFLI , Kazuo MAENO
15:40-16:00 #80	Three-Dimensional Laser Interferometric CT (LICT) Measurement of Shock Wave Interaction around A Circular Cylinder INAGE Tatsuro, SUNAO Tsuchikura, OTA Masanori , MAENO Kazuo

Wire Mesh Sensor Chair : H. Kikura

16:10-16:30 #28	Comparison of the Flow Measurement between EIT and a Wire-Mesh Sensor System in Vertical Air-Water Flows Hua Li, Mi Wang, Uwe Hampel, H. Inaki Schlaberg
16:30-16:50 #57	Comparison Between Electrical Capacitance Tomography and Wire Mesh Sensor output for air/silicone oil flow in a vertical pipe B.J Azzopardi, L.A. Abdulkareem, D.Zhao, S.Thiele, M.J. da Silva, M. Beyer A.Hunt
16:50-17:10 #91	Comparison study of gas-oil and gas-water two-phase flow in vertical pipes L. Szalinski, M.J. Da Silva, S. Thiele, M. Beyer, D. Lucas, U. Hampel, V. Hernandez Perez, L.A. Abdulkareem, B.J. Azzopardi
17:10-17:30 #77	Experimental two-phase flow measurements using two-plane limited-angle electron beam x-ray CT and wire mesh sensor M. Bieberle, U. Hampel, E. Schleicher, F. Fischer, D. Koch, H.-G. Mayer, H.-J. Menz
17:30-17:50 #63	Capacitance Wire-Mesh Sensor and Electrical Capacitance Tomography Study of Trickle-Bed Reactor Hydrodynamics Bartosz Matusiak, Marco Jose da Silva, Krzysztof Grudzień, Uwe Hampel

**2nd Day April 18 Saturday: Meiji University Shikon-kan
Room A**

Electrical & Electro-Magnetic Tomography(2) Chair : R. Williams

8:30-8:50 #97	Challenges in Low-Energy Hard-Field Tomography Ozanyan Krikor
8:50-9:10 #50	Three-dimensional electrical resistance tomography applied to soil resistivity distribution for locating earth grounding system Anil Kumar Khambampati, Ahmar Rashid, Jeong Seong Lee, Bong Seok Kim, Min Jae Kang, Sin Kim, Kyung Youn Kim
9:10-9:30 #59	Dynamic estimation of Interfacial boundary in Stratified Flows of two immiscible liquids using Electrical Resistance Tomography Jeong Seong Lee, Nauman Malik Muhammad, Anil Kumar Khambampati, Ahmar Rashid, Bong Seok Kim, Kyung Youn Kim, Sin Kim
9:30-9:50 #22	A new method for characterization of three phase flows inside a gas-liquid-solid outer loop bubble column Haibo Jin, Yuhuan Han, Suohe Yang, Guangxiang He

Electrical & Electro-Magnetic Tomography(3) Chair : F. Dong

10:00-10:20 #54	Effectiveness of Rotatable sensor to improve spatial resolution of standard ECT system Zhijian Liu, Laurent Babout, Dominik Sankowski
10:20-10:40 #30	Inspection of dielectric materials using a 3D ECT Robert Banasiak, Radoslaw Wajman, Manuchehr Soleimani, Jakub Betiuk
10:40-11:00 #55	Review of Current Approaches for Monitoring of Barite Sagging Process in Oil Industry and Application of Electrical Capacitance Tomography Syed Faisal Ahmed Bukhari
11:00-11:20 #62	Design of TCP/IP Based Flexible Three Dimensional Electrical Capacitance Tomography Yong-Bo He, Jakub Betiuk, Meng Xu, Radoslaw Wajman

Electrical & Electro-Magnetic Tomography(4) Chair : M. Wang

11:30-11:50 #82	Monitoring of media migration in frozen soil using an open frame ECT sensor Shi Liu, Z Han, Z, Li, J, Liu
11:50-12:10 #32	A State Evolution Model to Monitor Sedimentation Process Using Electrical Impedance Tomography Ahmar Rashid, Anil Kumar Khambampati, Bong Seok Kim, Sin Kim, Kyung Youn Kim
12:10-12:30 #43	Non-stationary inversion with convection-diffusion models – approximation errors induced by non-steady-state flow fields A. Lipponen, A. Seppänen, J. P. Kaipio
12:30-12:50 #44	EIT-Based Detection of Juvenile and Knot Wood in Southern Pine Logs with Brush Electrodes Jerome E Cooper, Philip H Steele, Brian K Mitchell, Craig Boden, William R B Lionheart

Inverse Problem & Reconstruction(1) Chair : H. McCann

13:50-14:10 #72	3D visualization of the bulk solid flow in slender silo using ECT method Radoslaw Wajman, Maciej Niedostatkiwicz, Robert Banasiak, Krzysztof Grudzień, Zbigniew Chaniecki, Romanowski Andrzej1, Dominik Sankowski
14:10-14:30 #31	Level set reconstruction algorithm for 3D ECT Manuchehr Soleimani, Robert Banasiak, Radoslaw Wajman, Oliver Dorn
14:30-14:50 #48	A Tomography System with 32 Tribo-Electric Sensors: Its Performance and Improvement Machida, M., Kaminoyama, M.
14:50-15:10 #8	Modelling of Electrical Capacitance Tomography Sensor with Asymmetric Electrode Configuration Lihui Peng, Peng Xue, Geng Lu
15:10-15:30 #47	General Ray Method for Electric Tomography Image Reconstruction A. Grebennikov

Inverse Problem & Reconstruction(2) Chair : K. Ozanyan

15:40-16:00 #29	Reconstruction of the flow structure during the transition of combustion to detonation in porous high explosive according to synchrotron radiation data E.R. Prueel, A.O. Kashkarov, L.A. Lukyanchikov, L.A. Merzhievsky
16:00-16:20 #61	Interferometric tomography for reconstruction of temperature field in a buoyancy-induced convection in superposed fluid layers Sunil Punjabi, Atul Srivastava , K. Muralidhar P. K. Panigrahi
16:20-16:40 #68	A User-Friendly System for Analysis of Large Volumes of Tomographic Data: TIPOD Nataša Terzija, David Eales, John Davidson, Paul Wright , Hugh McCann

Inverse Problem & Reconstruction(3) Chair : D. Sankowski

16:50-17:10 #35	Time Domain Inverse Scattering Using FDTD-Based Gradient Minimization S. Binajaj , M.Z. Abdullah
17:10-17:30 #2	Vector Spherical Harmonics Application to 3-D Tomography problem Balandin A.L
17:30-17:50 #58	Analysis of Electrical Tomography Sensitive Field Based on Multi Terminal Network Yong-Bo HE, Yu-Guo SHAO, Meng XU, Dominik Sankowski
17:50-18:10 #49	Influence of Electrode System in Medical Electrical Impedance Tomography Yan Wang, Hong Sha, Shu Zhao, Chaoshi Ren
18:10-18:30 #69	Wavelet-Based Reconstruction Approach for Hard-Field Tomography from Severely Limited Data Natasa Terzija, Hugh McCann

**2nd Day April 18 Saturday: Meiji University Shikon-kan
Room B****Particle Flow(1) Chair : S. Liu**

8:30-8:50 #71	Description of the shear localization in bulk solid during emptying of the rectangular silo using ECT method Robert Banasiak, Maciej Niedostatkiwicz, Krzysztof Grudzień, Zbigniew Chaniecki, Radosław Wajman, Jakub Betiuk, Dominik Sankowski
8:50-9:10 #70	Application of ECT method for detection of bulk solid vibration during silo emptying process using raw data and reconstructed images Krzysztof Grudzień, Maciej Niedostatkiwicz, Zbigniew Chaniecki, Andrzej Romanowski, Dominik Sankowski
9:10-9:30 #65	3D characterisation of the structure of activated carbon packed beds using X-ray microtomography A. Léonard, M. C. Almazán-Almazán, J. López-Garzón, J. Abdullah, S. Blacher, P. Marchot
9:30-9:50 #98	Multi-wave Sensors for Two-Phase Flow Observations in Vertical Rectangular Channel MK Biddinika, D Ito, H Takahashi, H Kikura, M Aritomi

Particle Flow(2) Chair : P. Marchot

10:00-10:20 #93	Two-Phase Flow Patterns identification Based on the Grey System Xin-Jie Wu, Bin Li, Chao Xu, Shi Liu
10:20-10:40 #92	Discussion about the possibility of application of the non-intrusive methods to detect concentration changes during silo flow Maciej Niedostatkiwicz, Dominik Sankowski
10:40-11:00 #51	Comparison of Hydrodynamics of a Spout-Fluid Bed and a Bubbling Bed Using Sand Particles Ana Orta, Adriana Guerrero, Mahfam Ghods, Quanzhong Zhang, Bangyou Wu, Apostolos Kantzas
11:00-11:20 #66	Relation Between Segregation Patterns and Flow Modes in Tapered Rotating Drum Using MRI Hirotaka Yada, Toshihiro Kawaguchi, Takuya Tsuji, Toshitsugu Tanaka

X-ray & Gamma-ray(1) Chair : U. Hampel

11:30-11:50 #95	Industrial imaging method using high-energy photon beam CT Hiroyuki Toyokawa
11:50-12:10 #46	Development of prompt gamma-ray analysis and three-dimensional computed tomography system for simultaneous multielement determination Mariko Segawa, Masatoshi Kureta, Hideaki Matsue
12:10-12:30 #40	Monte Carlo based approach as a tool for modelling and simulation gamma-ray tomography system

	V. Mosorov G.A. Johansen, R. Maad, D. Sankowski
12:30-12:50 #3	Some Key Techniques in an Experimental Gamma Ray Tomography Facility Yingxiang Wu, Keren Wang, Donghui Li, Jingyu Xu, Hua Li

X-ray & Gamma-ray(2) Chair : B. Hjertaker

13:50-14:10 #5	Fluid Flow Simulations and Measurements on a Metallic Foam Beugre D.A., Crine M., Dethier G., Léonard A, Toye D. , P. Marchot
14:10-14:30 #53	Image Reconstruction of Discrete Structures by Projective Computer Tomography Alexandre Grebennikov , T. Valencia Pérez
14:30-14:50 #1	Tomographic KT-1 Signature of Phase-fraction Distributions in a three-phase Bubble Column M. Behling, Saaransh Gulati, P.Munshi, A. Luke, D. Mewes
14:50-15:10 #9	Pore-Scale Measurement of Gas Trapping in Porous Media by X-Ray CT Scanning. Tetsuya Suekane, Takahiro Hosokawa, Takuya Matsumoto
15:10-15:30 #38	Study of Particle Packing Structure in Tubular Container using X-ray Micro Computed Tomography Michitaka Suzuki, Shigeyuki Kikuchi, Kenji Iimura, Katsunori Ishii

Data Fusion for Tomographic 4-D Data Chair : B. Wu

15:40-16:00 #11	Restoration of internal structure of the body varying in the time by interflatation and approximation operators Oleg Lytvyn, Yuliya I. Pershina, Oleg O. Litvin
16:00-16:20 #64	Data processing methods for dynamic neutron tomography velocimetry Masatoshi Kureta, Hiroaki Kumada, Etsuo Kume, Satoshi Someya , Koji Okamoto
16:20-16:40 #84	What it is and where it is: 4D data fusion for Spectro-tomography B S Hoyle, M. Nahvi

Calibration & Validation Chair : C. Lin

16:50-17:10 #12	Application and Validation of Tomographic Imaging in Particle Processing Operations David M. Scott
17:10-17:30 #67	Calibration and Validation Techniques for Near-IR Chemical Species Tomography Hugh McCann, Natasa Terzija, Edward Cheadle, John Davidson, Krikor Ozanyan , Paul Wright
17:30-17:50 #41	Solids hold up determination in vertical pipeline slurry flow using electrical resistance tomography B. Munir, M. Wang, U. Zafar
17:50-18:10 #83	Comparison between electrical resistance tomography, CFD and other measurement techniques G. Bolton, K Primrose, C Qiu, Wang, HI Schlaberg, D Brown, J Brown, K C Low, G Padron
18:10-18:30 #76	ECT measurement and DEM Simulation of particle distribution in a down-flow fluidized bed Tong ZHAO , Masahiro TAKEI