

Technical Program

Monday, May 14

10:35 - 13:05

5001: A/D & D/A converters and Electronic Devices

Room: POSTER

A 12-bit 50 MS/s Pipelined ADC with Power Optimized Strategy for Ultrasonic Imaging Instruments

Cheng-Ta Chiang (National Chia Yi University, Taiwan)

A NMOS Bulk Voltage Trimming Offset Calibration Technique for a 6-bit 5GS/s Flash ADC

Chrysoula Vassou (Aristotle University of Thessaloniki, Greece); Lampros Mountrichas (Aristotle University of Thessaloniki, Greece); Stylianos Siskos (Aristotle University of Thessaloniki, Greece)

ADC Test Development Tool Kit

Richard Liggiero (LTX Corporation, USA); Kenneth Donovan (LTX-Credence, USA); Solomon M Max (LTX-Credence Corporation, USA); Steven Tilden (LTX-Credence Corporation, USA)

5001: Biomedical Monitoring

Room: POSTER

Ambulatory human upper limb joint motion monitoring

Diego Álvarez (University of Oviedo, Spain); Juan Carlos Alvarez (Universidad de Oviedo, Spain); Rafael González (University of Oviedo, Spain); Antonio Miguel López (University of Oviedo, Spain)

Improving the Performance of Cough Sound Discriminator in Reverberant Environments using Microphone Array

Payam Moradshahi (Carleton University, Canada); Hanieh Chatzarrin (Carleton University, Canada); Rafik Goubran (Carleton University, Canada)

Pedestrian Dead Reckoning With Waist-Worn Inertial Sensors

Juan Carlos Alvarez (Universidad de Oviedo, Spain); Antonio Miguel López (University of Oviedo, Spain); Rafael González (University of Oviedo, Spain); Diego Álvarez (University of Oviedo, Spain)

Wireless sensor node for respiratory sounds monitoring

Dinko Oletic (University of Zagreb & Faculty of Electrical Engineering and Computing, Croatia); Vedran Bilas (University of Zagreb, Croatia)

5001: Dielectric and Magnetic Sensing

Room: POSTER

Enable the inherent omni-directionality of an absolute coupled dark state magnetometer for e.g. scientific space applications

Andreas Pollinger (Austrian Academy of Sciences & TU Graz, Austria); Michaela Ellmeier (TU Graz, Austria); Werner Magnes (Austrian Academy of Sciences, Austria); Christian Hagen (Austrian Academy of Sciences, Austria); Wolfgang Baumjohann (Austrian Academy of Sciences, Austria); Erich Leitgeb (TUG, Austria); Roland Lammegeer (TU Graz, Austria)

Comparison of Methods of Piezoelectric Coefficient Measurement

Jiří Fialka (Brno University of Technology, Czech Republic); Petr Beneš (Brno University of Technology & FEEC, Czech Republic)

Amplifying the Effect of Local Magnetic Saturation for Contactless Displacement Measurement using Copper Shielding

Christoph Weissinger (Technical University of Munich, Germany); Hans-Georg Herzog (Technische Universität München, Germany)

A New Free-Space Calibration Technique for Materials Measurement

Phil Bartley (Innovative Measurement Solutions, Inc, USA); Shelley Begley (Agilent Technologies, Inc., USA)

Impedance Spectroscopy on a Single PEM Fuel Cell for the Evaluation of Current Ripple Effects

Roberto Ferrero (Politenico di Milano, Italy); Mirko Marracci (University of Pisa, Italy); Bernardo Tellini (University of Pisa, Italy)

Effects of charge collectors in ferroelectric E-Field sensors

Bruno Andò (University of Catania, Italy); Salvatore Baglio (University of Catania, Italy); Vincenzo Marletta (University of Catania, Italy); Adi R. Bulsara (Space and Naval Warfare Center (San Diego), USA)

Measurement Method of the Complex Magnetic Permeability of Ferrites in High Frequency

Carlos Cuellar (Université de Lille 1, France); Wenhua Tan (Ecole Centrale de Lille & Laboratory of Electrical Engineering and Power Electronics, France); Xavier Margueron (ECLille - L2EP, France); Abdelkader Benabou (Université de Lille 1, France); Nadir Idir (Université de Lille 1 - L2EP, France)

Electromagnetic Model of an Ironless Inductive Position Sensor

Alessandro Danisi (CERN & EPFL, Switzerland); Alessandro Masi (CERN, Switzerland); Roberto Losito (CERN, Switzerland); Yves Perriard (Laboratory director, Switzerland)

Dynamic Capacitive Extensometry Setup for In-Situ Monitoring of Dielectric Elastomer Actuators

Gerda Buchberger (Johannes Kepler University, Austria); Bernhard Mayrhofer (Johannes Kepler University, Austria); Bernhard Jakoby (Johannes Kepler University Linz, Austria); Wolfgang Hilber (Johannes Kepler University, Austria); Siegfried Bauer (Johannes Kepler University, Austria)

Directional Human Approach and Touch Detection for Nets Based on Capacitive Measurement

Thomas Schlegl (Graz University of Technology, Austria); Michael J. Moser (Graz University of Technology, Austria); Hubert Zangl (Graz University of Technology, Austria)

Precise Fourier Transform Spectroscopy based Measurement of Dielectric Properties of Thin Films at Terahertz Frequency Range

Liu Chao (Tufts University, USA); Anjali Sharma (Tufts University, USA); Mohammed N Afsar (Tufts University, USA)

5001: Electrical & power measurements

Room: POSTER

Using the Load Current of the CPU to Dynamically Control the Voltage and Reduce the Power Consumption of PC Systems

Y. W. Bai (Fu Jen Catholic University, Taiwan); Feng-Hua Chang (Fu Jen Catholic University, Taiwan)

An International Intercomparison of Quantum-Based AC Voltage Standards

Thomas Lipe (National Institute of Standards and Technology, USA); Joseph R Kinard (National Institute of Standards and Technology, USA); Yi-hua Tang (National Institute of Standards and Technology, USA); Peter S Filipiski (National Research Council Canada, Canada)

Automatic voltage disturbance detection and classification using wavelets and multiclass logistic regression

Dimce Kostadinov (Faculty of Electrical Engineering and Information Technologies, Macedonia, the former Yugoslav Republic of); Dimitar Taskovski (University Ss Cyril and Methodius in Skopje, Macedonia, the former Yugoslav Republic of)

Characterization of AC-DC Transfer Shunts up to 100 A at 100 kHz Using Two-Stage, Amplifier-Aided Current Transformers

Joseph R Kinard (National Institute of Standards and Technology, USA); Owen Laug (NIST, USA); Bryan Waltrip (National Institute of Standards and Technology, USA); Thomas Lipe (National Institute of Standards and Technology, USA)

A Novel Voltage Clamp Circuit for the Measurement of Transistor Dynamic On-Resistance

Ratmir Gelagaev (Katholieke Universiteit Leuven, Belgium)

Dynamic Analysis of Electronic Devices' Power Signatures

Marius Marcu (Politehnica University of Timisoara & Lasting Software Timisoara, Romania); Cosmin Cernazanu (Politehnica University of Timisoara, Romania)

Multielectrode Measurement of Conductive Liquid Layer Thickness

Dejan Vurin (Telegra d. d., Croatia); Hrvoje Džapo (University of Zagreb, Croatia)

Early Progress in the Development of a Radiometric PD Location System

José Maurício Neto (Federal University of Campina Grande, Brazil); Euler Tavares Macedo (Federal University of Paraíba, Brazil); Tony Carlos Cavalcanti (Federal University of Campina Grande, Brazil); Edson C. Guedes (Federal University of Campina Grande, Brazil); J. S. Rocha Neto (Federal University of Campina Grande, Brazil); Ian A Glover (University of Strathclyde, United Kingdom)

Practical Considerations for Laboratory Based Spectral Monitoring in the High Frequency (HF) Band

Zachary Dunn (University of Oklahoma, USA); Mark Yearly (University of Oklahoma, USA)

Wide-area Measurement-based Power System for Smart Transmission Grid With Communication Delay

Shafiqul Islam (University of Ottawa, Canada); Peter Liu (Carleton University, Canada); Abdulmotaleb El Saddik (University of Ottawa, Canada)

Analysis on Eccentric Bus-bar Testing Method of Heavy Current Transformer

Jin Xing (Tsinghua University, P.R. China); Wei Zhao (Tsinghua University, P.R. China); Songling Huang (Tsinghua university, P.R. China); Bo Jiang (Sichuan Electric Power Test and Research Institute, P.R. China)

A Novel Algorithm for the Parallel Arc Fault Identification in DC Aircraft Power Plants

Riccardo Grasseti (Logic SpA, Italy); Roberto Ottoboni (Politecnico di Milano, Italy); Marco Rossi (Politecnico di Milano, Italy)

Low Distortion Power Amplifier for Battery Measurement Systems

Stefan Gruber (Graz University of Technology, Austria); Manes Recheis (Graz University of Technology, Austria); Bernhard Schweighofer (Graz University of Technology, Austria); Hannes Wegleiter (Graz University of Technology, Austria)

Practical implementation issues in detecting voltage dips

Antonio Moschitta (University of Perugia, Italy); Mario Luca Fravolini (University of Perugia, Italy); Paolo Carbone (University of Perugia, Italy); Francesco Tissi (University of Perugia, Italy)

5001: Image processing and pattern recognition

Room: POSTER

Design of a Low Cost Video Monitor Store and Forward Device

Justin Marais (University of Pretoria, South Africa); Gerhard P Hancke (University of Pretoria, South Africa)

Leukocyte nucleus segmentation and recognition in color blood-smear images

Der-Chen Huang (Chung Hsing University, Taiwan); Kun-Ding Hung (National Chung Hsing University, Taiwan)

Dual Supervisory Architecture for Drift Correction and Accurate Visual Servoing in Industrial Manufacturing

Valentin Borsu (University of Ottawa, Canada); Pierre Payeur (University of Ottawa, Canada)

Sampling Problems in Granulometry

Pranas Kuzas (Kaunas University of Technology, Lithuania); Darius Gailius (Kaunas University of Technology, Lithuania); Vygantas Augutis (Kaunas University of Technology, Lithuania); Antanas Dumčius (Kaunas University of Technology, Lithuania)

Ultrasonic Speckle Reduction Based on Soft Thresholding in Quaternion Wavelet Domain

Jing Jin (Harbin institute of Technology, P.R. China); Yipeng Liu (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China)

Reversible Data Hiding Without Side Information

Hyang-mi Yoo (Chungbuk national university, Korea); Sang-Kwang Lee (Electronics and Telecommunications

Research Institute, Korea); Bo-Seok Seo (Chungbuk National University, Korea); Jae-Won Suh (Chungbuk National University, Korea)

Ultrasound Extended-Field-of-View Imaging Based on Motion Estimation Using Quaternion Wavelet

Yipeng Liu (Harbin Institute of Technology, P.R. China); Jing Jin (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China)

Flight Stability Study of Micro Air Vehicle with Elastic Aerodynamic Shape

Yanan Yu (Tianjin University & Brunel University, P.R. China); Qingping Yang (Brunel University, United Kingdom); Xiangjun Wang (Tianjin University, P.R. China)

Accelerometer based horizon and keystone perspective correction

Enrico Calore (University of Milan, Italy); Federico Pedersini (Università degli Studi di Milano, Italy); Iuri Frosio (University of Milan, Italy)

Automated Tuning of a Vision-based Inspection System for Industrial Food Manufacturing

Mai Chetima (University of Ottawa, Canada); Pierre Payeur (University of Ottawa, Canada)

Image segmentation using wavelet coefficients and geodesic distance between elliptical distributions for applications in street view

Rodolfo Canonico (UFRGS, Brazil); Jacob Scharcanski (UFRGS, Brazil); Geert Verdoolaege (Ghent University, Belgium)

A novel image enhancement approach for Phalanx and Epiphyseal/metaphyseal segmentation based on hand radiographs

Chih-Yen Chen (Instrument Technology Research Center, Taiwan); Tai-Shan Liao (Instrument Technology Research Center, Taiwan); Chi-Wen Hsieh (National Chiayi University, Taiwan); Tzu-Chiang Liu (Taipei Veterans General Hospital, Taiwan); Hung-Chun Chien (Jinwen University of Science and Technology, Taiwan)

Mpeg-2 Digital Video Watermarking Technique

Satyendra Biswas (Norfolk State University, USA); Sabikun Nahar (Independent University, Bangladesh); Sunil R. Das (University of Ottawa, Canada); Emil M. Petriu (University of Ottawa, Canada); Mansour H Assaf (The University of the South Pacific (USP) & Faculty of Science & Technology, Fiji); Voicu Groza (University of Ottawa, Canada)

A New Approach for Automatic Visual Monitoring of Analog Meter Displays

Carlos Behaine (UFRGS, Brazil); Jacob Scharcanski (UFRGS, Brazil)

Low-Cost Automatic Visual Inspection System for Media in Hard Disk Drive Mass Production

Zhi Sheng Chow (Monash University, Malaysia); Melanie P-L. Ooi (Monash University, Malaysia); Ye Chow Kuang (Monash University Malaysia, Malaysia); Serge Demidenko (RMIT International University Vietnam & Saigon South campus, Vietnam)

Patch based yarn defect detection using Gabor filters

Lucia Bissi (University of Perugia, Italy); Giuseppe Baruffa (University of Perugia, Italy); Pisana Placidi (University of Perugia, Italy); Elisa Ricci (University of Perugia, Italy); Andrea Scorzoni (University of Perugia, Italy); Paolo Valigi (University of Perugia, Italy)

5001: Measurement Systems and Signal Processing

Room: POSTER

The Development of Automatic Optometry Instrument based on the ANSI/ISEA Z87.1 Standard

Chun-Li Chang (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Wen-Hong Wu (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Wen-Tse Hsiao (Instrument Technology Research Center, Taiwan); Kuo-Cheng Huang (Instrument Technology Research Center, Taiwan)

Using Ensemble Empirical Mode Decomposition to Improve the Static Fringe Analysis in Optical Testing

Yu-Ta Chen (National Central University, Taiwan); Mang Ou-Yang (National Chiao Tung University, Taiwan); Shuen-De Wu (National Taiwan Normal University, Taiwan); Shiou-Gwo Lin (National Taiwan Ocean University, Taiwan); Yi-Ting Kuo (Jen-Teh Junior College of Medicine, Taiwan); Lee Cheng-Chung (National Central

University, Taiwan)

A Versatile Built-In Test Architecture for Integrated Millimeter-Wave Radar Receiver Front-Ends

Dietmar Kissinger (University of Erlangen-Nuremberg, Germany); Roman Agethen (University of Erlangen-Nuremberg, Germany); Robert Weigel (University of Erlangen-Nuremberg, Germany)

Instrumentation Electronic Data Sheets: IEEE 1451-like Extension to Measuring Systems

Giada Giorgi (University of Padova, Italy); Claudio Narduzzi (Universita' di Padova, Italy)

Compact FPGA-Based Elaboration Platform for Wide-Bandwidth Electrochemical Measurements

Marco Carminati (Politecnico di Milano, Italy); Angelo Rottigni (Politecnico di Milano, Italy); Diego Alagna (Politecnico di Milano, Italy); Giorgio Ferrari (Politecnico di Milano, Italy); Marco Sampietro (Politecnico di Milano, Italy)

Sensorless position estimation in solenoid actuators with load compensation

Ivor Dülk (Budapest University of Technology and Economics, Hungary); Tamás Kovács házy (Budapest University of Technology and Economics, Hungary)

Prototyping and Testing a Debris Resistive Acoustic Grid Orbital Navy Sensor

Michael Tsao (The United States Naval Academy, USA); Hau Ngo (United States Naval Academy, USA); Christopher R. Anderson (United States Naval Academy, USA); Albert Sadilek (USNA, USA); Vincent Pisacane (United States Naval Academy, USA); Frank Giovane (Virginia Tech University, USA); Robert Corsaro (Naval Research Laboratory, USA); Mark Burchell (University of Kent Center of Astrophysics and Planetary Science, USA); Eugene Stansberry (NASA Johnson Space Center Orbital Debris Office, USA); Jer-Chyi Liou (NASA Johnson Space Center Orbital Debris Office, USA)

Fuzzy Flip-Flop based Neural Networks as a Novel Implementation Possibility of Multilayer Perceptrons

Rita Lovassy (Obuda University Budapest, Hungary); László Gál (University of West Hungary, Hungary); Árpád Tóth (Széchenyi István University, Hungary); László T. Kóczy (Széchenyi István University, Hungary); Imre J. Rudas (Obuda University, Budapest, Hungary)

IronIC Patch: A Wearable Device for the Remote Powering and Connectivity of Implantable Systems

Jacopo Olivo (EPFL, Switzerland); Sandro Carrara (EPFL, Switzerland); Giovanni De Micheli (Laboratoire des Systemes Integres, EPFL, Switzerland)

Path Driving of Ferrofluid Samples for Bio-Sensing Applications

Bruno Andò (University of Catania, Italy); Salvatore Baglio (University of Catania, Italy); Angela Beninato (University of Catania, Italy)

Adaptive Taylor-Fourier synchrophasor estimation for fast response to changing conditions

Paolo Castello (University of Cagliari, Italy); Marco Lixia (University of Cagliari, Italy); Carlo Muscas (University of Cagliari, Italy); Paolo Attilio Pegoraro (University of Cagliari, Italy)

11:00 - 13:05

10: Image processing and pattern recognition 1

Room: S3

Biomimetic Measurement of Optical Flow and Centroid for Visual-Servo Control of Hover Flight

Philip Crnko (McMaster University, Canada); David Capson (McMaster University, Canada)

A Measurement Approach Based on Micro-Doppler Maps for Human Motion Analysis and Detection

Giada Giorgi (University of Padova, Italy); Roberto Ricci (University of Padua, Italy); Alessandro Sona (University of Padova, Italy)

Feature-Specific Illumination Patterns for Automated Visual Inspection

Robin Gruna (Karlsruhe Institute of Technology (KIT) & Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB), Germany); Jürgen Beyerer (Fraunhofer IOSB, Germany)

A Novel Method for Measuring Nutrition Intake Based on Food Image

Rana Almaghrabi (University of Ottawa, Canada); Gregorio Villalobos (University of Ottawa, Canada); Parisa

Pouladzadeh (University of Ottawa, Canada); Shervin Shirmohammadi (University of Ottawa, Canada)

Contourlet Based Distance Measurement to Improve Fingerprint Identification Accuracy

Mona Omidyeganeh (Ottawa University, Canada); Abbas Javadtalab (University of Ottawa, Canada); Shahrokh Ghaemmaghami (Sharif University of Technology, Iran); Shervin Shirmohammadi (University of Ottawa, Canada)

1001: SPECIAL SESSION: Instrumentation and Measurement for Non-destructive Testing and Evaluation (NDT&E)

Room: S7

Influence of the Surface Roughness on Images Acquired by Flying Spot Active Thermography: Case of the High Pressure Turbine Blades

Thierry Maffren (Onera, France); François Lepoutre (Onera, France); Geoffrey Deban (Onera, France); Anne Mavel (Onera, France); Patrick Juncar (LNE, France)

Uniform Eddy Current Probe based on GMR Sensor Array and Image Processing for NDT

Octavian Adrian Postolache (Institute of Telecommunication - IT/IST & Escola Superior de Tecnologia de Setubal, Portugal); Artur L. Ribeiro (Instituto de Telecomunicações, Portugal); Helena G. Ramos (Instituto de Telecomunicacoes, Instituto Superior Tecnico, Portugal)

Non-Uniform Manual Scanning for Microwave Nondestructive Evaluation Imaging

Mohammad T Ghasr (Missouri University of Science and Technology, USA); Joseph Case (Missouri University of Science and Technology, USA); Dylan Crocker (Missouri University of Science and Technology, USA); Reza Zoughi (Missouri University of Science and Technoogy, USA)

Ultrasonic NDE in a Reactor Core

Bernhard Tittmann (Penn State University, USA)

Rapid Corrosion Detection using 94 GHz Millimeter wave Technology

Kwang Hwee Seah (Institute for Infocomm Research, Singapore); Faeyz Karim (Institute for Infocomm Research, Singapore); Michael Ong (Institute for Infocomm Research, Singapore); Tat Meng Chiam (Institute for Infocomm Research, Singapore)

101: Industrial: Alternative Vehicles 1

Room: S4

Power Line Communication Channel Modeling for In-Vehicle Applications

Igor S Stievano (Politecnico di Torino, Italy); Flavio Canavero (Politecnico di Torino, Italy); Vlad Dafinescu (Technical University 'Gheorghe Asachi' of Iasi, Romania)

Vehicle Re-identification With a Single Magnetic Sensor

Sylvie Charbonnier (Gipsa-lab INPG-CNRS, France); Anne-Cécile Pitton (CEA-LETI Minatec, France); Andrea Vassilev (CEA-LETI Minatec, France)

Road Load Data Acquisition at MAGNA STEYR

Marcus Mitsch (Magna Steyr Fahrzeugtechnik AG & Co KG, Austria)

A particle filtering approach for joint vehicular detection and tracking in lidar data

Benoît Fortin (University Lille Nord-de-France, France); Jean-Charles Noyer (University Lille Nord de France, France); Régis Lherbier (University Lille Nord-de-France, France)

Reflectometry based Fault Localization in Automotive Bus Systems

Allan Tengg (The Virtual Vehicle Competence Center (ViF), Austria); Peter Hank (NXP Semiconductors Germany GmbH, Germany)

103: Industrial: Protecting the Environment 1

Room: S5

Near-bottom sediment dynamics on highly-protected beaches

Josefina Antonijuan (Universitat Politècnica de Catalunya, Spain); Jorge Guillén (Institut de Ciències del Mar-CSIC, Spain); Laura López (Institut de Ciències del Mar-CSIC, Spain); Gonzalo Simarro (Institut de Ciències del Mar-CSIC, Spain)

A Teaching Approach Based on the Numerical Simulation of Acoustic Noise Generated by Engine in Industrial Environments

Ventura J Muñoz (Universidad del Norte, Colombia); Eduardo E Zurek (Universidad del Norte, Colombia); Danilo A Garcia (Universidad del Norte, Colombia); Jovanny A Pacheco (Universidad del Norte, Colombia)

Dynamic Prioritization of Multi-sensor Feeds for Resource Limited Surveillance Systems

Dewan T Ahmed (King Saud University, Saudi Arabia); M. Anwar Hossain (King Saud University, Saudi Arabia)

An Electronic Interface for Measuring CO₂ Emissions in Embedded Systems

Daniel Garcia-Romeo (University of Zaragoza, Spain); Hector Fuentes (University of Zaragoza, Spain); Nicolas Medrano (University of Zaragoza, Spain); Belen Calvo (University of Zaragoza, Spain); Santiago Celma (University of Zaragoza, Spain); Diego Antolín (University of Zaragoza, Spain)

An Integrated CMOS Receiver-TDC Chip for mm-accurate Pulsed Time-of-Flight Laser Radar Measurements

Jan Nissinen (University of Oulu, Finland); Ilkka Nissinen (University of Oulu, Finland); Juha Kostamovaara (University of Oulu, Finland)

105: Industrial: Sustainable Energy 1

Room: S6

Modeling and Design of an Electromagnetic Vibration Energy Harvester and its Dedicated Energy Extraction Circuit

Emmanuelle Arroyo (Université de Savoie & Laboratoire SYMME, France); Adrien Badel (Université de Savoie, France); Fabien Formosa (Laboratoire SYMME, Université de Savoie, France)

A Simplified Model of Photovoltaic Panel

Loredana Cristaldi (Politecnico di Milano, Italy); Marco Faifer (Politecnico di Milano, Italy); Marco Rossi (Politecnico di Milano, Italy); Sergio Toscani (Politecnico di Milano, Italy)

Wood Chip Fiber Flow Rate Control and TMP Refining Energy Saving

Feng Ding (CRIQ, Canada); Claude Lejeune (CRIQ, Canada); Alain Poulin (Hydro Québec, Canada); Luc Laperrière (UQTR, Canada)

Drilling Dynamics Measurements at the Drill Bit to Address Today's Challenges

Olivier J Hoffmann (Baker Hughes Incorporated, USA); Jayesh Jain (Baker Hughes, USA); Reed Spencer (Baker Hughes, USA); Navish Makkar (Baker Hughes, USA)

Accuracy of Ultrasonic Sensor in Caliper Log

Behzad Elahifar (University of Leoben, Austria); Abdolali Esmaeili (Leoben University, Austria); Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria); Gerhard Thonhauser (University of Leoben, Austria)

6: Dielectric and Magnetic Sensing 1

Room: S1

Signal Synthesis for Magnetoresistive Speed Sensors based on Field Simulations combined with Measured Sensor Characteristic Diagrams

Martin Krey (Hamburg University of Applied Sciences, Germany); Karl-Ragnar Riemschneider (Hochschule für Angewandte Wissenschaften, University of Applied Sciences, Germany); Stefan Zippel (Hamburg University of Applied Sciences, Germany)

Modeling of single turn coil impedance including wiring effects

Uwe Tröltzsch (Chemnitz University of Technology, Germany); Frank Wendler (Chemnitz University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

Measuring the Complex Permittivity of Thin Grain Samples by the Free-Space Transmission Technique
Jochem Roelvink (United States Department of Agriculture, USA); Samir Trabelsi (U. S. , USA)

Induction Conductivity Measurement of Surrounding Low-Conductive Medium From Copper Tube — Experimental Verification

Darko Vasić (University of Zagreb, Croatia); Vedran Bilas (University of Zagreb, Croatia); Anthony Peyton (University of Manchester, United Kingdom)

Injection-Locking Benefits for weak AC magnetic field detection in Coupled-Core Fluxgate Magnetometers

Bruno Andò (University of Catania, Italy); Salvatore Baglio (University of Catania, Italy); Carlo Trigona (University of Catania, Italy); Adi R. Bulsara (Space and Naval Warfare Center (San Diego), USA); Nigel Stocks (The University of Warwick, United Kingdom); Alexander Nikitin (University of Warwick, Italy)

9: Electrical & power measurements 2

Room: S2

Root-Mean-Square Measurement of Periodic, Band-Limited Signals

Predrag B. Petrovic (Technical Faculty Cacak, Serbia)

A Consumption Current Measurement Approach for FPGA Based Embedded Systems

Zilvinas Nakutis (Kaunas University of Technology, Lithuania)

Tracking time-varying waveform distortion in power systems using filter banks

Julio Barros (University of Cantabria, Spain); Matilde Apraiz (University of Cantabria, Spain); Ramón I. Diego (University of Cantabria, Spain)

Performance of three algorithms for the fundamental frequency estimation against 16.7 Hz railways data

Rado Lapuh (Metrology institute of the Republic of Slovenia, Slovenia); Andrea Mariscotti (Università di Genova, Italy)

Sensitivity to flicker of dimmable and non-dimmable lamps

Izaskun Azcarate (University of the Basque Country, Spain); Jose Julio Gutierrez (University of the Basque Country, Spain); Andoni Lazkano (University of the Basque Country, Spain); Purificación Saiz (University of the Basque Country, Spain); Luis Alberto Leturiondo (University of the Basque Country, Spain); Koldo Redondo (University of the Basque Country, Spain)

14:15 - 16:20

1006: SPECIAL SESSION: Nano-Scale Instrumentation and Measurement.

Room: S5

Trade-off between the control bandwidth and the measurement accuracy in Atomic Force Microscopy

Stefan Kuiper (TU Delft, The Netherlands); Paul Van den Hof (TU Delft, The Netherlands); Georg Schitter (Vienna University of Technology, Austria)

Displacement Measurement of Planar Stage by Diffraction Planar Encoder in Nanometer Resolution

Kuang-Chao Fan (National Taiwan University, Taiwan); Bo-Hsun Liao (National Taiwan University, Taiwan); Yi-Cheng Chung (National Taiwan University, Taiwan); Tien-Tung Chung (National Taiwan University, Taiwan)

Dimensional nanometrology at PTB

Hans-Ulrich Danzebrink (Physikalisch-Technische Bundesanstalt (PTB), Germany); Gaoliang Dai (Physikalisch-Technische Bundesanstalt (PTB), Germany); Frank Pohlenz (Physikalisch-Technische Bundesanstalt (PTB), Germany); Thorsten Dziomba (Physikalisch-Technische Bundesanstalt (PTB), Germany); Sebastian Bütetisch (Physikalisch-Technische Bundesanstalt (PTB), Germany); Jens Flügge (Physikalisch-Technische Bundesanstalt (PTB), Germany); Harald Bosse (Physikalisch-Technische Bundesanstalt (PTB), Germany)

Design and Characterization of Band-pass Filters in Fourier Transform Profilometry for Accurate 3-D Surface Measurement

Liang-Chia Chen (National Taiwan University, Taiwan)

Development of a metrological scanning probe microscope incorporating a quartz tuning fork sensor and heterodyne laser interferometry

Jan Herrmann (National Measurement Institute Australia, Australia); Bakir Babic (National Measurement Institute Australia, Australia); Chris Freund (National Measurement Institute Australia, Australia); Malcolm Gray (National Measurement Institute Australia, Australia); Magnus Hsu (National Measurement Institute Australia, Australia); Terry McRae (National Measurement Institute Australia, Australia)

1007: SPECIAL SESSION: Process Tomography and Inverse Problems

Room: S6

Three-dimensional industrial process tomography using electrical and electromagnetic tomography: recent developments

H Wei (University of Bath, United Kingdom); C Yang (University of Bath, United Kingdom); Lu Ma (University of Bath, United Kingdom); Z Ye (University of Bath, United Kingdom); A Yao (University of Bath, United Kingdom); Soleimani Manuchehr (University of Bath, United Kingdom)

Multi-Dimensional Opportunities and Data Fusion in Industrial Process Tomography

Brian S Hoyle (University of Leeds, United Kingdom); Mi Wang (Institute of Particle Science and Engineering, United Kingdom)

Three-dimensional capacitance tomography of a conical fluidized bed reactor

Marko Vauhkonen (University of Eastern Finland, Finland); Ville Rimpiläinen (University of Eastern Finland, Finland); Lasse Heikkinen (University of Eastern Finland, Finland)

Inline monitoring of liquid multiphase systems

Sebastian Woeckel (ifak Magdeburg, Germany); Ulrike Hempel (ifak Magdeburg, Germany); Joerg Auge (Magdeburg-Stendal University of Applied Sciences, Germany)

Electrical Capacitance Tomography: Current Sensors, Algorithms and future Advances

Markus Neumayer (Graz University of Technology, Austria); Gerald Steiner (Graz University of Technology, Austria); Daniel Watzenig (Graz University of Technology & Virtual Vehicle Research Center, Austria)

102: Industrial: Alternative Vehicles 2

Room: S2

Signal Processing in Iterative Improvement of Inverted Pendulum Crane Mode Control System Performance

Radu-Emil Precup (Politehnica University of Timisoara, Romania); Mircea-Bogdan Radac (Politehnica University of Timisoara, Romania); Horatiu-Ioan Filip (Politehnica University of Timisoara, Romania); Stefan Preitl ("Politehnica" University of Timisoara, Romania); Claudia-Adina Dragos (Politehnica University of Timisoara, Romania); Emil M. Petriu (University of Ottawa, Canada)

Automotive Battery Monitoring by Wireless Cell Sensors

Matthias Schneider (Hamburg University of Applied Science, Germany); Sergej Ilgin (HAW Hamburg, Germany); Niels Jegenhorst (HAW Hamburg, Germany); Raik Kube (HAW Hamburg, Germany); Simon Püttjer (HAW Hamburg, Germany); Karl-Ragmar Riemschneider (Hochschule für Angewandte Wissenschaften, University of Applied Sciences, Germany); Jürgen Vollmer (HAW Hamburg, Germany)

An Accurate Identification and Compensation Method for Nonlinear Inverter Characteristic for AC Motor Drives

Andreas Weber (B&R Automation, Austria); Gerald Steiner (Graz University of Technology, Austria)

A Magnetically Coupled Inductive Loop Sensing System for Less-lane Disciplined Traffic

Sheik Mohammed Ali (Indian Institute of Technology Madras, India); Bobby George (Indian Institute of Technology Madras, India); Lelitha Vanajakshi (IIT Madras, India)

Applicability evaluation of the pneumatic gauging method for automotive fuel tanks

Rudolf Brunnader (Graz University of Technology, Austria); Gert Holler (Graz University of Technology, Austria)

104: Industrial: Protecting the Environment 2

Room: S3

Monitoring of Oxygen Content in Flue Gas at Coal Fired Power Plant Using Cloud Modeling Techniques

Xiaojuan Han (University of North China Electric Power, P.R. China); Cheng Cheng (University of North China Electric Power, P.R. China); Yueyan Chen (University of North China Electric Power, P.R. China); Yong Yan (University of Kent, United Kingdom)

Loudness Management for Home Television Viewing

Amal Punchihewa (Massey University & Senior Lecturer, New Zealand)

Optimal Battery Charge and Discharge Control Scheme under Solar Power Inflow

Liang Tao (University of Connecticut, USA); Lingfei Mo (University of Connecticut, USA); Shaopeng Liu (University of Connecticut, USA); Robert X. Gao (University of Connecticut, USA)

Spectral Analysis of Wind Profiler Signal for Environment Monitoring

Patrizia Vergallo (University of Salento, Italy); Aime' Lay-Ekuakille (University of Salento, Italy)

106: Industrial: Sustainable Energy 2

Room: S4

Scaling Of Flow Loops Based On The Bingham Plastic Model

Dimitar Todorov (Leoben University & TDE GmbH, Austria); Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria); Gerhard Thonhauser (University of Leoben, Austria)

Standard and Customised Measurements for Wind Potential Assessment

Adrian Tulbure ("1 Decembrie 1918" University of Alba Iulia, Romania); Emilian Ceuca (University 1 DECEMBRIE 1918, Romania); Mihaela Albu (Politehnica University of Bucharest, Romania)

Demand controlled ventilation strategies for high indoor air quality and low heating energy demand

Yang Wang (Munich University of Bundeswehr, Germany); Yunming Shao (Munich University of Bundeswehr & Tsinghua University, Germany); Christian Kargel (University of the Bundeswehr Munich, Germany)

Model Validation of Distribution Feeders using Synchronous Measurements

Ana Maria Dumitrescu (University Politehnica of Bucharest, Romania); Irina Florea (Politehnica University of Bucharest, Romania); Melania Naumof (University Politehnica of Bucharest, Romania); Mihai Calin (Politehnica University of Bucharest, Romania)

Occupancy and Indoor Environment Quality Sensing for Smart Buildings

Zhenyu Han (University of Connecticut, USA); Robert X. Gao (University of Connecticut, USA); Zhaoyan Fan (University of Connecticut, USA)

33: Wireless Sensors and Sensor Networks 1

Room: S7

Reliability Analysis of RSSI for Localization in Small Scale WSNs

Domenico Capriglione (University of Cassino, Italy); Luigi Ferrigno (University of Cassino, Italy); Vincenzo Paciello (University of Salerno & University of Salerno, Italy); Antonio Pietrosanto (University of Salerno & CEO of SPRING OFF srl, Italy)

Design and Realization of an Intelligent Sensor Node with its Application in Energy-Aware WSNs

Hanghang Sun (Southeast University, P.R. China); Yuning Qian (Southeast University, P.R. China); Ruqiang Yan (Southeast University, P.R. China)

Sensor Data Fusion to determine Wellness of an Elderly in Intelligent Home Monitoring Environment

Nagender Suryadevara (Massey University, New Zealand); Subhas Mukhopadhyay (Massey University, New Zealand); Ramesh Kumar Rayudu (Victoria University of Wellington, New Zealand); Yueh-Min Huang (National Cheng Kung University, Taiwan)

Performance Assessment of a WirelessHART network in a real-world testbed

Paolo Ferrari (University of Brescia, Italy); Alessandra Flammini (University of Brescia, Italy); Stefano Rinaldi (University of Brescia, Italy); Emiliano Sisinni (University of Brescia, Italy)

Efficient time-synchronization in ring-topology wireless sensor networks

Gyula Simon (University of Pannonia, Hungary)

5: Condition Monitoring 1

Room: S1

Acoustic Monitoring Method based on Known Comparison Samples

Huakang Li (Shanghai Jiaotong University, P.R. China); Minyi Guo (Shanghai Jiao Tong University, P.R. China); Feilong Tang (Shanghai Jiao Tong University, P.R. China); Jie Huang (University of Aizu, Japan); Shigeru Kanemoto (Uni, Japan); Xuan Guo (University of Aizu, P.R. China)

Performance Evaluation of a TDR-based System for Detection of Leaks in Buried Pipes

Andrea Cataldo (University of Salento, Italy); Giuseppe Cannazza (University of Salento, Italy); Egidio De Benedetto (University of Salento, Italy); Nicola Giaquinto (Polytechnic of Bari, Italy)

Embedded System to Grounding Grid Diagnosis of Energized Substations

Luana V Gomes (Universidade Federal de Campina Grande, Brazil); Euler Tavares Macedo (Federal University of Paraíba, Brazil); Tulio Albuquerque (Federal University of Campina Grande, Brazil); Edson C. Guedes (Federal University of Campina Grande, Brazil); Gilvan Andrade Junior (Federal University of Campina Grande, Brazil); Malone de Castro (Federal University of Campina Grande, Brazil); Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil)

Condition based monitoring for industrial engines

Christian Strasser (AVL List GmbH, Austria); Christoph Pfister (AVL AUTOKUT Engineering Kft., Hungary)

Partial Discharge Estimation Based on Radiometric and Classical Measurements

Euler Tavares Macedo (Federal University of Paraíba, Brazil); José Maurício Neto (Federal University of Campina Grande, Brazil); Juan Moises Mauricio Villanueva (Universidade Federal de Campina Grande, Brazil); Edson C. Guedes (Federal University of Campina Grande, Brazil); Raimundo Freire (Federal University of Campina Grande, Brazil); Ian A Glover (University of Strathclyde, United Kingdom)

14:15 - 16:45

5002: Condition Monitoring

Self-testing of analog parts of mixed-signal electronic microsystems based on multiple sampling of time responses

Zbigniew Czaja (Gdansk University of Technology, Faculty of Electronics, Telecommunications and Informatics, Poland)

Measurement Method for Failure Prognosis in Lead-Free Interconnections

Marcantonio Catelani (University of Florence, Italy); Valeria L. Scarano (University of Florence, Italy)

Trace and debug port based watchdog processor

Balázs Scherer (Budapest University of Technologies and Economics, Hungary); Gábor Horváth (Budapest University of Technology and Economics, Hungary)

Moisture Detection in Insulating Oil Using Acoustic Signals

Ismael Noronha (Federal University of Itajuba, Brazil); Giscard Veloso (Federal University of Itajuba, Brazil); Luiz da Silva (Federal University of Itajuba, Brazil); Germano Lambert-Torres (Federal University of Itajuba, Brazil); Jonas Silva (Federal University of Itajuba, Brazil); Ronan Dias (TermoPernambuco, Brazil)

Shape Estimation and Health Monitoring of Wind Turbine Tower Using a FBG Sensor Array

Hyung-joon Bang (Korea Institute of Energy Research & Wind Energy Research Ctr., Korea); Suk-whan Ko (Korea Institute of Energy Research, Korea); Moon-seok Jang (Korea Institute of Energy Research, Korea); Hong-il Kim (KAIST, Korea)

From Machine Control to Drilling Control

Eric Cayeux (International Research Institute of Stavanger, Norway); Benoit Daireaux (International Research Institute of Stavanger, Norway)

An online quality control system for GPS stations used for geodetic surveillance

Mauro D'Arco (University of Naples Federico II, Italy); Giovanni Scarpato (Istituto Nazionale di Geofisica e Vulcanologia, Italy); Umberto Tammaro (Istituto Nazionale di Geofisica e Vulcanologia, Italy); Michele Vadursi (University of Naples "Parthenope", Italy)

Axial Vibration Monitoring in Laboratory Scale Using CDC miniRig and Vibration Sensor Sub

Abdolali Esmaeili (Leoben University, Austria); Behzad Elahifar (University of Leoben, Austria); Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria); Gerhard Thonhauser (University of Leoben, Austria)

5002: Industrial: Alternative Vehicles**Room: POSTER*****High Precision Torque Measurement on a Rotating Load Coupling for Power Generation Operations***

Peter Sue (GE Energy, USA)

A Monitoring System for the Use of Solar Energy in Electric and Hybrid Electric Vehicles

Christian Schuss (University of Oulu, Finland); Bernd Eichberger (Graz University of Technology, Austria); Timo Rahkonen (University of Oulu, Finland)

Impedance measurements of ferrite core displacement sensors for flywheel energy storage systems

Manes Recheis (Graz University of Technology, Austria); Hannes Wegleiter (Graz University of Technology, Austria); Bernhard Schweighofer (Graz University of Technology, Austria); Paul Fulmek (Vienna University of Technology, Austria)

Image-Based Localization of Vehicle Parts Guided by Visual Attention

Ana-Maria Cretu (University of Ottawa, Canada); Pierre Payeur (University of Ottawa, Canada)

A simple measuring system for automotive damper wear estimation

Luca Ferrari (University of Modena and Reggio Emilia, Italy); Stefano Cattini (University of Modena and Reggio Emilia, Italy); Luigi Rovati (University of Modena and Reggio Emilia, Italy); Andrea Bosi (R-Sens Srl, Italy)

System Identification Method for Ultrasonic Intake Air Flowmeter for Engine Test Bed Applications

Michael Tauch (Technische Universität Graz, Austria); Klaus Witrissal (Graz University of Technology, Austria); Katarzyna Kudlaty (AVL List GmbH, Austria); Stefan Noehammer (AVL List GmbH, Austria); Michael Wiesinger (AVL List GmbH, Austria)

Preliminary Results in Vehicle Classification Via Tire Dimensions and Configuration

Thomas Behan (Ryerson University, Canada); Zaiyi Liao (Ryerson University, Canada); Lian Zhao (Ryerson University, Canada)

Vision-based Robust Localization for Vehicles

Federico Moro (University of Trento, Italy); Daniele Fontanelli (University of Trento, Italy); Luigi Palopoli (Università di Trento, Italy)

Instrumentation and Control of a High Power BLDC Motor for Small Vehicle Applications

Alexander Rowe (Massey University, New Zealand); Gourab Sen Gupta (Massey University, New Zealand); Serge Demidenko (RMIT International University Vietnam & Saigon South campus, Vietnam)

Fast and Accurate Battery Model applicable for EV and HEV Simulation

Bernhard Schweighofer (Graz University of Technology, Austria); Hannes Wegleiter (Graz University of Technology, Austria); Manes Recheis (Graz University of Technology, Austria); Paul Fulmek (Vienna University of Technology, Austria)

5002: Industrial: Sustainable Energy

Validation of a Photovoltaic Electrical Model against Experimental Data

Filippo Attivissimo (Polytechnic of Bari, Italy); Attilio Di Nisio (Politecnico di Bari, Italy); Maurizio Spadavecchia (Polytechnic of Bari, Italy); Alessio Carullo (Politecnico di Torino, Italy); Alberto Vallan (Politecnico di Torino, Italy); Filippo Spertino (Politecnico di Torino, Italy)

AC and DC Power Quality of Photovoltaic Systems

Daniele Gallo (Second University of Naples, Italy); Carmine Landi (Second University of Naples, Italy); Mario Luiso (Second University of Naples, Italy)

Application of energy-harvesting in wireless sensor networks using predictive scheduling

Péter Györke (Budapest University of Technology and Economics, Hungary); Béla Pataki (Budapest University of Technology and Economics, Hungary)

Experimental Testing for Stability Analysis of Distributed Energy Resources Components with Storage Devices and Loads

Lucian Mihet-Popa (the Politehnica University of Timisoara & Riso DTU, Romania); Voicu Groza (University of Ottawa, Canada); Fridrik Isleifsson (Risø DTU Nat. Lab. for Sustainable Energy, Denmark)

MPPT definition and validation: a new model-based approach

Loredana Cristaldi (Politecnico di Milano, Italy); Marco Faifer (Politecnico di Milano, Italy); Marco Rossi (Politecnico di Milano, Italy); Sergio Toscani (Politecnico di Milano, Italy)

Active Cooling of Downhole Instrumentation for Drilling in Deep Geothermal Reservoirs

Erik Pennewitz (TU Braunschweig & Baker Hughes, Germany); Meinhard Schilling (TU Braunschweig, Germany); Thomas Kruspe (Baker Hughes, Germany); Sebastian Jung (Baker Hughes, Germany); Andreas Ruehs (Baker Hughes, Germany)

Home Energy saving for Heating/cooling system by distributed intelligent energy controller

Rana Abaalkhail (University of Ottawa, Canada); Mauricio Orozco (New York University Abu Dhabi, Canada); Abdulmotaleb El Saddik (University of Ottawa, Canada)

Hybrid Energy Harvesting for Autonomous Sensors in Building Automation

Christian Viehweger (Chemnitz University of Technology, Germany); Marc Baldauf (Chemnitz University of Technology, Germany); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

Economical evaluation of PV system Losses due to the Dust and Pollution

Loredana Cristaldi (Politecnico di Milano, Italy); Marco Faifer (Politecnico di Milano, Italy); Marco Rossi (Politecnico di Milano, Italy); Marcantonio Catelani (University of Florence, Italy); Lorenzo Ciani (University of Florence, Italy); Emanuele Dovere (Università degli Studi di Bergamo, Italy); Stefano Jerace (Università degli Studi di Bergamo, Italy)

On the use of Narrow Band Power Line as Communication Technology for Medium and Low Voltage Smart Grids

Antonio Cataliotti (University of Palermo, Italy); Valentina Cosentino (Università di Palermo, Italy); Dario Di Cara (università di Palermo, Italy); Pierluca Russotto (University of Palermo, Italy); Giovanni Tinè (National Research Council, Italy)

Piezoelectric Energy Harvesting from Induced Vortex in Water Flow

Erik Molino-Minero-Re (Universitat Politècnica de Catalunya, Spain); Montserrat Carbonell-Ventura (Universitat Politècnica de Catalunya, Spain); Cerles Fisac-Fuentes (Universitat Politècnica de Catalunya, Spain); Antoni Mànuel-Làzaro (Universitat Politècnica de Catalunya, Spain); Daniel M Toma (Technical University of Catalonia, Spain)

5002: Measurement Systems

Three-independent axis instrumented sphere for compression measurement based on piezoelectric transducer

Ivan Müller (Federal University of Rio Grande do Sul (UFRGS), Brazil); Diego Basso (Federal University of Rio

Grande do Sul (UFRGS), Brazil); Valner Brusamarello (UFRGS, Brazil); Carlos E Pereira (Federal University of Rio Grande do Sul, Brazil)

A high frequency digital induction system for low conductivity object measurements

Guang Chen (Tianjin University, P.R. China); Jianna Hao (Tianjin University, P.R. China); Zhang Cao (Beihang University, P.R. China); Wuliang Yin (University of Manchester, United Kingdom); Qian Zhao (Tianjin University, P.R. China); Xu Kai (Tianjin University & School of Electrical Engineering & Automation, P.R. China)

The unit control of an acquisition system for ocean bottom seismometer (OBS)

Normandino Carreras (Universitat Politècnica de Catalunya, Spain); Xavier Roset (Polytechnic University of Catalonia, Spain); Antoni Mànuel-Làzaro (Universitat Politècnica de Catalunya, Spain); Josefina Antonijuan (Universitat Politècnica de Catalunya, Spain)

A Low-Cost Instrument for the Measurement of Microwave Resonances in Quasi-Spherical Cavities

Simone Corbellini (Politecnico di Torino, Italy)

Design of a controller for a universal input/output port

Deep Vardhan Bhatt (University of Pretoria, South Africa); Dylan du Toit (University of Pretoria, South Africa); Gerhard P Hancke (University of Pretoria, South Africa)

Nanovoltmeter amplifier for low level voltage measurements

Gianluca Cannatà (University of Messina, Italy); Graziella Scandurra (University of Messina, Italy); Carmine Ciofi (University of Messina, Italy)

Sinter-Attach of Peltier Dice for Cooling of Deep-Drilling Electronics

Julian Kähler (Institute of Semiconductor Technology, University of Technology TU Braunschweig, Germany); Andrej Stranz (Technical University of Braunschweig, Germany); Andreas Waag (TU Berlin, Germany); Erwin Peiner (Technical University of Braunschweig, Germany); Sebastian Jung (Baker Hughes, Germany); Thomas Kruspe (Baker Hughes, Germany)

Inductive Power Transfer for Autonomous Sensors in Presence of Metallic Structures

Joan Albesa (Universitat Politècnica de Catalunya, Spain); Manel Gasulla (Universitat Politècnica de Catalunya, Spain)

New Surface and Down-Hole Sensors Needed for Oil and Gas Drilling

Fred Florence (National Oilwell Varco, USA); James Burks (Society of Petroleum Engineers & National Oilwell Varco, USA)

Use of a Multi-Frequency Relay of Ultrasonic Sensors with PIR Sensors to Extend the Sensing Range of an Embedded Surveillance System

Y. W. Bai (Fu Jen Catholic University, Taiwan); Zi-Li Xie (Fu Jen Catholic University, Taiwan); Chen-Chien Cheng (Fu Jen Catholic University, Taiwan)

5002: Mobile Devices

Room: POSTER

Real-Time Smart Meter With Embedded Web Server Capability

Giuseppe Del Prete (Second University of Naples, Italy); Carmine Landi (Second University of Naples, Italy)

A Common Wireless Remote Control System for Mobile Robots in Laboratory

Hui Liu (University of Rostock, Germany); Norbert Stoll (Center for Life Science Automation, Germany); Steffen Junginger (University of Rostock & IEF, Germany); Kerstin Thurow (Center for Life Science Automation - CELISCA, Germany)

Estimation of the geographic vertical position of a person using a shank-mounted inertial sensor

Antonio Miguel López (University of Oviedo, Spain); Diego Álvarez (University of Oviedo, Spain); Rafael González (University of Oviedo, Spain); Juan Carlos Alvarez (Universidad de Oviedo, Spain)

Sensors uncertainty on an Android smart phone

Maria Grazia D'Elia (University of Salerno, Italy); Vincenzo Paciello (University of Salerno & University of Salerno, Italy)

Smartphones as a Platform for Advanced Measurement and Processing

Charl A Opperman (University of Pretoria, South Africa); Gerhard P Hancke (Royal Holloway, University of London, United Kingdom)

Coin Detection by Mobile Devices

Wu-Ja Lin (National Formosa University, Taiwan); Chih Wei Tseng (National Formosa University, Taiwan)

The Development of Measurement/Monitoring by Mobile Devices and Systems

Chi-Hung Hwang (Instrument Technology Research Center, Taiwan); Shu Wen Li (Instrument Technology Research Center, Taiwan); Tai-Shan Liao (Instrument Technology Research Center, Taiwan); Fong Zhi Chen (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Din Ping Tsai (National Taiwan University, Taiwan)

Design of Taxi Routing and Fare Estimation Program with Re-prediction Methods for a Smart Phone

Y. W. Bai (Fu Jen Catholic University, Taiwan); En-Wen Wang (Fu Jen Catholic University, Taiwan)

Sensor Based Home Automation and Security System

Mansour H Assaf (The University of the South Pacific (USP) & Faculty of Science & Technology, Fiji); Ronald Mootoo (The University of Trinidad and Tobago, Trinidad and Tobago); Sunil R. Das (University of Ottawa, Canada); Emil M. Petriu (University of Ottawa, Canada); Voicu Groza (University of Ottawa, Canada); Satyendra Biswas (Norfolk State University, USA)

5002: Parameter Determination

Room: POSTER

Dynamic Accuracy Measurement of a Gantry-Type Processing System by a Zeeman Laser Interferometer

Wen-Tse Hsiao (Instrument Technology Research Center, Taiwan); Shih-Feng Tseng (Instrument Technology Research Center, Taiwan); Kuo-Cheng Huang (Instrument Technology Research Center, Taiwan); Ming-Fei Chen (National Changhua University of Education, Taiwan)

Linear Angle Measurement using Continuous Wave Ultrasonic Oscillator

Philip Popejoy (University of Nottingham, United Kingdom); Said Alzebeda (Islamic University of Gaza, Palestine); Omar Sonbul (The University of Nottingham, United Kingdom); Alexander Kalashnikov (University of Nottingham, United Kingdom)

Quasi-logarithmic Multisine Excitations for Broad Frequency Band Measurements

Egon Geerardyn (Vrije Universiteit Brussel, Belgium); Yves Rolain (Vrije Universiteit Brussel, Belgium); Johan Schoukens (Vrije Universiteit Brussel, Belgium)

Analysis of the Propagated Uncertainty in a Identification Algorithm Applied to a Lead-Acid Battery

Luiz Stevanatto, Filho (Universidade de Caxias do Sul & Universidade do Rio Grande do Sul, Brazil); Valner Brusamarello (UFRGS, Brazil); Stanislav Tairov (University of Caxias do Sul, Brazil)

Continuous Powder Flow Monitoring via Near-Infrared Hyperspectral Imaging

Otto Scheibelhofer (RCPE GmbH, Austria); Daniel Koller (RCPE GmbH, Austria); Peter Kerschhaggl (EVK DI Kerschhaggl GmbH, Austria); Johannes Khinast (Graz University of Technology, Austria)

Self-mixing Sensor for Real-time Measurement of Harmonic and Arbitrary Displacements

Usman Zabit (Université de Toulouse & CNRS, LAAS, France); Olivier Bernal (Université de Toulouse, France); Thierry Bosch (National Polytechnica Toulouse, France)

Noise Estimation Proposal for Real Time DSL Systems using Linear Regression and Fuzzy Systems

Fabricio Farias (Federal University of Pará, Brazil); Nyanne Moritsuka (Federal University of Pará, Brazil); Gilvan Borges (UFPA, Brazil); Lamartine V de Souza (UFPA, Brazil); Carlos Renato Francês (Universidade Federal do Para, Brazil); Joao Crisostomo Weyl Costa (UFPA, Brazil)

Concentration H₂ Measurement and Uncertainty Analysis using Ultrasonic Transducer

Maxwell Costa (Universidade Federal de Campina Grande - UFCG, Brazil); Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil); Juan Moises Mauricio Villanueva (Universidade Federal de Campina Grande, Brazil); Viviane Martins (Federal University of Campina Grande, Brazil)

Analysis on the Voltage Dependent Capacitance Variation of High Voltage Compressed Gas Standard Capacitors

Jin Xing (Tsinghua University, P.R. China); Wei Zhao (Tsinghua University, P.R. China); Songling Huang (Tsinghua university, P.R. China); Haiming Shao (National Institute of Metrology, P.R. China); Guoping Zhang (Qingdao Haixi Electric Machine Co., Ltd, USA)

Analysis of the Temperature Influences on the Metrological Properties of Polymer Piezoelectric Load Sensors Applied in Weigh-in-Motion Systems

Janusz Gajda (AGH University of Science and Technology, Poland); Ryszard Sroka (AGH University of Science and Technology, Poland); Marek Stencel (AGH University of Science and Technology, Poland); Tadeusz Zeglen (AGH University of Science and Technology, Poland); Piotr Piwowar (AGH University of Science and Technology, Poland); Piotr Burnos (AGH University of Science and Technology, Poland)

On the robustness in Distribution System State Estimation

Paolo Attilio Pegoraro (University of Cagliari, Italy); Sara Sulis (University of Cagliari, Italy)

An Extended Hybrid Stepper Motor Electrical Model for Sensorless Drives

Mark Butcher (CERN, Switzerland); Alessandro Masi (CERN, Switzerland); Jack Olivieri (CERN, Switzerland)

16:45 - 18:50

11: Image processing and pattern recognition 2

Room: S1

Estimation of Influence Quantities in Face Recognition

Giovanni Betta (University of Cassino, Italy); Domenico Capriglione (University of Cassino, Italy); Mariella Corvino (University of Cassino and Southern Lazio, Italy); Consolatina Liguori (University of Salerno, Italy); Alfredo Paolillo (University of Salerno, Italy)

A Low Complex Context Adaptive Image Interpolation Algorithm For Real-Time Applications

Sunil Prasad Jaiswal (LNMIIT, India); Vinit Jakhethiya (The Hong Kong University of Science and Technology, Hong Kong); Ayush Kumar (LNMIIT, India); Anil Tiwari (IIT-J, India)

Optimization methods to calibrate a stereo rig with increased accuracy for vehicular applications

András Bódis-Szomorú (Budapest University of Technology and Economics, Hungary); Tamás Dabóczi (Budapest University of Technology and Economics, Hungary)

New Approaches to Machine Vision Based Displacement Analysis

Richard Neumayr (University of Leoben, Austria); Matthew Harker (University of Leoben, Austria); Paul O'Leary (University of Leoben, Austria); Johann Golser (GeoData, Austria)

A Universal Hypercomplex Color Image Quality Index

Dan Li (Fudan University, P.R. China); Mingfei Hao (Schoolmate, P.R. China); JianQiu Zhang (Fudan University, P.R. China); Bo Hu (Fudan University, Shanghai, P.R. China); Qiyong Lu (Fudan University, P.R. China)

13: Measurement Systems 1

Room: S2

Chest-Mounted Inertial Measurement Unit for Pedestrian Motion Classification Using Continuous Hidden Markov Model

Ghazaleh Panahandeh (KTH Royal Institute of Technology & Signal Processing Lab, Sweden); Nasser Mohammadiha (KTH Royal Institute of Technology, Sweden); Arne Leijon (KTH Royal Institute of Technology, Sweden); Peter Händel (Royal Institute of Technology, Sweden)

Acquisition of muscle activity with a fully implantable multi-channel measurement system

Sören Lewis (Vienna University of Technology & Otto Bock Healthcare Products GmbH, Austria)

A low computing power frame rate converter

Yu-Chieh Chen (Department of Electrical Engineering, National Tsing-Hua University & Instrument Technology Research Center, Advanced Electronic System Division, Taiwan); Tai-Shan Liao (Instrument Technology Research Center, Taiwan); Hsin Chen (The Institute of Electronics Engineering, National Tsing Hua University, Taiwan)

Design and construction of a measurement system for the evaluation of low frequency magnetic field on-board rolling stock

Pina Imbesi (Bombardier, Italy); Andrea Mariscotti (Università di Genova, Italy)

Latch-Up Test Measurement for Long Duration Space Missions

Luca Sterpone (Politecnico di Torino, Italy); Roberta Mancini (Thales Alenia Space - Italy, Italy); Dario Gelfusa (Thales Alenia Space Italy, Italy)

15: Measurement Uncertainty

Room: S3

Effects of Parameter and Measurement Uncertainties on the Power System WLS State Estimation

Gabriele D'Antona (Politecnico di Milano, Italy); Mehdi Davoudi (Politecnico di Milano & Polimi, Italy)

A metrology-sound probability-possibility transformation for joint distributions

Alessandro M Ferrero (Politecnico di Milano, Italy); Marco Prioli (Politecnico di Milano, Italy); Simona Salicone (Politecnico di Milano, Italy)

Calibrating Accelerometers Using an Electromagnetic Launcher

Erik Timpson (University of Missouri - Columbia & Honeywell, USA)

Partial Discharge Measurement and Uncertainty Analysis based on Fuzzy Data Fusion

Juan Moises Mauricio Villanueva (Universidade Federal de Campina Grande, Brazil); Euler Tavares Macedo (Federal University of Paraíba, Brazil); Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil); Edson C. Guedes (Federal University of Campina Grande, Brazil)

Evidence Theory and Data Fusion Application for Wind Speed Measurement

Juan Moises Mauricio Villanueva (Universidade Federal de Campina Grande, Brazil); Ricardo Tanscheit (Pontificia Universidade Catolica do Rio de Janeiro, Brazil); Sebastian Yuri Catunda (Federal University of Rio Grande do Norte, Brazil); Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil)

18: Modeling of Signals and Systems 1

Room: S4

Methodology to develop an intelligent transfemoral prosthesis

Javier Vargas (Universidad del Norte, Colombia); Eduardo E Zurek (Universidad del Norte, Colombia); Jaime E Torres (Universidad del Norte, Colombia); Roque J. Hernandez (Universidad del Norte, Colombia)

Non-parametric Best Linear Time Invariant Approximation of a Linear Time-Varying System

John Lataire (Vrije Universiteit Brussel, Belgium); Ebrahim Louarroudi (Vrije Universiteit Brussel, Belgium); Rik Pintelon (Vrije Universiteit Brussel, Belgium)

Identification of Time-varying Systems using a Two-dimensional B-spline Algorithm

Péter Zoltán Csúrcsia (Vrije Universiteit Brussel, Belgium); Johan Schoukens (Vrije Universiteit Brussel, Belgium); István Kollár (Budapest University of Technology and Economics, Hungary)

Optimal Control with Reinforcement Learning using Reservoir Computing and Gaussian Mixture

István Engedy (Budapest University of Technology and Economics, Hungary); Gábor Horváth (Budapest University of Technology and Economics, Hungary)

Dynamic Experiments of Current Distribution in Rail Launcher Multi-brush Armatures

Roberto Ferrero (Politecnico di Milano, Italy); Mirko Marracci (University of Pisa, Italy); Bernardo Tellini (University of Pisa, Italy)

23: Sensor Applications 1

Room: S6

A Study on Inductive Power Transfer with Wireless Tuning

Valner Brusamarello (UFRGS, Brazil); Yeddo Blauth (Federal University of Rio Grande do Sul (UFRGS), Brazil); Ricardo Azambuja (Universidade Federal do Rio Grande do Sul, Brazil); Ivan Müller (Federal University of Rio Grande do Sul (UFRGS), Brazil)

Differentiating Assisted and Unassisted Bed Exits using Ultrasonic Sensor

Melanie Pouliot (Carleton University, Canada); Vilas Joshi (Carleton University, Canada); Jacques Chauvin (Carleton University, Canada); Rafik Goubran (Carleton University, Canada); Frank Knoefel (Bruyere Continuing Care, Canada)

3D Lensless Fluorescence Imaging

Akshaya Shanmugam (University of Massachusetts, USA); Christopher D Salthouse (University of Massachusetts, USA)

Reactance-locked loop for driving resonant sensors

Johannes Sell (J. Kepler University, Austria); Alexander Niedermayer (J. Kepler University, Austria); Bernhard Jakoby (Johannes Kepler University Linz, Austria)

Sensing at the Bit through a Modular Measurement Device

Navish Makkar (Baker Hughes, USA); Eric Sullivan (Baker Hughes, USA); Jason Habernal (Baker Hughes Incorporated, USA); Keith Glasgow (Baker Hughes Incorporated, USA); Richard Yao (Baker Hughes Incorporated, USA); Tracy Li (Baker Hughes Incorporated, USA); Allen Blalock (RIS Corp, USA); Adam Miller (RIS corp, USA)

30: Smart Sensors 1

Room: S7

A Versatile Single/Differential Quasi-digital Converter for Portable Sensing Applications

Cristina Azcona (University of Zaragoza, Spain); Belen Calvo (University of Zaragoza, Spain); Santiago Celma (University of Zaragoza, Spain); Nicolas Medrano (University of Zaragoza, Spain); Diego Antolín (University of Zaragoza, Spain)

Shack-Hartmann Wavefront Sensor based on an Industrial Smart Camera

René Paris (Vienna University of Technology, Austria); Markus Thier (Vienna University of Technology, Austria); Thomas Thurner (Graz University of Technology, Austria); Georg Schitter (Vienna University of Technology, Austria)

Sensor Network Activation with a Fuzzy-Based Game Theory

Stephen C Stubberud (Oakridge Technology, USA); Kathleen A Kramer (University of San Diego, USA)

Multi-sensor Olfactory System

Alejandro Del Cueto Belchi (Universidad Politécnica de Valencia, Spain); Daniel Garcia Rodriguez (Universidad Politécnica de Valencia, Sweden); Niklas Rothpfeffer (University of Gavle, Sweden); Jose Pelegri-Sebastia (Politechnical University of Valencia, Spain); Jose Chilo (University of Gavle, Sweden)

Position Estimation Using Novel Calibrated Indoor Positioning System

Gergely Regula (MTA SZTAKI, Hungary); Istvan Gőzse (MTA SZTAKI, Hungary); Alexandros Soumelidis (Computer and Automation Research Institute, Hungarian Academy of Sciences, Hungary)

Tuesday, May 15

10:20 - 12:50

12: Image processing and pattern recognition 3

Room: S6

Systematic distance deviation error compensation for a ToF-camera in the close-up range

Stephan Hussmann (West Coast University of Applied Sciences, Germany); Peter Huhn (West Coast University of Applied Sciences, Germany)

Real-time image processing of TOF range images using a single shot image capture algorithm

Stephan Hussmann (West Coast University of Applied Sciences, Germany)

Infrared Fever Body Identification using Shape and Temperature Filters

Vijaykumar Surabhi (University of Ottawa, Canada); Davide Spinello (University of Ottawa, Canada); Dan S Neculescu (University of Ottawa, Canada)

An Innovative Processing Method for High Resolution Borehole Density Images

Jing Li (PathFinder---A Schlumberger Company, USA); Dave Kennedy (PathFinder---A Schlumberger Company, USA); Rick Lee (PathFinder---A Schlumberger Company, USA); Paul Boonen (PathFinder---A Schlumberger Company, USA); Mike Dawber (PathFinder---A Schlumberger Company, USA); Joseph Hollmann (Northeastern University, USA)

A Lossless Image Prediction Algorithm using Slope Estimation and Least Square Optimization

Sunil Prasad Jaiswal (LNMIIT, India); Vinit Jakhetiya (The Hong Kong University of Science and Technology, Hong Kong); Anil Tiwari (IIT-J, India); Ashutosh Singla (The LNM Institute of Information Technology, India)

14: Measurement Systems 2

Room: S7

An accurate compact ultrasonic 3D sensor using broadband impulses requiring no initial calibration

Christian Walter (Technical University of Vienna, Austria); Herbert Schweinzer (Vienna University of Technology, Austria)

Unified Measurements Architecture for DSO Node The Role of Time Series in Smart Grids

Dan Apetrei (SC Electrica SA, Romania); Ioan Silvaş (Electrica, Romania); Cristian Popescu (SC Electrica SA, Romania); Dumitru Federenciu (Electrica S.A., Romania); Petru Postolache (UPB, Romania); Radu Porumb (UPB, Romania)

Measuring system for enhanced cathodic corrosion protection

Franco Ferraris (Politecnico di Torino, Italy); Marco Parvis (Politecnico di Torino, Italy); Emma Angelini (Politecnico di Torino, Italy); Sabrina Grassini (Politecnico di Torino, Italy)

Analysis of the Data Acquisition Nodes Computational Efficiency for the Intelligent Distributed Measurement System

Piotr Bilski (Warsaw University of Life Sciences, Poland)

AGC loop implementation using temperature compensated CMOS linear-in-dB VGA

Vasileios Kalenteridis (Aristotle University of Thessaloniki, Greece); Stylianos Siskos (Aristotle University of Thessaloniki, Greece); Spyridon Vlassis (University of Patras, Greece)

3: Automated Tests & Diagnostics

Room: S1

Developing a fast inspection path generation method for an automatic spinneret inspection system

Chun-Jen Chen (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Chun-Li Chang (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Min-Wei Hung (Instrument Technology Research center, National Applied Research Laboratories, Taiwan); Wenyuh Jywe (National Formosa University, Taiwan); Yunfeng Teng (National Formosa University, Taiwan)

Quadratic-Nonlinearity Power-Index Spectrum and Its Application in Condition Based Maintenance (CBM) of Helicopter Drive Trains

Mohammed Hassan (University of South Carolina, USA); David Coats (University of South Carolina, USA); Yong-June Shin (University of South Carolina, USA); Abdel-Moez Bayoumi (University of South Carolina, USA)

BMA-Based Reseeding Technique

Cleonilson Protasio Souza (Federal University of Paraiba, Brazil); Larissa Soares (Federal University of Paraiba, Brazil); Elisa Marques Costa (Federal University of Paraiba, Brazil); Francisco M. Assis (Universidade Federal de Campina Grande, Brazil)

New features for fault detection of planetary gearboxes

Yaguo Lei (Xi'an Jiaotong University, P.R. China)

Impedance Measurement Using Bridge With Two Sources

Mirjana Trobok (University of Novi Sad, Serbia); Zoran Mitrović (Faculty of Technical Sciences, University of Novi Sad, Serbia); Bojan Trobok (Faculty of Technical Sciences, Serbia); Ivan Župunski (Faculty of Technical Sciences, University of Novi Sad, Serbia)

4: Biomedical Monitoring 1

Room: S2

Measurement of Respiratory Changes in Palliative Care

Megan Holtzman (Carleton University, Canada); Rafik Goubran (Carleton University, Canada); Frank Knoefel (Bruyere Continuing Care, Canada); José Pereira (University of Ottawa, Canada)

Electrical Impedance Spectroscopy on Flowing Blood to predict White Thrombus Formation in Artificial Microchannels

Antonio Affanni (University of Udine, Italy); Ruben Specogna (University of Udine, Italy); Francesco Trevisan (University of Udine, Italy)

Metrological Issues Concerning Low Cost EMG-Controlled Prosthetic Hand

Massimo D'Apuzzo (Università di Napoli Federico II, Italy); Annalisa Liccardo (University of Naples Federico II, Italy); Paolo Bifulco (University Federico II of Naples, Italy); Massimo Polisiero (University Federico II of Naples, Italy)

On-Line Analysis of Cardiac Near Field Signals during Electrophysiological Experiments with Heart Preparations

Thomas Wiener (Medical University Graz, Austria); Robert Arnold (Medical University of Graz, Austria); Ernst Hofer (Medical University Graz, Austria)

Ultrasonic Shear Wave Elastography for Compliance-Weighted-Imaging

Varadharajan Rengaraju (University of the Bundeswehr Munich, Germany); Ingolf Sack (Charité - Universitaetsmedizin Berlin, Germany); Christian Kargel (University of the Bundeswehr Munich, Germany)

5003: Advanced Sensing and Signal Processing for Monitoring and Diagnosis of Engineering Systems

Room: POSTER

Concentric Neutrals Corrosion Localization and Its Impedance Analysis in the Underground Power Cable System Based on the Reflectometry

Chun Ku Lee (University of Yonsei, Korea); Ki Seok Kwak (University of Yonsei, Korea); Jin Bae Park (Yonsei University, Korea); Taesung Yoon (Changwon National University of Korea, Korea)

On-line Measurement of Particle Size Distribution Using Piezoelectric Sensors

Lingjun Gao (University of Kent, United Kingdom); Yong Yan (University of Kent, United Kingdom); Gang Lu (University of Kent, United Kingdom)

A Comparative Study of Rounded and Strip Electrostatic Sensors for Non-Contact Measurement of Cable Speed

Shaun J Rodrigues, Mr. (University of Kent, United Kingdom); Yong Yan (University of Kent, United Kingdom)

Detection of low frequency components in real-time

Consolatina Liguori (University of Salerno, Italy); Vincenzo Paciello (University of Salerno & University of Salerno, Italy); Alfredo Paolillo (University of Salerno, Italy); Antonio Pietrosanto (University of Salerno & CEO of SPRING OFF srl, Italy)

TDMA scheduling in fault tolerant wireless sensor networks

Ákos Orosz (University of Pannonia, Hungary); Gergő Róth (University of Pannonia, Hungary); Gyula Simon (University of Pannonia, Hungary)

Providing energy efficient mobility in TDMA-controlled wireless sensor networks

Gergely Zachár (University of Pannonia, Hungary); Gyula Simon (University of Pannonia, Hungary)

Energy-Efficient and Reliable Round-Robin TDMA for Wireless Sensor Networks

Gergely Vakulya (University of Pannonia, Hungary); Gyula Simon (University of Pannonia, Hungary)

Automated Mixed-Signal SoC BIST Synthesis utilizing Hardware Accelerators

Kiran George (Cal State Fullerton, USA); Chien-In Henry Chen (Wright State University, USA)

5003: Chemical, biological and flow sensors

Room: POSTER

Optical Measurement System for Two-phase Flow in Horizontal Small Tube Based on Photodiode Arrays

Haifeng Ji (Zhejiang University, P.R. China); Chong Fu (Zhejiang University, P.R. China); Zhiyao Huang (Zhejiang University, P.R. China); Baoliang Wang (Zhejiang University, P.R. China); Haiqing Li (Zhejiang University, P.R. China)

Measurement of Particle Size Distribution by the Use of Acoustic Emission Method

Miroslav Uher (Brno University of Technology, Czech Republic); Petr Beneš (Brno University of Technology & FEEC, Czech Republic)

Application of Electrical Resistance Tomography in Bubble Columns for Volume Fraction Measurement

Chengyi Yang (Tianjin University, P.R. China); Huaxiang Wang (Tianjin University, P.R. China); Ziqiang Cui (Tianjin University, P.R. China)

An Alternative Digital Multiplication Demodulation Method for Electrical Capacitance Tomography

HaiLi Zhou (Beihang University, P.R. China); Lijun Xu (Beihang University, P.R. China); Zhang Cao (Beihang University, P.R. China); Chenfeng Xu (Beijing Huasheng Jincheng Science & Technology Co. Ltd., P.R. China)

Detection of Ammonia at ppm Levels Using Titanium Dioxide/Polyaniline Films Deposited on Plastic Sheets

Graziella Scandurra (University of Messina, Italy); Antonella Arena (University of Messina, Italy); Carmine Ciofi (University of Messina, Italy); Gaetano Saitta (University of Messina, Italy)

A surface plasmon resonance biosensor for angular and wavelength operation

Leiva Casemiro Oliveira (Universidade Federal de Campina Grande, Brazil); Elmar Melcher (Universidade Federal de Campina Grande, Brazil); Carsten Thirstrup (Coloplast, Denmark); Antonio Marcus Nogueira Lima (Universidade Federal de Campina Grande & Center for Electrical Engineering and Informatics, Brazil); Cleumar da Silva Moreira (Instituto Federal de Alagoas, Brazil); Helmut Neff (Federal University of Campina Grande, Brazil)

Sensor and Instrumentation for Progesterone Detection

Asif Iqbal Zia (Massey University & COMSATS Institute of Information Technology, New Zealand); Abdul Rahman Mohd Syaifudin (Massey University, New Zealand); Subhas Mukhopadhyay (Massey University, New Zealand); Pak Yu (Massey University, New Zealand); Ibrahim Al-Bahadly (Massey University, New Zealand); Jürgen Kosel (King Abdullah University of Science and Technology, Saudi Arabia); Chinthaka Gooneratne (King Abdullah University of Science and Technology, Saudi Arabia)

Thermal Conductivity Detector for Gas-Chromatography: Acquisition System and Experimental Measurements

Fabio Rastrello (University of Perugia, Italy); Pisana Placidi (University of Perugia, Italy); Andrea Scorzoni (University of Perugia, Italy); Enrico Cozzani (CNR-IMM Bologna, Italy); Marco Messina (CNR-IMM Bologna, Italy); Ivan Elmi (CNR-IMM Bologna, Italy); Stefano Zampolli (CNR-IMM Bologna, Italy); Gian Carlo Cardinali (CNR-IMM Bologna, Italy)

Determination of Refractive Index of Softwood Using Immersion Liquid Method

Harri Juttula (University of Oulu, Finland); Anssi Mäkynen (University of Oulu, Finland)

Photobleaching effects in organic thin film sensing probes

5003: Emerging methods for measuring, modeling and instrumentation in medical applications

Room: POSTER

Kinect Skeletal Tracking based Virtual Rehabilitation Exergames

Mohamad Hoda (University of Ottawa, Canada); Abu Saleh Md. Mahfujur Rahman (University of Ottawa, Canada); Ali Karime (University of Ottawa, Canada); Abdulmotaleb El Saddik (University of Ottawa, Canada)

The Image Analysis of Skin Tissue Irradiated with Difference Wavelengths of LED Sources

Kuo-Cheng Huang (Instrument Technology Research Center, Taiwan); Chun-Li Chang (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Han Chao Chang (National Applied Research Center, Taiwan); Chung-Hsing Chang (Kaohsiung Medical University, Taiwan)

Preliminary Study of Pupil Detection and Tracking with Low Cost Optical Flow Sensors

Marcel Tresanchez (Universitat de Lleida, Spain); Davinia Font (University of Lleida, Spain); Merce Teixido (Universitat de Lleida, Spain); Tomas Palleja (Universitat de Lleida, Spain); Jordi Palacin (University of Lleida, Spain)

Wearable Object Detection System for the Blind

Alessandro Dionisi (University of Brescia, Italy); Emilio Sardini (University of Brescia, Italy); Mauro Serpelloni (University of Brescia, Italy)

Practical Design of Low-cost Instrumentation For Industrial Electrical Impedance Tomography (EIT)

Mohammad Khalighi (Sharif University of Technology - International Campus - Kish Island, Iran); Bijan Vosoughi Vahdat (Sharif University of Technology & Bisipl Laboratory : Biological Signal Processing Lab, Iran); Mohammad Mortazavi (Sharif University of Technology, Iran); H Wei (University of Bath, United Kingdom); Soleimani Manuchehr (University of Bath, United Kingdom)

Genetic Algorithm Based Optimization of Kullback Information Criterion: Improved System Identification of Skeletal Muscle Force and sEMG Signals

Madhavi Anugolu (Idaho State University, USA); Chandrasekhar Potluri (Idaho State University, USA); Alex Urfer (Idaho State University, USA); Jim Creelman (Idaho State University, USA); Parmod Kumar (Idaho State University, USA); Marco Schoen (Idaho State University, USA)

A Duty-Cycle Controlled Variable-Gain Instrumentation Amplifier Applied For Two-electrode ECG Measurement

Roddy Romero (Federal University of Santa Catarina, Brazil); Gabriel Da Silva (Federal University of Santa Catarina, Brazil); Fernando Rangel (Federal University of Santa Catarina, Brazil)

Patient Standing Stability Measurements using Pressure Sensitive Floor Sensors

Matthew Taylor (Carleton University, Canada); Rafik Goubran (Carleton University, Canada); Frank Knoefel (Bruyere Continuing Care, Canada)

Application of Low Cost Inertial Sensors to Human Motion Analysis

Lu Bai (University of Kent, United Kingdom); Matthew Pepper (University of Kent, United Kingdom); Yong Yan (University of Kent, United Kingdom); Sarah Spurgeon (University of Kent, United Kingdom); Mohamed Sakel (East Kent Hospitals University Foundation Trust, United Kingdom)

Implementation of automatic feature selection methods for BCI realization

Andrzej Majkowski (Warsaw University of Technology, Poland); Marcin Kolodziej (Warsaw University of Technology, Poland); Remigiusz J. Rak (Warsaw University of Technology, Poland)

Radar Cross Section Measurements of the Human Body for UWB Radar Applications

Emanuele Piuze (Sapienza University of Rome, Italy); Stefano Pisa (Sapienza University of Rome, Italy); Paolo D'Atanasio (ENEA Casaccia Research Centre, Italy); Alessandro Zambotti (ENEA Casaccia Research Centre, Italy)

5003: Modeling of Signals and Systems

Room: POSTER

A Validity Study of an Industrial SPICE-based Op-amp Macromodel for High-Temperature Simulation

Sahbi Baccar (Université de Bordeaux 1 & Schlumberger, France); Timothée Levi (IMS Laboratory - University Bordeaux, France); Dominique Dallet (IMS Laboratory - University Bordeaux, France); Vladimir Shitikov (Schlumberger, France); François Barbara (Schlumberger, France)

IP2C Sensor Modeling

Salvatore Graziani (University of Catania, Italy); Elena Umana (University of Catania, Italy); Giovanna Di Pasquale (University of Catania, Italy); Manuela La Rosa (STMicroelectronics, Italy); Giovanni Sicurella (STMicroelectronics & Università degli studi di Catania, Italy)

An Approach to Model-Aware Measurements

Vincenzo Di Lecce (Politecnico di Bari, Italy); Marco Calabrese (Polytechnic of Bari, Italy)

Efficient Design of Capacitive Sensors Using Conformal Maps

Norbert Eidenberger (Johannes Kepler University of Linz, Austria); Severin Wiesmueller (Johannes Kepler University Linz, Austria); Bernhard G. Zagar (University of Linz, Austria)

Online Measuring Method Using an Evolving Model Based Test Design for Optimal Process Stimulation and Modelling

Markus Stadlbauer (Vienna University of Technology & AVL List GmbH, Austria); Maxime Deregnacourt (Vienna University of Technology, Austria); Christoph Hametner (Vienna University of Technology, Austria); Stefan Jakubek (Vienna University of Technology, Austria); Thomas Winsel (AVL List GmbH, Austria)

An Automated Calibration Method for the Local Positioning System LOSNUS

Mohammad Syafrudin (TU Wien & Electronics Engineering Polytechnic Institute of Surabaya, Austria); Herbert Schweinzer (Vienna University of Technology, Austria); Christian Walter (TU Wien, Austria)

Multivariate Grey Model Based BEMD for Hyperspectral Classification

Zhi He (Harbin Institute of Technology, P.R. China); Jing Jin (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Yan Wang (Harbin Institute of Technology, P.R. China)

Stepwise Suboptimal Iterative Hard Thresholding Algorithm for Compressive Sensing

Jia Li (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China)

Efficient use of short data records for FRF modeling by using fractional poles

Kurt Barbé (VUB, Belgium); Wendy Van Moer (Vrije Universiteit Brussel, Belgium); Lieve Lauwers (Vrije Universiteit Brussel, Belgium); Clara Ionescu (Ghent University, Belgium)

Experience With Allan Variance Method for MEMS Gyroscope Performance Characterization

Martin Vágner (Brno University of Technology, Czech Republic); Petr Beneš (Brno University of Technology & FEEC, Czech Republic); Zdeněk Havránek (Brno University of Technology, Czech Republic)

5003: Optical and Vision-Based Sensors

Room: POSTER

A new technique for measuring viscosity of liquid with pico-liter volume based on Doppler shift by photothermal effects

Atsushi Yurai (Osaka Sangyo University, Japan)

Camera Grids for Laboratory Automation

Kai Ritterbusch (Universität Rostock, Germany); Steffen Junginger (University of Rostock & IEF, Germany); Kerstin Thurow (Center for Life Science Automation - CELISCA, Germany)

An Integrated Receiver Channel for a Laser Scanner

Sami Kurtti (University of Oulu & Electronics Laboratory, Finland); Juha Kostamovaara (University of Oulu, Finland)

Absolute Distance Measurement System Using a Coherent Optical Sensor

Michele Norgia (Politecnico di Milano, Italy); Alessandro Magnani (Politecnico di Milano, Italy); Alessandro Pesatori (Politecnico di Milano, Italy)

A CMOS Monolithic Light-to-Frequency Converter with Calibration Circuits

Cheng-Ta Chiang (National Chia Yi University, Taiwan)

Real Time Displacement Sensor Based on Self-Mixing Interferometry

Antonio Luna Arriaga (LAAS-CNRS, Université de Toulouse, France); Francis Bony (LOSE, France); Thierry Bosch (Université de Toulouse, France)

Integrated Optical Sensor for the Detection of Photoresist Failures

Farhad Mirian (Infineon Technology, Austria); Marcos Martinez Diaz (Infineon Technology, Austria); Thomas Bitzer (Infineon Technology, Austria)

Wide Dynamic Range CMOS Active Pixel Sensor Using a Stacked-Photodiode Structure

Sung-Hyun Jo (Kyungpook National University, Korea); Myunghan Bae (Kyungpook National University, Korea); Jang-Kyoo Shin (Kyungpook National University, Korea)

An apparatus for compensating impacts of airborne platform attitude deviations on LiDAR point clouds

Jianjun Wang (Beihang University, P.R. China); Lijun Xu (Beihang University, P.R. China); Xiaolu Li (Beihang University, P.R. China); Chaozeng Zhang (Beihang University, P.R. China)

A fiber optical thermometer for high power transformer monitoring utilizing the thermo-optical phase transition of VO₂

Luís Hermano Casado de Lima Junior (Instituto Federal de Alagoas, Brazil); Luis Fernando Schelp (Universidade Federal de Santa Maria, Brazil); Leiva Casemiro Oliveira (Universidade Federal de Campina Grande, Brazil); Arlindo Barreto Neto (Instituto Federal da Paraíba, Brazil); Antonio Marcus Nogueira Lima (Universidade Federal de Campina Grande & Center for Electrical Engineering and Informatics, Brazil); Helmut Neff (Federal University of Campina Grande, Brazil)

Design of a small-displacement sensing system based on the surface plasmon resonance technology in heterodyne interferometry

Shinn-Fwu Wang (Ching Yun University, Taiwan); Wayne Yang (Ching Yun University, Taiwan); An-Li Liu (Ching Yun University, Taiwan); Fu-Hsi Kao (Ching Yun University, Taiwan); Shyh-Rong Lay (Ching Yun University, Taiwan)

5003: Signal Quality, uncertainty and modeling

Room: POSTER

Study of the maximal interpolation errors of the local polynomial method for frequency response function measurements

Johan Schoukens (Vrije Universiteit Brussel, Belgium); Gerd Vandersteen (Vrije Universiteit Brussel, Belgium); Rik Pintelon (Vrije Universiteit Brussel, Belgium); Yves Rolain (Vrije Universiteit Brussel, Belgium)

Results on the Power Quality of French and Italian 2x25 kV 50 Hz railways

Andrea Mariscotti (Università di Genova, Italy)

The Frequency Stability of the 50 Hz French Railway

Andrea Mariscotti (Università di Genova, Italy); David Slepicka (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic)

Parallel Wiener identification starting from linearized models

Maarten Schoukens (Vrije Universiteit Brussel, Belgium); Yves Rolain (Vrije Universiteit Brussel, Belgium)

Estimation of Inclination Angle for Balancing Robots Based on Physical Model

Arnold Kalvach (Budapest University of Technology and Economics, Hungary); Tamás Dabóczi (Budapest University of Technology and Economics, Hungary)

Robust Optimization Method for the Identification of Nonlinear State-Space Models

Anne Van Mulders (Vrije Universiteit Brussel, Belgium); Laurent Vanbeylen (Vrije Universiteit Brussel, Belgium); Johan Schoukens (Vrije Universiteit Brussel, Belgium)

An Effective Procedure for the Estimation of Harmonic Parameters of Distorted Sine-Waves

Daniel Belega (University of Timisoara, Romania); Dario Petri (University of Trento, Italy); Dominique Dallet (IMS Laboratory - University Bordeaux, France)

Nonparametric Estimation of the Instantaneous Transfer Function of Linear Periodically Time-Varying Systems Excited by Arbitrary Signals

Ebrahim Louarroudi (Vrije Universiteit Brussel, Belgium); John Lataire (Vrije Universiteit Brussel, Belgium); Rik Pintelon (Vrije Universiteit Brussel, Belgium)

Accurately modelling of parasitics in power electronics circuits using an easy RLC-extraction method

Pieter Jacqmaer (KULeuven, Belgium); Jeroen Zwysen (KULeuven ESAT-ELECTA, Belgium); Ratmir Gelagaev (Katholieke Universiteit Leuven, Belgium); Johan Driesen (Katholieke Universiteit Leuven, Belgium)

Powerline Interference Rejection from sEMG Signal Using Notch Filter with Transient Suppression

Jacek Piskorowski (West Pomeranian University of Technology, Szczecin, Poland)

7: Dielectric and Magnetic Sensing 2

Room: S3

Antenna selection and frequency response study for UHF detection of partial discharges

Guillermo Robles (University Carlos III, Spain); Juan Manuel Martínez-Tarifa (University Carlos III, Spain); Mónica Rojas (Universidad Carlos III, Spain); Ricardo Albarracín (Universidad Carlos III de Madrid, Spain); Jorge Ardila-Rey (Universidad Carlos III de Madrid, Spain)

Millimeter Wave Dielectric Spectroscopy and Breast Cancer Imaging

Liu Chao (Tufts University, USA); Mohammed N Afsar (Tufts University, USA)

A GMR Based Magnetic Pretouch Sensing System for a Robot Grasper

Thomas Schlegl (Graz University of Technology, Austria); Stephan Mühlbacher-Karrer (Graz University of Technology, Austria); Markus Neumayer (Graz University of Technology, Austria); Hubert Zangl (Graz University of Technology, Austria)

Broadband Permittivity Determination using Statistical Techniques

Phil Bartley (Innovative Measurement Solutions, Inc, USA); Shelley Begley (Agilent Technologies, Inc., USA)

Frequency and Temperature Dependence of Dielectric properties of Chicken Meat

Samir Trabelsi (U. S. , USA)

8: Electrical & power measurements 1

Room: S4

Sensor Characterization Using Gene Expression Programming Evolutionary Algorithms

Fernando M. Janeiro (IT Lisbon / UE, Portugal); Pedro M. Ramos (Instituto de Telecomunicações, IST, Portugal)

Multi-channel cross-correlation for increasing sensitivity in voltage noise measurements

Graziella Scandurra (University of Messina, Italy); Carmine Ciofi (University of Messina, Italy)

Accuracy of One-cycle DFT-based Synchrophasor Estimators in Steady-state and Dynamic Conditions

Grazia Barchi (University of Trento, Italy); David Macii (University of Trento, Italy); Dario Petri (University of Trento, Italy)

Towards New Measurements for Dynamic Control of Future Power Grids

Junqi Liu (RWTH Aachen University, Germany); Eiko Krüger (RWTH Aachen University, Germany); Ferdinanda Ponci (RWTH Aachen University, Germany); Antonello Monti (RWTH Aachen University, Germany)

Electrical Energy Metering in Compliance with Recent European Standards

Andrea Bernieri (University of Cassino, Italy); Giovanni Betta (University of Cassino, Italy); Luigi Ferrigno (University of Cassino, Italy); Marco Laracca (University of Cassino and Southern Lazio, Italy)

14:00 - 16:05

21: Optical, chemical, and biological sensors 1

Room: S5

An image based optical lens eccentric error inspection system

Yung-Hsiang Chen (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Hsieh Yao-Fang (National Central University, Taiwan); Hsu Chia-Wei (National Applied Research Laboratories, Taiwan); Mang Ou-Yang (National Chiao-Tung University, Taiwan); Lee Cheng-Chung (National Central University, Taiwan); Chi-Hung Hwang (Instrument Technology Research Center, Taiwan); Tai-Shan Liao (Instrument Technology Research Center, Taiwan)

Fast 3D In-line Sensor for Specular and Diffuse Surfaces Combining the Chromatic Confocal and Triangulation Principle

Miro Taphanel (Karlsruhe Institute of Technology & Fraunhofer Institute IOSB, Germany); Jürgen Beyerer (Fraunhofer IOSB, Germany)

An intensity based fiber accelerometer

Alberto Vallan (Politecnico di Torino, Italy); Maria Luisa Casalicchio (Politecnico di Torino, Italy); Alessio Penna (Politecnico di Torino, Italy); Guido Perrone (Politecnico di Torino, Italy)

Automated Adjustment of Aberration Correction in Scanning Confocal Microscopy

Han Woong Yoo (Delft University of Technology, The Netherlands); Michel Verhaegen (Delft University of Technology, The Netherlands); Martin van Royen (Erasmus MC, The Netherlands); Georg Schitter (Vienna University of Technology, Austria)

Calibration of aerial and panoramic camera using Cross-Diffractive Optical Elements

Aymen Arfaoui (Université Laval, Canada); Simon Thibault (Laval University, Canada)

21: Optical, chemical, and biological sensors 2

Room: S5

An Active Pixel Sensor based System for Real Time Dosimeter in Interventional Radiology

Elia Conti (University of Perugia, Italy); Pisana Placidi (University of Perugia, Italy); Francesca Baldaccini (University of Perugia, Italy); Maurizio Biasini (University of Perugia, Italy); Lucia Bissi (University of Perugia, Italy); Andrea Calandra (University of Perugia, Italy); Bruno Checcucci (INFN, University of Perugia, Italy); Stefania Chiochini (University of Perugia, Italy); Roberto Cicioni (University of Perugia, Italy); Roberto Di Lorenzo (ASL3-Umbria, Italy); Anna Concetta Dipilato (University of Perugia, Italy); Alessandro Esposito (University of Perugia, Italy); Livio Fanò (University of Perugia, Italy); Massimiliano Paolucci (ASL3-Foligno, Italy); Daniele Passeri (University of Perugia, Italy); Andrea Pentiricci (ASL1- Città di Castello, Italy); Leonello Servoli (INFN, Italy)

Versatile Infrared Gas Measurement System with tunable Microstructured Fabry-Pérot Filter

Karsten Kühn (Saarland University, Germany); Michael Siegwart (Saarland University, Germany); Eliseo Pignanelli (Saarland University, Germany); Tilman Sauerwald (Saarland University, Germany); Andreas Schütze (Saarland University, Germany)

Optimization of the Performances of a Self-mixing Velocimeter by using a Double Laser Diode Configuration

Bendy Tanios (CNRS, LAAS & Univ de Toulouse, UPS, LAAS, France); Francis Bony (LOSE, France); Thierry Bosch (Université de Toulouse, France)

Polarization-Insensitive Wide-Band Electric Field Sensing Scheme Using Coherence Modulation of Light

Joel Santos-Aguilar (Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico); Celso Gutierrez-Martínez (Instituto Nacional de Astrofísica, Óptica y electrónica (INAOE), Mexico)

Characteristics of Glucose Biosensors with Glucose Oxidase Deposited Under High Electric Field

Daluwathu Preethichandra (Central Queensland University, Australia); Mala Ekanayake (Central Queensland University, Australia); Keiichi Kaneto (Kyushu Institute of Technology, Japan)

25: Signal detection & classification 1

Room: S4

Parallelizing Small Finite State Machines, with Application to Pulsed Signal Analysis

Lee A Barford (Measurement Research Laboratory, Agilent Technologies & University of Nevada, USA)

How much information could be revealed by analyzing data from pressure sensors attached to shoe insole?

Goutam Chakraborty (Iwate Prefectural University, Japan); Tetsuhiro Dendou (Iwate Prefectural University, Japan); Daigo Kikuchi (Iwate Prefectural University, Japan); Kyohei Chiba (Iwate Prefectural University, Japan)

Flexible Algorithm for Frequency Tone Detection

Alessandro Magnani (Politecnico di Milano, Italy); Michele Norgia (Politecnico di Milano, Italy); Alessandro Pesatori (Politecnico di Milano, Italy)

A robust signal detection method for fMRI data under correct Rice conditions

Lieve Lauwers (Vrije Universiteit Brussel, Belgium); Kurt Barbé (VUB, Belgium); Wendy Van Moer (Vrije Universiteit Brussel, Belgium)

Feature Generation of Hyperspectral Images for Fuzzy Support Vector Machine Classification

Shen Yi (Harbin Institute of Technology, P.R. China); Zhi He (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Yan Wang (Harbin Institute of Technology, P.R. China)

31: Temperature Measurement 1

Room: S6

Transient Suppression in Non-Parametric Frequency Response Function Estimates of Heat Diffusion Phenomena

Griet Monteyne (Vrije Universiteit Brussel, Belgium); Gerd Vandersteen (Vrije Universiteit Brussel, Belgium); Rik Pintelon (Vrije Universiteit Brussel, Belgium)

High Accuracy-Wide Range Resistance Measurement for Thermistor Sensors Monitoring

Stefano Nieddu (General Motors Powertrain Europe, Italy)

Sputtered Thermocouple for Lyophilization Monitoring

Marco Parvis (Politecnico di Torino, Italy); Sabrina Grassini (Politecnico di Torino, Italy); Antonello Barresi (Politecnico di Torino, Italy)

Temperature Distribution Reconstruction by Eigenfunction Interpolation of Boundary Measurement Data

Gabriele D'Antona (Politecnico di Milano, Italy); Nima Seifnaraghi (Politecnico di Milano University, Italy)

The Dynamic Compensation of Temperature Sensors in Sonic Nozzle Airflow Standard Facilities Based on Method of Positive Pressure

Chao Wang (Tianjin University, P.R. China); Hongbing Ding (Tianjin University, P.R. China); Qin Liu (Tianjin University, P.R. China); Huaxiang Wang (Tianjin University, P.R. China)

34: Wireless Sensors and Sensor Networks 2

Room: S7

Collaborative Target Classification with Multiagent System in Wireless Multimedia Sensor Networks

Xue Wang (Tsinghua University, P.R. China); Xinyao Sun (Tsinghua University, P.R. China); Daowei Bi (Tsinghua University, P.R. China)

Estimation of the delay of network devices in hybrid wired/wireless real-time industrial communication systems

Matteo Bertocco (University of Padova, Italy); Claudio Narduzzi (Universita' di Padova, Italy); Federico Tramarin (University of Padova & CNR - IEIIT - Italy, Italy)

Accurate indoor tracking using a mobile phone and non-overlapping camera sensor networks

Qiang Wang (Harbin Institute of Technology, P.R. China); Yan Liu (Harbin Institute of Technology, P.R. China);

Juan Chen (Harbin Institute of Technology, P.R. China)

An Efficient Data Gathering and Reconstruction Method in WSNs Based on Compressive Sensing

Wenjie Yan (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Yan Wang (Harbin Institute of Technology, P.R. China); Qitao Han (Harbin Institute of Technology, P.R. China)

Timestamping Performance Analysis of IEEE 802.15.4a Systems based on SDR platforms

Chiara Maria De Dominicis (University of Brescia, Italy); Paolo Ferrari (University of Brescia, Italy); Emiliano Sisinni (University of Brescia, Italy); Alessandra Flammini (University of Brescia, Italy); Paolo Pivato (University of Trento, Italy); David Macii (University of Trento, Italy)

37: Instrumentation and Measurement in RAMS analysis

Room: S1

Self-Powered High-Rate Wireless Sensor Network for Underground High Voltage Power Lines

Daniel M Toma (Technical University of Catalonia, Spain); Joaquin del Rio (Universitat Politecnica de Catalunya, Spain); Antoni Mànuel-Làzaro (Universitat Politecnica de Catalunya, Spain)

4D Simulation System for Laboratory Workflow of Life Science Automation

Yanfei Li (University of Rostock, Germany); Steffen Junginger (University of Rostock & IEF, Germany); Norbert Stoll (University of Rostock & Institute of Automation, Germany); Kerstin Thurow (Center for Life Science Automation - CELISCA, Germany)

Thermal analysis of Critical components in Photovoltaic Inverter

Marcantonio Catelani (University of Florence, Italy); Lorenzo Ciani (University of Florence, Italy); Enrico Simoni (BORRI Industrial Power Solutions, Italy)

An Improved Method for Steel Fiber Reinforced Concrete Analysis

Marco Faifer (Politecnico di Milano, Italy); Roberto Ottoboni (Politecnico di Milano, Italy); Sergio Toscani (Politecnico di Milano, Italy); Liberato Ferrara (Politecnico di Milano, Italy)

Pulsed Electromagnetic NDE for Defect Detection and Characterisation in Composites

Liang Cheng (Newcastle University, United Kingdom); Gui Yun Tian (Newcastle University, United Kingdom)

39: Inverse Problems in Measurement

Room: S2

A new approach to improve the reconstruction quality in ultrasound elastography

Andreas Eder (Universität der Bundeswehr, Germany); Mathias Richter (Universität der Bundeswehr München, Germany); Christian Kargel (University of the Bundeswehr Munich, Germany)

Temporal Image Reconstruction in Electrical Tomography Using a Motion Estimation Based Approach

Samir Teniou (Petroleum Institute, UAE); Mahmoud MMeribout (Petroleum Institute, UAE)

Direct Image Reconstruction for 3D Electrical Resistance Tomography by Using the Factorization Method

Zhang Cao (Beihang University, P.R. China); Lijun Xu (Beihang University, P.R. China)

Fast Bayesian Inference for an Inverse Heat Transfer Problem using Approximations

Markus Neumayer (Graz University of Technology, Austria); Daniel Watzenig (Graz University of Technology & Virtual Vehicle Research Center, Austria); Helcio Orlande (Federal University of Rio de Janeiro, UFRJ, Brazil); Marcelo Colaco (Federal University of Rio de Janeiro, Brazil); George Dulikravich (Florida International University, Austria)

A Novel Electrical Resistance Tomography System Based on C4D Technique

Baoliang Wang (Zhejiang University, P.R. China); Yuanyuan Hu (Zhejiang University, P.R. China); Haifeng Ji (Zhejiang University, P.R. China); Zhiyao Huang (Zhejiang University, P.R. China); Haiqing Li (Zhejiang University, P.R. China)

14:00 - 16:30

5004: Instrumentation and Measurement for Non-destructive Testing and Evaluation (NDT&E)

Room: POSTER

Design of an Open-Ended Coaxial Probe for Broadband, Low-Footprint Nondestructive Characterization of PEC-Backed Materials

Milo W Hyde (Air Force Institute of Technology, USA); Michael Havrilla (Air Force Institute of Technology, USA)

Measurement of Electromagnetic Properties of Power Station Steels

Anthony Peyton (University of Manchester, United Kingdom)

Partial discharges and noise separation in high frequency signals using inductive sensors

Juan Manuel Martínez-Tarifa (University Carlos III, Spain); Mónica Rojas (Universidad Carlos III, Spain); Guillermo Robles (University Carlos III, Spain); Brian MacPherson (Elimpus Ltd., United Kingdom); Phil Moore (University of Strathclyde, United Kingdom); Iliana Portugués (EPRI, USA)

A new proposal for the analysis of Safety Instrumented Systems

Marcantonio Catelani (University of Florence, Italy); Lorenzo Ciani (University of Florence, Italy); Valentina Luongo (University of Florence, Italy)

Customized Systems for Complex Permittivity Measurements on Liquid Samples at Microwave Frequencies: a Comparative Analysis

Francesca Apollonio (University Sapienza of Rome, Italy); Micaela Liberti (ICEmB at "Sapienza" University of Rome, Italy); Emanuele Piuze (Sapienza University of Rome, Italy); Giuseppe Cannazza (University of Salento, Italy); Andrea Cataldo (University of Salento, Italy); Egidio De Benedetto (University of Salento, Italy); Paolo D'Atanasio (ENEA Casaccia Research Centre, Italy); Caterina Merla (ICEmB at ENEA, Research Center Casaccia, UT BIORAD, Italy); Alessandro Zambotti (ENEA Casaccia Research Centre, Italy)

Non-contact Measurement of Water Surface Level from Phase Values of Inductive Measurements

Yee Mei Tan (University of Manchester, United Kingdom); Wuliang Yin (University of Manchester, United Kingdom); Anthony Peyton (University of Manchester, United Kingdom)

Reconstruction of Concave Surface of the Specular Object using of Inter-reflection

Li Li (Ibaraki University, Japan); Mitsuru Baba (Ibaraki University, Japan); Kozo Ohtani (Hiroshima Institute of Technology, Japan)

Acoustic Emission Monitoring of Damage Concrete Structures by Multi-Triggered Acquisition System

Francesco Lamonaca (University of Calabria, Italy); Antonio Carrozzini (University of Calabria, Italy); Domenico Grimaldi (University of Calabria, Italy); Renato Sante Olivito (University of Calabria, Italy)

Current around a Crack in an Aluminum Plate under Nondestructive Evaluation Inspection

Artur L. Ribeiro (Instituto de Telecomunicações, Portugal); Helena G. Ramos (Instituto de Telecomunicações, Instituto Superior Técnico, Portugal); Dário Pasadas (Instituto de Telecomunicações / Instituto Superior Técnico, Portugal); Tiago Rocha (Instituto de Telecomunicações / Instituto Superior Técnico, Portugal)

Characterization of Defects on Rivets using a Eddy Current Technique with GMRs

Tiago Rocha (Instituto de Telecomunicações / Instituto Superior Técnico, Portugal); Dário Pasadas (Instituto de Telecomunicações / Instituto Superior Técnico, Portugal); Artur L. Ribeiro (Instituto de Telecomunicações, Portugal); Helena G. Ramos (Instituto de Telecomunicações, Instituto Superior Técnico, Portugal)

5004: Signal detection & classification

Room: POSTER

Classification for imbalanced dataset based on biased empirical feature mapping

Zhiming Yang (Harbin Institute of Technology, P.R. China); Yang Yu (Harbin Institute of Technology, P.R. China); Gang Wang (Harbin Institute of Technology School of Electronics and Information Engineering, P.R. China)

A Feature Extraction Method for Remnant Particles Based on Non-negative Tensor Factorization in Aerospace

Electronic Equipments

Rui Chen (Harbin Institute of Technology, P.R. China); Shujuan Wang (Harbin Institute of Technology, P.R. China); Guofu Zhai (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China)

Space Debris Detection Methods Utilizing Hyperspectral Sequence Analysis Based on Hilbert-Huang Transformation

Miao Zhang (Harbin Institute of Technology, P.R. China); Jing Jin (Harbin Institute of Technology, P.R. China); Yibo Wang (Harbin Institute of Technology, P.R. China); Ye Zhang (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China)

Investigation of Algorithms for the Reliable Classification of Fluorescently Labeled Plastics

Siegfried Brunner (Universität der Bundeswehr München, Germany); Petr Fomin (University of the Bundeswehr Munich, Germany); Dmitry Zhelondz (University of the Bundeswehr Munich, Germany); Christian Kargel (University of the Bundeswehr Munich, Germany)

Multilevel LS Sequences with Flexible ZCZ Length and their Application to Local Positioning Systems

Enrique García (University of Alcalá, Spain); Jesus Ureña (University of Alcalá, Spain); Juan J. García (University of Alcalá, Spain); Maria Carmen Perez (University of Alcalá, Spain); F. Daniel Ruiz (University of Alcalá, Spain); Cristina Diego (University of Alcalá, Spain); Joaquín Aparicio (University of Alcalá, Spain)

A Partial Discharges Acquisition and Statistical Analysis Software

Jorge Ardila-Rey (Universidad Carlos III de Madrid, Spain); Juan Manuel Martínez-Tarifa (University Carlos III, Spain); Guillermo Robles (University Carlos III, Spain); Mónica Rojas (Universidad Carlos III, Spain); Ricardo Albarracín (Universidad Carlos III de Madrid, Spain)

Recognition of Single and Multicarrier Digital Modulations

Q. Zhang (Memorial University of Newfoundland, Canada); Octavia A. Dobre (Memorial University of Newfoundland, Canada); Sreeraman Rajan (Defence Research and Development Canada-Ottawa, Canada); Robert J. Inkol (Defence R&D Canada, Canada)

Inertial Measurement System for Performance Evaluation of Track and Field Sprinters

Alexander Kuznietsov (University of Applied Sciences Mittelhessen, Germany)

Detection and Localization of Multiple R/C Electronic Devices Using Array Detectors

Vivek Thotla (Missouri University of Science and Technology, USA); Mohammad T Ghasr (Missouri University of Science and Technology, USA); Maciej Zawodniok (Missouri S&T, USA); Sarangapani Jagannathan (Missouri University of Science and Technology, USA); Sanjeev Agarwal (Night Vision and Electronic Sensors Directorate, USA)

MVDR Spectral Estimation by Spectral Peak Dichotomous Search

Yu Peng (Harbin Institute of Technology, HIT, P.R. China); Zhifeng Gao (Harbin Institute of Technology, P.R. China); Xiyuan Peng (Harbin Institute of Technology, P.R. China)

Local Maximum Detection for Active Sensory Systems based on Encoding and Correlation Techniques

Rodrigo Escudero (University of Alcalá, Spain); Alvaro Hernández (University of Alcalá, Spain); Maria Carmen Perez (University of Alcalá, Spain); José M. Villadangos (University of Alcalá, Spain); Cristina Diego (University of Alcalá, Spain); Jesus Ureña (University of Alcalá, Spain)

5004: Smart Sensors

Room: POSTER

Autocalibration of MEMS accelerometers

Manuel Glueck (Robert Bosch GmbH, Germany); Alexander Buhmann (Robert Bosch GmbH, Automotive Electronics, Germany); Yiannos Manoli (University of Freiburg - IMTEK, Germany)

Ultrasonic Sensor Array for Remote Sensing of Profiles of Bulk Materials

Omar Sonbul (The University of Nottingham, United Kingdom); Philip Popejoy (University of Nottingham, United Kingdom); Alexander Kalashnikov (University of Nottingham, United Kingdom)

Smart Metering for Demand Side Management

Giuseppe Di Leo (University of Salerno, Italy); Marco Landi (University of Salerno, Italy); Vincenzo Paciello (University of Salerno & University of Salerno, Italy); Antonio Pietrosanto (University of Salerno & CEO of SPRING OFF srl, Italy)

A CMOS Low-Power Lock-In Amplifier

Paulina Mariana Maya-Hernández (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico); Maria Teresa Sanz-Pascual (National Institute for Astrophysics, Optics and Electronics, Mexico); Belen Calvo (University of Zaragoza, Spain); Diego Antolín (University of Zaragoza, Spain)

Two-input linear cascade in space compression

Sunil R. Das (University of Ottawa, Canada); Alexander Applegate (Auburn University & AU Information Assurance Laboratory, USA); Satyendra Biswas (Norfolk State University, USA); Mansour H Assaf (The University of the South Pacific (USP) & Faculty of Science & Technology, Fiji); Voicu Groza (University of Ottawa, Canada); Emil M. Petriu (University of Ottawa, Canada)

Challenges and limitations of nanomeasuring technology

Gerd Jaeger (Ilmenau University of Technology & Institute of Process Measurement and Sensor Technology, Germany)

Programmable Calibration Circuit for a MIM-ISFET Device

Erick Guerrero (National Institute of Astrophysics, Optics and Electronics, Mexico); Maria Teresa Sanz-Pascual (National Institute for Astrophysics, Optics and Electronics, Mexico); Joel Molina (National Institute of Astrophysics, Optics and Electronics, Mexico); Nicolas Medrano (University of Zaragoza, Spain); Belen Calvo (University of Zaragoza, Spain); Diego Antolín (University of Zaragoza, Spain)

M-DUST: an Innovative Low-Cost Smart PM Sensor

Domenico Soldo (myHermes S.r.l. & Politecnico di Bari, Italy); Alessandro Quarto (MYHERMES srl & Polytechnic of Bari, Italy); Vincenzo Di Lecce (Politecnico di Bari, Italy)

A seismic sensor based on IPMC combined with ferrofluids

Bruno Andò (University of Catania, Italy); Salvatore Baglio (University of Catania, Italy); Angela Beninato (University of Catania, Italy); Salvatore Graziani (University of Catania, Italy); Francesco Pagano (University of Catania, Italy); Elena Umana (University of Catania, Italy)

Effect of CDMA techniques with Kasami codes on ultrasound-image quality parameters

Cristina Diego (University of Alcalá, Spain); Alvaro Hernández (University of Alcalá, Spain); Ana Jiménez (University of Alcalá, Spain); Sverre Holm (University of Oslo, Norway); Joaquín Aparicio (University of Alcalá, Spain)

Comparison of Different Methods to Cancel Offset Capacitance in Capacitive Displacement Sensors

Sha Xia (Delft University of Technology, The Netherlands); Stoyan Nihtianov (Technical University - Delft, The Netherlands)

A Framework for Computing Quality of Information in Multi-sensor Systems

M. Anwar Hossain (King Saud University, Saudi Arabia); Dewan T Ahmed (King Saud University, Saudi Arabia); Jorge Parra (Ikerlan Technological Research Center, Spain)

5004: Temperature Measurement

Room: POSTER

An Innovative Method for Determining the Junction Temperature of a Photovoltaic Cell

Jeevan Doss (IIT Madras, India); Kumaravel M (IIT Madras, India); Bobby George (Indian Institute of Technology Madras, India); Jagadeesh Kumar V (Indian Institute of Technology Madras, India)

Temperature measurements by means of the electrical impedance of piezoceramics

Jürgen Ilg (University Erlangen-Nürnberg, Germany); Stefan Rupitsch (Johannes Kepler University of Linz, Austria); Reinhard Lerch (University Erlangen-Nürnberg, Germany)

Measurement of Flame Temperature Distribution Using Optical Tomographic and Two-color Pyrometric Techniques

Md. Moinul Hossain (University of Kent & IEEE Member, United Kingdom); Gang Lu (University of Kent, United Kingdom)

Kingdom); Yong Yan (University of Kent, United Kingdom)

Surface-micromachined Thermal Conductivity Detectors for Gas Sensing

Ger De Graaf (Delft University of Technology, The Netherlands); Reinoud Wolffenbuttel (Delft University of Technology, The Netherlands)

Measurement of Soot Temperature, Emissivity and Concentration of a Heavy-Oil Flame through Pyrometric Imaging

Duo Sun (University of Kent, United Kingdom); Gang Lu (University of Kent, United Kingdom); Yong Yan (University of Kent, United Kingdom)

Fast Johnson noise thermometry using a temperature dependent sensor

Graziella Scandurra (University of Messina, Italy); Gianluca Cannatà (University of Messina, Italy); Carmine Ciofi (University of Messina, Italy)

Sensitivity Analysis and Automatic Adjustment of a Controlled-Temperature Thermoresistive-based Anemometer

Viviane Martins (Federal University of Campina Grande, Brazil); Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil); Sebastian Yuri Catunda (Federal University of Rio Grande do Norte, Brazil)

16:30 - 18:35

16: Mechanical Measurements 1

Room: S2

Measurements of Soil Contact Stress in a Harsh Environment

Anders Beijer Lundberg (University of Delft, The Netherlands); Jelke Dijkstra (University of Delft, The Netherlands); Kees van Beek (University of Delft, The Netherlands)

A Linear Tunneling Magneto-Resistance Angle Transducer

Chandrika Sreekantan Anoop (Indian Institute of Technology, Madras, India); Bobby George (Indian Institute of Technology Madras, India); Jagadeesh Kumar V (Indian Institute of Technology Madras, India)

Low-cost 2D fiber-based displacement sensor

Maria Luisa Casalicchio (Politecnico di Torino, Italy); Massimo Olivero (Politecnico di Torino, Italy); Alessio Penna (Politecnico di Torino, Italy); Guido Perrone (Politecnico di Torino, Italy); Alberto Vallan (Politecnico di Torino, Italy)

A Novel Signal Conditioning Scheme for Magneto-Resistive Angle Sensors

Chandrika Sreekantan Anoop (Indian Institute of Technology, Madras, India); Bobby George (Indian Institute of Technology Madras, India)

Answers to the need of higher orders of magnitude for pressure, force and torque measurement explained on the example of wind energy

André Schäfer (HBM- Hottinger Baldwin Messtechnik GmbH, Germany)

19: Modeling of Signals and Systems 2

Room: S3

The Best Linear Approximation of Nonlinear Systems Operating in Feedback

Rik Pintelon (Vrije Universiteit Brussel, Belgium); Johan Schoukens (Vrije Universiteit Brussel, Belgium)

Identification and Modeling of Distillation Columns From Transient Response Data

Diana Ugrumova (Vrije Universiteit Brussel, Belgium); Gerd Vandersteen (Vrije Universiteit Brussel, Belgium); Bart Huyck (Katholieke Universiteit Leuven & KaHo St-Lieven, Belgium); Filip Logist (KULeuven, Belgium)

Separate Initialization of Dynamics and Nonlinearities in Nonlinear State-Space Models

Anna Marconato (VUB, Belgium); Jonas Sjöberg (Chalmers University of Technology, Sweden); Johan Suykens (KULeuven, Belgium); Johan Schoukens (Vrije Universiteit Brussel, Belgium)

From two frequency response measurements to the powerful nonlinear LFR model

Laurent Vanbeylen (Vrije Universiteit Brussel, Belgium)

Parameter Reduction of MISO Wiener-Schetzen Models Using the Best Linear Approximation

Koen Tiels (Vrije Universiteit Brussel, Belgium); Peter Heuberger (Delft University of Technology, The Netherlands); Johan Schoukens (Vrije Universiteit Brussel, Belgium)

24: Sensor Applications 2

Room: S4

Low-energy CZT detector array for the ASIM mission

Linga Cenkeramaddi (University of Bergen, Norway); Georgi Genov (University of Bergen, Norway); Anja Kohfeldt (University of Bergen, Norway); Kåre Njøten (University of Bergen, Norway); Maja Rostad (University of Bergen, Norway); Yngve Skogseide (University of Bergen, Norway); Magnus Roscoe (University of Bergen, Norway); Arne Solberg (University of Bergen, Norway); Johan Stadsnes (University of Bergen, Norway); Kjetil Ullaland (University of Bergen, Norway); Nikolai Østgaard (University of Bergen, Norway); Carl Budtz-Jørgensen (Technical University of Denmark, Denmark); Irfan Kuvvetli (Technical University of Denmark, Denmark); Sindre Mikkelsen (Gamma Medica-Ideas Norway AS, Norway); Gunnar Mæhlum (Gamma Medica-Ideas Norway AS, Norway)

BGO Front-End Electronics and Signal Processing in the MXGS Instrument for the ASIM Mission

Yngve Skogseide (University of Bergen, Norway); Linga Cenkeramaddi (University of Bergen, Norway); Georgi Genov (University of Bergen, Norway); Kåre Njøten (University of Bergen, Norway); Maja Rostad (University of Bergen, Norway); Arne Solberg (University of Bergen, Norway); Johan Stadsnes (University of Bergen, Norway); Kjetil Ullaland (University of Bergen, Norway); Nikolai Østgaard (University of Bergen, Norway); Carl Budtz-Jørgensen (Technical University of Denmark, Denmark); Irfan Kuvvetli (Technical University of Denmark, Denmark)

Evaluation of the Reverberant Environment of Carbon-Fiber Composite Airframes

Brian Cordill (University of Kansas, USA); Sarah Seguin (University of Kansas, USA); Mark Ewing (University of Kansas, USA)

Obstacle Detection for Low Flying UAS Using Monocular Camera

Fan Zhang (Carleton University & Sander Geophysics Ltd, Canada); Rafik Goubran (Carleton University, Canada); Paul Straznicky (Carleton University, Canada)

Integral Instrumentation Data Quality Evaluation: the Way to Enhance Safety, Security, and Environment Impact

Leon Reznik (Rochester Institute of Technology, USA)

27: Signal Processing 1

Room: S6

A Flatness Based Recovery Algorithm for Sparse Multiband Signals Without Number of Bands Prior

Jingchao Zhang (Harbin Institute of Technology, P.R. China); N. Fu (Harbin Institute of Technology, P.R. China); Xiyuan Peng (Harbin Institute of Technology, P.R. China)

A Cross-Layer Approach to Design an Internet Protocol Packet Delay Variation Estimator for Video Streaming Services

Leopoldo Angrisani (University of Naples Federico II, Italy); Domenico Capriglione (University of Cassino, Italy); Luigi Ferrigno (University of Cassino, Italy); Gianfranco Miele (University of Cassino, Italy)

Wavelet based Method for Fault Detection in Medium Voltage DC Shipboard Power Systems

Weilin Li (RWTH Aachen University, Germany); Min Luo (assisstant, Germany); Antonello Monti (RWTH Aachen University, Germany); Ferdinanda Ponci (RWTH Aachen University, Germany)

EMD based OFDM channel estimation

E Hari Krishna (KU College of Engineering & Technology, India); M Raghuram (KITS, Warangal, AP, India); K Venu Madhav (Kakatiya Institute of Technology & Science & Kakatiya University, Warangal, AP, INDIA, India);

Kosaraju Sivani (Talla Padmavathi College of Engineering, Kazipet, AP, India); K. Ashoka Reddy (Kakatiya University, India)

Using Voltage-driven Model to correlate GTEM Cell and Anechoic Chamber Measurement

Bo Zhao (Nanjing University of Aeronautics and Astronautics, P.R. China); Min Zhao (Nanjing University of Aeronautics and Astronautics, P.R. China); Daosheng Chen (Jiangsu Institute of Metrology, P.R. China)

38: Magnetic Imaging Technologies

Room: S1

Measurement of a Multi-pole Encoder with a Magnetic and Coordinate Measuring Machine

Hendrik Husstedt (Alps-Adriatic University Klagenfurt, Austria); Udo Ausserlechner (Infineon Technologies Austria AG, Austria); Manfred Kaltenbacher (Alpen-Adria-Universitaet Klagenfurt, Austria)

High Resolution Magnetic Imaging System for Industrial Quality Control

Johannes Atzlesberger (Johannes-Kepler-University Linz, Austria); Bernhard G. Zagar (University of Linz, Austria)

Quality Assurance for Wire Connections used in Integrated Circuits via Magnetic Imaging

Patrick Hölzl (Johannes Kepler Universität, Austria); Thomas Wiesner (Johannes Kepler Universität, Austria); Bernhard G. Zagar (University of Linz, Austria)

Application of Resonant Sensors for Magnetic Flux Density Measurements

Martin Heinisch (Johannes Kepler University, Austria); Thomas Voglhuber-Brunnmaier (Johannes Kepler University Linz, Austria); Ali Abdallah (Johannes Kepler University, Austria); Bernhard Jakoby (Johannes Kepler University Linz, Austria)

Analyzing 2D Current Distributions by Magnetic Field Measurements

Dominik Hofer (Johannes Kepler University, Austria); Thomas Wiesner (Johannes Kepler Universität, Austria); Bernhard G. Zagar (University of Linz, Austria)

Wednesday, May 16

08:30 - 10:35

1: A/D & D/A converters and Electronic Devices 1

Room: S5

Reducing THD in an Audio Test Instrument

Solomon M Max (LTX-Credence Corporation, USA); Richard Liggiero (LTX Corporation, USA)

Estimations of the Sinusoidal Signal Parameters Using the Non-uniform Exponential Tracking A/D Conversion

Tomaž Lušin (Metrel d. d., Slovenia); Dušan Agrež (University of Ljubljana, Slovenia)

A novel switching scheme for offset storage cancellation technique, for GS/s range ADCs

Lampros Mountrichas (Aristotle University of Thessaloniki, Greece); Stylianos Siskos (Aristotle University of Thessaloniki, Greece)

Periodic Piecewise Linear Excitation for ADC Testing

Tat Chern Ong (Monash University, Malaysia); Min Tong Tee (Monash University Malaysia, Malaysia); Ye Chow Kuang (Monash University Malaysia, Malaysia); Melanie P-L. Ooi (Monash University, Malaysia); Serge Demidenko (RMIT International University Vietnam & Saigon South campus, Vietnam)

The Vernier-Based TDC Employing Soft-Injection-Locked Ring Oscillators

Chia-Yu Yao (National Taiwan University of Science and Technology, Taiwan); Wei-Chun Hsia (National Taiwan University of Science and Technology, Taiwan); Pei-Jung Tsai (ITRI, Taiwan); Yu-Jou Wen (National Taiwan University of Science and Technology, Taiwan)

1002: SPECIAL SESSION: Advanced Sensing and Signal Processing for Monitoring and Diagnosis of Engineering Systems

Room: S3

Composite Damage Identification Based on Lamb Wave and Redundant Second Generation Wavelet

Xiang Li (Xi'an Jiaotong University, P.R. China); Xuefeng Chen (Xian Jiaotong University, P.R. China)

A Structural Health Monitoring Method Based On Magneto-optic Imaging Technology

Cheng Yu Hua (University of Electronic Science and Technology of China & School of Automation Engineering, P.R. China)

Gearbox Pitting Detection Using Linear Discriminant Analysis and Distance Preserving Self-Organizing Map

Weihua Li (South China University of Technology, P.R. China); Lijun Zhang (South China University of Technology, P.R. China); Yabing Xu (South China University of Technology, P.R. China)

An Adaptive Total Variation Regularization Method for Electrical Capacitance Tomography

Zhaoyan Fan (University of Connecticut, USA); Robert X. Gao (University of Connecticut, USA)

Coded Acoustic Wave Modulation for Multi-Parameter Transmission

Zhaoyan Fan (University of Connecticut, USA); Robert X. Gao (University of Connecticut, USA); Navid Asadizanjani (University of Connecticut, USA); David Kazmer (University of Massachusetts, Lowell, USA)

1003: SPECIAL SESSION: Measurement techniques and signal analysis for cognitive radios.

Room: S4

Cognitive Radios: Discriminant Analysis Finds the Free Space

Lee Gonzales Fuentes (University of Gävle, Sweden); Kurt Barbé (VUB, Belgium); Wendy Van Moer (Vrije Universiteit Brussel, Belgium); Niclas Björsell (University of Gävle, Sweden)

Maximum Minimum Eigenvalues Based Spectrum Scanner for Cognitive Radios

Mohamed Hamid (Royal Institute of Technology (KTH), University of Gavle (HiG), Sweden); Niclas Björsell (University of Gävle, Sweden)

Spectrum Sensing through Spectrum Discriminator and Maximum Minimum Eigenvalue Detector: A Comparative Study

Mohamed Hamid (Royal Institute of Technology (KTH), University of Gavle (HiG), Sweden); Kurt Barbé (VUB, Belgium); Niclas Björsell (University of Gävle, Sweden); Wendy Van Moer (Vrije Universiteit Brussel, Belgium)

A review of wideband spectrum sensing methods for cognitive radios

Luca De Vito (University of Sannio, Italy)

Subspace-based joint multiband detection for wideband spectrum sensing

Doris Bao (University of Sannio, Italy); Pasquale Daponte (University of Sannio, Italy); Luca De Vito (University of Sannio, Italy); Sergio Rapuano (University of Sannio, Italy)

17: Mechanical Measurements 2

Room: S6

Contactless Real Time Measuring System for the Length of Sheets in Stainless Steel Production Lines

Juan Canero (Tcc, S.A., Spain); Carlos G. Spinola (University of Malaga, Spain); Gonzalo Moreno-Aranda (University of Malaga, Spain); Jose M. Bonelo (Acerinox, S.A., Spain); Manuel Martin-Vazquez (Malaga University, Spain)

Experimental characterization of vibration sources

Bortolino Saggin (Politecnico di Milano, Italy); Diego Scaccabarozzi (Politecnico di Milano, Italy); Shatalina Irina (Politecnico di Milano, Italy); Marco Tarabini (Politecnico di Milano, Italy)

Force Sensors for Strain Gauge and piezoelectric Crystal-based mechatronic systems- a comparison

Thomas Kleckers (Hottinger Baldwin Messtechnik GmbH, Germany)

Design, Fabrication, and Characterization of BESOI-Accelerometer based on Photonic Band Gap effect

Bruno Andò (University of Catania, Italy); Salvatore Baglio (University of Catania, Italy); Carlo Trigona (University of Catania, Italy)

Nonintrusive Load Monitoring of Electrical Devices in Health Smart Homes

Saba Rahimi (Carleton University, Canada); Adrian D.C. Chan (Carleton University, Canada); Rafik Goubran (Carleton University, Canada)

20: Multi-phase flow measurement

Room: S7

Radiofrequency method for mass determination of a balloon-contained two-phase substance

Alexander S. Sovlukov (Institute of Control Sciences, Russia); Victor Tereshin (Technosensor Co., Russia)

Online Parameters Measurement of Taylor Flow in Small Channels Using Optical Technique

Jun Long (Zhejiang University, P.R. China); Haifeng Ji (Zhejiang University, P.R. China); Baoliang Wang (Zhejiang University, P.R. China); Zhiyao Huang (Zhejiang University, P.R. China); Haiqing Li (Zhejiang University, P.R. China)

Using a PET Camera to Track Individual Phases in Process Equipment with High Temporal and Spatial Resolutions: Algorithm Development

Yu-Fen Chang (University of Bergen, Norway); Tom Adamsen (Haukeland University Hospital, Norway); Alex Hoffmann (University of Bergen, Norway)

Void fraction measurement of gas-liquid two-phase flow based on C4D technique

Lei Wang (Zhejiang University, P.R. China); Zhiyao Huang (Zhejiang University, P.R. China); Baoliang Wang (Zhejiang University, P.R. China); Haifeng Ji (Zhejiang University, P.R. China); Haiqing Li (Zhejiang University, P.R. China)

Annular field-focusing capacitance sensor for visualization of the two phase flows

Zhiqiang Zhang (Tianjin University, P.R. China); Chao Tan (Tianjin University, P.R. China); Shangjie Ren (Tianjin University, P.R. China); Yuchen Bian (Tianjin University, P.R. China); Feng Dong (Tianjin University, P.R. China)

26: Signal detection & classification 2

Room: S1

Fuzzy Support Vector Machines for Device-free Localization

Yi-Yuan Chiang (Vanung University, Taiwan); Wang-Hsin Hsu (Vanung University, Taiwan); Sheng-Cheng Yeh (Ming Chuan University, Taiwan); Yi-Chen Li (National Central University, Taiwan); Jung-Shyr Wu (National Central University, Taiwan)

Massively Parallel Localization of Pulsed Signal Transitions Using a GPU

Vinitha Khambadkar (University of Nevada, Reno, USA); Lee A Barford (Measurement Research Laboratory, Agilent Technologies & University of Nevada, USA); Frederick C. Harris (University of Nevada, Reno, USA)

Time and Frequency Characterization of Radiated Disturbances in Telecommunication Bands due to Pantograph Arcing

Andrea Mariscotti (Università di Genova, Italy); Attilio Marrese (University of Naples Federico II, Italy); Nicola Pasquino (University of Naples Federico II, Italy)

An FPGA Correlator for Continuous Real-Time Measurement of Particulate Flow

Peter Lee (University of Kent, Canterbury, United Kingdom); Kehinde Adefila (University of Kent, United Kingdom); Yong Yan (University of Kent, United Kingdom)

Preliminary study on color based nectarine variety classification

Davinia Font (University of Lleida, Spain); Tomas Palleja (Universitat de Lleida, Spain); Marcel Tresanchez (Universitat de Lleida, Spain); Merce Teixido (Universitat de Lleida, Spain); Jordi Palacin (University of Lleida, Spain)

28: Signal Processing 2

Room: S2

Measurement of the exponential signal distortion

Domenico Luca Carnì (University of Calabria, Italy); Domenico Grimaldi (University of Calabria, Italy); Linus Michaeli (Technical University of Košice, Italy); Ján Šaliga (Technical University of Košice, Slovakia); Jozef Lipták (Technical University of Košice, Slovakia)

Dynamic Battery Remaining Useful Life Estimation: An On-line Data-driven Approach

Jianbao Zhou (Harbin Institute of Technology, P.R. China); Datong Liu (Harbin Institute of Technology, P.R. China); Yu Peng (Harbin Institute of Technology, HIT, P.R. China); Xiyuan Peng (Harbin Institute of Technology, P.R. China)

A Method for Reconstructing True Harmonic Composition in a Frequency Varying Power Grid

Boris Antic (University of Novi Sad, Serbia); Vladimir Vujicic (University of Novi Sad, Serbia)

A Portable Analyzer for Vocal Signal Monitoring

Alessio Carullo (Politecnico di Torino, Italy); Alessio Penna (Politecnico di Torino, Italy); Alberto Vallan (Politecnico di Torino, Italy); Arianna Astolfi (Politecnico di Torino, Italy); Pasquale Bottalico (Politecnico di Torino, Italy)

Adaptive Carrier Frequency Offset Compensation for OFDMA systems

Jeong-Woo Kim (CBNU, Korea); Yu Jun Won (Chung-Buk National University, Korea); Jae-Won Suh (Chungbuk National University, Korea); Bo-Seok Seo (Chungbuk National University, Korea)

08:30 - 11:00

5004: Signal Processing

Room: POSTER

Analog IQ Impairments in Zero-IF Radar Receivers: Analysis, Measurements and Digital Compensation

Georg J. Vallant (Cassidian & EADS, Germany); Michael Epp (Cassidian, Germany); Wolfgang Schlecker (Cassidian, Finland); Ulrich Schneider (Cassidian, Germany); Lauri Anttila (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland)

A Blind Spectrum Recovery Algorithm for Sparse Wideband Signals Based on Backtracking

N. Fu (Harbin Institute of Technology, P.R. China); Jingchao Zhang (Harbin Institute of Technology, P.R. China); Qiao Li-yan (Harbin Institute of Technology, P.R. China); Miao Zhang (Harbin Institute of Technology, P.R. China); Gang Wang (Harbin Institute of Technology School of Electronics and Information Engineering, P.R. China)

Zig-Zag And Replacement Product Expander Graphs For Compressive Sensing

Zhenghua Wu (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Jie Liu (Microsoft Research, USA)

Aerosol Size Distribution Measurement using a SMPS: scanning mode and uncertainty analysis

Loïc Coquelin (Engineering School SUPELEC & National Laboratory of Metrology and Testing, France); Nicolas Fischer (National Laboratory of Metrology and Testing, France); Laurent Le Brusquet (Supelec, France); Gilles A Fleury (Ecole Supérieure d'Electricité, France); Charles Motzkus (National Laboratory of Metrology and Testing, France); François Gensdarmes (IRSN, France)

Wavelet Based Methods for Speckle Reduction in Ultrasound Images

Gregorio Andria (Politecnico di Bari, Italy); Filippo Attivissimo (Polytechnic of Bari, Italy); Anna Maria Lucia Lanzolla (Polytechnic of Bari, Italy); Mario Savino (Politecnico di Bari, Italy)

Limitations of linear control for Cormoran-AUV

Julian Gonzalez (Universitat Politècnica de Catalunya, Spain); Andreina Benezra (Universitat Politècnica de Catalunya, Spain); Spartacus Gomariz (Universitat Politècnica de Catalunya, Spain); David Sarriá (Centre

Tecnologic, Spain)

HHT based signal decomposition for reduction of motion artifacts in Photoplethysmographic signals

M Raghuram (KITS, Warangal, AP, India); K Venu Madhav (Kakatiya Institute of Technology & Science & Kakatiya University, Warangal, AP, INDIA, India); E Hari Krishna (KU College of Engineering & Technology, India); Nagarjuna Reddy Komalla (Govt. MGM Hospitals, Warangal, India); Kosaraju Sivani (Talla Padmavathi College of Engineering, Kazipet, AP, India); K. Ashoka Reddy (Kakatiya University, India)

Evaluation of the Fast Impedance Spectroscopy Method in the Laboratory Measurement System

Michal Kowalewski (Gdansk University of Technology, Poland); Grzegorz Lentka (Gdansk University of Technology, Poland); Jerzy Hoja (Gdansk University of Technology, Poland)

Comparison of MUSIC and ESPRIT for Direction of Arrival Estimation of Jamming Signal

Jeong-Geun Hong (Chungbuk National University, Korea); Chansik Park (Chungbuk National University, Korea); Bo-Seok Seo (Chungbuk National University, Korea)

Lock-in amplifier techniques for low-frequency modulated sensor applications

Ger De Graaf (Delft University of Technology, The Netherlands); Reinoud Wolffenbuttel (Delft University of Technology, The Netherlands)

Diagnosing Drilling Problems Using Visual Analytics of Sensors Measurements

Arghad Arnaout (University of Leoben & Thonhauser Data Engineering GmbH, Austria); Bilal Alsallakh (TDE GmbH, Austria); Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria); Michael Prohaska (University of Leoben, Austria); Gerhard Thonhauser (University of Leoben, Austria); Bilal Esmael (University of Leoben, Austria)

A Hybrid Multiple Classifier System for Recognizing Usual and Unusual Drilling Events

Bilal Esmael (University of Leoben, Austria); Arghad Arnaout (University of Leoben & Thonhauser Data Engineering GmbH, Austria); Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria); Gerhard Thonhauser (University of Leoben, Austria)

Wind Speed Measurement Method Using Ultrasonic Sensors with Stationary Wavelet Transform

Nestor Saul Castro Ingaroca (Universidad Nacional de Ingenieria - UNI, Peru); Juan Moises Mauricio Villanueva (Universidade Federal de Campina Grande, Brazil); Raimundo Freire (Federal University of Campina Grande, Brazil); Sebastian Yuri Catunda (Federal University of Rio Grande do Norte, Brazil)

A method based on passive acoustic sensors for detection of vital signs in closed structures

Marcello Ascione (Selex S.I., Italy); Aniello Buonanno (SELEX Sistemi Integrati, Italy); Michele D'Urso (SELEX Sistemi Integrati, Italy); Pietro Vinetti (Innovation Team, SELEX Sistemi Integrati, Italy); Leopoldo Angrisani (University of Naples Federico II, Italy); Rosario Schiano Lo Moriello (Università degli Studi di Napoli Federico II, Italy)

Statistical Characterization of a FPGA PUF Module Based on Ring Oscillators

Tommaso Addabbo (University of Siena, Italy); Ada Fort (University of Siena, Italy); Marco Mugnaini (University of Siena, Italy); Santina Rocchi (University of Siena, Italy); Valerio Vignoli (University of Siena, Italy)

An Input Data Set Compression Method for Improving the Training Ability of Neural Networks

Balazs Tusor (Integrated Intelligent Systems Japanese-Hungarian Laboratory, Hungary); Annamaria R. Varkonyi-Koczy (Obuda University, Hungary); Imre J Rudas (Óbuda University, Hungary); Gábor Klie (Óbuda University, Hungary); Gábor Kocsis (Óbuda University, Hungary)

AC magnetization measurement employing a pair of differentiating coils for magnetic nanoparticle noninvasive and remote temperature estimation

Jing Zhong (Huazhong University of Science and Technology, P.R. China); Wenzhong Liu (Huazhong University of Science and Technology, P.R. China); Ming Zhou (Huazhong University of Science and Technology, P.R. China); Le He (Huazhong University of Science and Technology, P.R. China)

Use of Multi Scale PCA for Extraction of Respiratory Activity from Photoplethysmographic Signals

K Venu Madhav (Kakatiya Institute of Technology & Science & Kakatiya University, Warangal, AP, INDIA, India); M Raghuram (KITS, Warangal, AP, India); E Hari Krishna (KU College of Engineering & Technology, India); Nagarjuna Reddy Komalla (Govt. MGM Hospitals, Warangal, India); K. Ashoka Reddy (Kakatiya University, India)

5005: Communication Systems

Room: POSTER

Dynamic Decentralized/Centralized Free Conflict UAV's Team Allocation

Yacine Morsly (Cranfield University, United Kingdom); Nabil Aouf (Cranfield University, United Kingdom); Mohand Said Djouadi (Ecole Militaire Polytechnique, Algeria)

Interconnecting Communication for Recognition and Automation services on Home Grid

Ying-Xun Lai (National Cheng Kung University, Taiwan); Yueh-Min Huang (National Cheng Kung University, Taiwan); Subhas Mukhopadhyay (Massey University, New Zealand)

Runtime-Reconfigurable Communication Concept for Real-Time Measurement and Control

Florian Brugger (Graz University of Technology, Austria); Christian Kreiner (Graz University of Technology, Austria); Thomas Thurner (Graz University of Technology, Austria)

A Flexible UWB Sensor for Indoor Localization

Alessio De Angelis (KTH Royal Institute of Technology, Sweden); Satyam Dwivedi (KTH Royal Institute of Technology, Sweden); Peter Händel (Royal Institute of Technology, Sweden)

Architecture for Publication and Universal Access to Smart Transducers

Alexandre Alves de Lima Ribeiro (Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp - FEIS & Instituto Federal de Educação, Ciência e Tecnologia de São Paulo - IFSP, Brazil); Alexandre César Rodrigues da Silva (Universidade Estadual Paulista Julio de Mesquita - Unesp-Feis & UNESP, Brazil)

Towards the Smart Sensors Based Human Emotion Recognition

Tauseef Quazi (Massey University, New Zealand); Subhas Mukhopadhyay (Massey University, New Zealand); Nagender Suryadevara (Massey University, New Zealand); Yueh-Min Huang (National Cheng Kung University, Taiwan)

Wireless portable sensor for athletic monitoring

Leandro Rossetto (Federal University of Rio Grande do Sul (UFRGS), Brazil); Ivan Müller (Federal University of Rio Grande do Sul (UFRGS), Brazil); Valner Brusamarello (UFRGS, Brazil); Eric Fabris (Federal University of Rio Grande do Sul (UFRGS), Brazil); Carlos E Pereira (Federal University of Rio Grande do Sul, Brazil)

Telemanipulation Over Wide-area Internet Communication Networks With Time Varying Delay

Shafiqul Islam (University of Ottawa, Canada); Peter Liu (Carleton University, Canada); Abdulmotaleb El Saddik (University of Ottawa, Canada)

Bit Error Rate Measurement System for RF Integrated Circuits

Hsu-Feng Hsiao (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Shuw-Guann Lin (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Sy-Haur Su (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Chih-Ho Tu (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Da-Chiang Chang (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Ying-Zong Juang (Chip Implementation Center, National Applied Research Laboratories, Taiwan); Hwann-Kaeo Chiou (National Central University, Taiwan)

5005: Condition Monitoring and Process Tomography

Room: POSTER

Distributed Sensors for Hazard Detection in an Urban Search and Rescue Operation

Brendon Rhys Le Comte (Massey University, New Zealand); Gourab Sen Gupta (Massey University, New Zealand); Moi Tin Chew (RMIT University Vietnam, Vietnam)

Quantification of the ignitability of pulverized coals and coal blends through advanced flame monitoring

Tianyang Chi (Hangzhou Normal University, P.R. China); Yong Yan (University of Kent, United Kingdom)

A scanning-light method for inspection of tool cutting edge

Yuki Shimizu (Tohoku University, Japan); SungHo Jang (Tohoku University, Japan); Takemi Asai (Tohoku University, Japan); So Ito (Tohoku University, Japan); Wei Gao (Tohoku University, Japan)

Development of a Partial Discharge Emulator for Calibration of a Radiometric PD Detection System

José Maurício Neto (Federal University of Campina Grande, Brazil); Euler Tavares Macedo (Federal University of Paraíba, Brazil); Tony Carlos Cavalcanti (Federal University of Campina Grande, Brazil); Edson C. Guedes (Federal University of Campina Grande, Brazil); J. S. Rocha Neto (Federal University of Campina Grande, Brazil); Ian A Glover (University of Strathclyde, United Kingdom)

Effect of Sensing Field Distribution for EMT Basing on Sensitivity

Yan Fu (Tianjin University, P.R. China); Feng Dong (Tianjin University, P.R. China); Chao Tan (Tianjin University, P.R. China)

Application of a digital ECT system for measurements of dense-phase gas-solid flows

Ziqiang Cui (Tianjin University, P.R. China); Huaxiang Wang (Tianjin University, P.R. China); Chengyi Yang (Tianjin University, P.R. China); Yanbin Xu (Tianjin University, P.R. China); Dongfeng Zhang (Taiyuan University of Technology, P.R. China); Yide Geng (Taiyuan University of Technology, P.R. China)

Change-point-detection-based method for solid velocity measurement using twin-plane electrical capacitance tomography

Qian Xue (Tianjin University, P.R. China); Huaxiang Wang (Tianjin University, P.R. China); Chengyi Yang (Tianjin University, P.R. China); Ziqiang Cui (Tianjin University, P.R. China)

Eddy Currents Testing Defect Characterization based on Non-Linear Regressions and Artificial Neural Networks

Luis Rosado (Instituto Superior Técnico, Portugal); Pedro M. Ramos (Instituto de Telecomunicações, IST, Portugal); Fernando M. Janeiro (IT Lisbon / UE, Portugal); Moisés Piedade (Instituto Superior Técnico, Portugal)

A Shrinkage-Thresholding Method for the Inverse Problem of Electrical Resistance Tomography

Lingling Zhang (Tianjin University, P.R. China); Huaxiang Wang (Tianjin University, P.R. China); Yanbin Xu (Tianjin University, P.R. China)

5005: Sensor Applications**Room: POSTER****Laser Moisture Meter for Clay**

Michele Norgia (Politecnico di Milano, Italy); Alessandro Pesatori (Politecnico di Milano, Italy)

Broadband microspectrophotometer with tablet PC control

Chun-Jen Weng (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Ken-Yuh Hsu (National Chiao Tung University, Taiwan); Yung-Fu Chen (National Chiao Tung University, Taiwan); Shian-Wen Chang (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Wen-Hao Cho (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan); Fong-Zhi Chen (Instrument Technology Research Center, National Applied Research Laboratories, Taiwan)

Measurement and Monitoring of Gap in Concrete-Metal Structures using Microwave Sensor Technologies

Sergey Kharkovsky (University of Western Sydney & UWS, Australia); Zhong Tao (University of Western Sydney, Australia)

Monitoring on Dry Vacuum Pump Characteristics by Mobile Device

Fan-Chun Hsieh (Instrument Technology Research Center & National Applied Research Laboratories, Taiwan)

Load Cell for Dynamic Force Measurements: an Example in Thick-Film Technology

Damiano Crescini (University of Brescia, Italy)

A high dynamic range and low power 16-channel CMOS circuit for particle detection in space plasmas

Amine Rhouni (Laboratory of Electronics and Electromagnetism - UPMC & Laboratory of Plasmas Physics - école Polytechnique, France); Jean-Denis Techer (LPP Laboratory of Plasmas Physics, France); Gerard Sou (L2E Laboratory of Electronics and Electromagnetism, France); Matthieu Berthomier (LPP, France)

Viscosity Measurement Cell Utilizing Electrodynamic-acoustic Resonator Sensors: Issues and Improvements

Ali Abdallah (Johannes Kepler University, Austria); Frieder Lucklum (Johannes Kepler University Linz, Austria);

Martin Heinisch (Johannes Kepler University, Austria); Alexander Niedermayer (J. Kepler University, Austria); Bernhard Jakoby (Johannes Kepler University Linz, Austria)

A High Voltage Programmable Input Interface for Avionic Equipment

Antoine Canu (Thales Avionics & Supelec, France); Philippe Bénabès (Supelec, France); David Faura (Thales Avionics, France); Patrice Toillon (Thales Avionics, France); Marc Gatti (Thales Avionics, France)

An air-bearing displacement sensor for nanometrology of surface forms

Kang-Won Lee (Tohoku University, Japan); So Ito (Tohoku University, Japan); Yuki Shimizu (Tohoku University, Japan); Wei Gao (Tohoku University, Japan)

Flocking Based Distributed Deployment for Target Monitoring in Mobile Sensor Networks: Algorithm and Implementation

Yibo Wang (Harbin Institute of Technology, P.R. China); Zhiliang Tu (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Jiayi Li (Harbin Institute of Technology, P.R. China)

Investigation of Charge Carrier Dynamics in Silicon Wafers using Terahertz Imaging Spectroscopy

Thomas Arnold (Carinthian Tech Research AG & University of Klagenfurt, Austria); Martin De Biasio (Carinthian Tech Research AG, Austria); Wolfgang Mühleisen (Carinthian Tech Research AG, Austria); Raimund Leitner (CTR AG, Austria)

5005: Signal Processing

A Novel Drift Compensating Method for Orientation Measurement System in VR Applications

Chang-Yu He (Beijing Institute of Technology, P.R. China); Xiaoming Hu (Beijing Institute of Technology, P.R. China); Yue Liu (Beijing Institute of Technology, P.R. China); Yongtian Wang (Beijing Institute of Technology, P.R. China); Haobo Cheng (Beijing Institute of Technology, P.R. China)

CMOS Analog RF Driver Operating at 1-10 GHz with 0dBm Output Power

Saiyu Ren (Wright state university, USA); Isaac Abraham (Intel Corporation & University of Washington, USA); Ray Siferd (Wright State University, USA)

Decentralized Multi-Target-Tracking using a LIDAR sensor network

Konrad Wenzl (Universität der Bundeswehr München & Division of Sensor Technology and Measurement Systems, Germany); Heinrich Ruser (Universität der Bundeswehr München, Germany); Christian Kargel (University of the Bundeswehr Munich, Germany)

Integrating body-conductive acoustic sensors for robust speech recognition

Panikos Heracleous (ATR, Japan); Jani Even (ATR, Japan); Takahiro Miyashita (ATR, Japan); Norihiro Hagita (ATR, Japan)

Estimation of the Period and Spectral Content of Multi-Frequency Signals Using Minimal Data Without User Interaction

Mikaya Lumori (University of San Diego, USA); Johan Schoukens (Vrije Universiteit Brussel, Belgium); John Lataire (Vrije Universiteit Brussel, Belgium); Rik Pintelon (Vrije Universiteit Brussel, Belgium)

Image Reconstruction Algorithm for EMT based on Modified Tikhonov Regularization Method

Jianna Hao (Tianjin University, P.R. China); Guang Chen (Tianjin University, P.R. China); Zhang Cao (Beihang University, P.R. China); Wuliang Yin (University of Manchester, United Kingdom); Qian Zhao (Tianjin University, P.R. China)

Cross correlation based dispersed phase velocity profile measurement of two-phase pipe flow

Chao Tan (Tianjin University, P.R. China); Cao Yang (Tianjin University of key lab in Process Tomography, P.R. China); Feng Dong (Tianjin University, P.R. China)

Mitigating Transmission Sidelobes in NIR Liquid Crystal Tuneable Filters Using Inverse Methods

Timothy Roper (University of Auckland, New Zealand); Mark Andrews (The University of Auckland, New Zealand)

New Approach to Passive Infrared Motion Sensors Signal Processing for Ambient Assisted Living

Applications

Tamás Kovácsházy (Budapest University of Technology and Economics, Hungary); Gabor Fodor (BME, Hungary)

5005: Virtual Measurement Systems

Room: POSTER

Programmable Force-Feedback Side-Stick for Flight Simulation

Mohamed Guiatni (Ecole Militaire Polytechnique, Algeria); Madjid Ournid (Ecole Militaire Polytechnique, Algeria); Amine Boulahlib (Ecole Militaire Polytechnique, Algeria); Abdelkrim Abane (Ecole Militaire Polytechnique, Algeria)

Design and Performance Measurement of a High-Performance Computing Cluster

Kiran George (Cal State Fullerton, USA); Vivek Venugopal (United Technologies Research Center, USA)

Test Data Compression Based on Variable Prefix Dual-Run-Length Code

Yang Yu (Harbin Institute of Technology, P.R. China); Zhiming Yang (Harbin Institute of Technology, P.R. China)

Synthesis and generation of critical waveforms by means of AWG

Mauro D'Arco (University of Naples Federico II, Italy); Ettore Napoli (University of Naples "Federico II", Italy); Michele Vadursi (University of Naples "Parthenope", Italy)

Performance Evaluation of PTPd, a IEEE 1588 implementation, on the x86 Linux platform for Typical Application Scenarios

Tamás Kovácsházy (Budapest University of Technology and Economics, Hungary); Balint Ferencz (Budapest University of Technology and Economics, Hungary)

Using a Sensor-Assisted Model for Learning Retention in an e-Book Reading Environment

Ting-Ting Wu (National Cheng Kung University, Taiwan); Jan-Pan Hwang (National Cheng Kung University, Taiwan); Yueh-Min Huang (National Cheng Kung University, Taiwan); Qing Tan (Athabasca University, Canada); Subhas Mukhopadhyay (Massey University, New Zealand)

An EMI Receiver model to evaluate electromagnetic emissions (EME) by simulation

Klaus Hörmaier (Infineon Technologies Austria AG & Infineon Technologies Austria AG, Austria); Hubert Zangl (Graz University of Technology, Austria); Herbert Zojer (Infineon Technologies Austria AG, Austria)

MeMaPads: Enhancing Children's Well-being Through a Physically Interactive Memory and Math Games

Ali Karime (University of Ottawa, Canada); Basim Hafidh (University of Ottawa, Canada); Abdulmajeed Khaldi (University of Ottawa, Canada); Jihad Mohamad Aljaam (Qatar University, Qatar); Abdulmotaleb El Saddik (University of Ottawa, Canada)

5005: Wireless Sensors and Sensor Networks

Room: POSTER

Power-Noise Trade-off in Signal Amplifiers

Angel Cuadras (Technical University of Catalonia, Spain); Oscar Casas (Universitat Politècnica de Catalunya, Spain); Ramon Pallas-Areny (Universitat Politècnica de Catalunya, Spain)

Wireless sensor network for building evacuation

Carel Kruger (University of Pretoria, South Africa); Gerhard P Hancke (University of Pretoria, South Africa); Deep Vardhan Bhatt (University of Pretoria, South Africa)

A Wireless Micro Inertial Measurement Unit (IMU)

Fabian Höflinger (University of Freiburg, Germany); Joerg Müller (University of Freiburg Germany, Germany); Maximilian Törk (University of Freiburg - IMTEK, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany); Wolfram Burgard (University of Freiburg, Germany)

Wireless Transfer of Power to Low Power Implanted Biomedical Devices: Coil Design Considerations

Imran Khan (IIUM, Malaysia); Sheraz Khan (International Islamic University Malaysia, Malaysia)

Smart Metering Using Distributed Wake-Up Receivers

Gerd Gamm (University of Freiburg & IMTEK, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)

NCAP Embedded Using Structured Programming

Tércio Alberto dos Santos Filho (São Paulo State University - UNESP, Brazil); Alexandre César Rodrigues da Silva (Universidade Estadual Paulista Julio de Mesquita - Unesp-Feis & UNESP, Brazil)

Characterization of a Geometrical Wireless Signal Propagation Model for Indoor Ranging Techniques

Antonio Moschitta (University of Perugia, Italy); David Macii (University of Trento, Italy); Fabrizio Trenti (University of Trento, Italy); Stefano Dalpez (Fondazione Bruno Kessler, Italy); Alessandro Bozzoli (Fondazione Bruno Kessler (FBK), Italy)

Acoustic Telemetry System for Underwater Sensors

David Sarriá (Centre Tecnologic, Spain); Erik Molino-Minero-Re (Universitat Politecnica de Catalunya, Spain); Antoni Mànuel-Làzaro (Universitat Politecnica de Catalunya, Spain)

WubiNet: A Flexible WSN for Applications in Environmental Monitoring

Diego Antolín (University of Zaragoza, Spain); Alberto Bayo (University of Zaragoza, Spain); Nicolas Medrano (University of Zaragoza, Spain); Belen Calvo (University of Zaragoza, Spain); Santiago Celma (University of Zaragoza, Spain)

A Distributed Wireless Body Area Network for Medical Supervision

Changhong Wang (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China); Shunzhong Shi (Harbin Institute of Technology, P.R. China)

Comparative analysis of synchronization strategies in sensor network with misbehaving clocks

Ruggero Carli (University of PAdova, Italy); Giada Giorgi (University of Padova, Italy); Claudio Narduzzi (Universita' di Padova, Italy)

A wind energy harvester for low power wireless sensor networks

Divesh Ramasur (University of Pretoria, South Africa); Gerhard P Hancke (University of Pretoria, South Africa)

11:00 - 13:05

1004: SPECIAL SESSION: Sensors and Instrumentation for the Environment and Climate change Monitoring.

Room: S4

Auto-Compensated Smart Sensor with F-ISE to Continuous Monitoring in Public Water Supplies

José Rivera-Mejía (Instituto Tecnológico de Chihuahua, Mexico); Juan Rivera-Jacquez (Instituto Tecnológico de Chihuahua, Mexico); César Modesto-Acosta (Instituto Tecnológico de Chihuahua, Mexico); Meliton Tena-Vega (Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias, Mexico)

Comparison of applying Sleep Mode function to the Smart Wireless Environmental Sensing Stations for Extending the Life time

Hatim Alabri (Massey University, New Zealand); Subhas Mukhopadhyay (Massey University, New Zealand); Amal Punchihewa (Massey University & Senior Lecturer, New Zealand); Nagender Suryadevara (Massey University, New Zealand); Yueh-Min Huang (National Cheng Kung University, Taiwan)

A WiFi based Smart Wireless Sensor Network for Monitoring an Agricultural Environment

Gerard Mendez (Massey University, New Zealand); Mohd Amri Bin Md Yunus (Faculty of Electrical Engineering, Malaysia); Subhas Mukhopadhyay (Massey University, New Zealand)

A low-cost instrument for environmental particulate analysis based on optical scattering

Anna Morpurgo (University of Milan, Italy); Federico Pedersini (Università degli Studi di Milano, Italy); Alessandro Reina (Università degli Studi di Milano, Italy)

1005: SPECIAL SESSION: Emerging methods for measuring, modeling and instrumentation in medical applications.

Room: S5

Taylor-Fourier Analysis of Blood Pressure Oscillometric Waveforms

José Antonio de la O Serna (UANL & UANL, Mexico)

Estimation of the orthosis-limb contact pressure through thermal imaging

Marco Tarabini (Politecnico di Milano, Italy); Bortolino Saggin (Politecnico di Milano, Italy); Diego Scaccabarozzi (Politecnico di Milano, Italy); Gerardo Lanfranchi (Fitech Italia, Italy)

Comparison of noninvasive and remote temperature estimation employing magnetic nanoparticles in DC and AC applied fields

Yin Li (Huazhong University of Science and Technology, P.R. China); Wenzhong Liu (Huazhong University of Science and Technology, P.R. China); Jing Zhong (Huazhong University of Science and Technology, P.R. China)

On-line physiological parameters monitoring in lower-limb amputees

Gemma Hornero (Universitat Politècnica de Catalunya, Spain); Oscar Casas (Universitat Politècnica de Catalunya, Spain)

Using the Best Linear Approximation as a First Step to a New Non-Invasive Glucose Measurement

Oscar Olarte (Vrije Universiteit Brussel & ELEC, Belgium); Wendy Van Moer (Vrije Universiteit Brussel, Belgium); Kurt Barbé (VUB, Belgium); Sven Verguts (SURF - Vrije Universiteit Brussel Belgium, Belgium); Yves Van Ingelgem (SURF - Vrije Universiteit Brussel, Belgium); Annick Hubin (Vrije Universiteit Brussel (VUB), Belgium)

2: A/D & D/A converters and Electronic Devices 2

Room: S2

Robust ADC Testing With Very Long Time Records

Tamás Dabóczi (Budapest University of Technology and Economics, Hungary)

An Efficient Approximation for Maximum Likelihood Estimation of ADC Parameters

Attila Sárhegyi (Cypress Semiconductor, USA); László Balogh (Budapest University of Technology and Economics, Hungary); István Kollár (Budapest University of Technology and Economics, Hungary)

Efficient execution of ADC test with sine fitting with verification of excitation signal parameter settings

Vilmos Pálfi (Budapest University of Technology and Economics, Hungary); István Kollár (Budapest University of Technology and Economics, Hungary)

A 12-Bit Digital-to-Time Converter (DTC) with sub-ps-level resolution using current DAC and differential switch for Time-to-Digital Converter (TDC)

Salim Alahdab (University of Oulu, Finland); Antti Mäntyniemi (University of Oulu, Finland); Juha Kostamovaara (University of Oulu, Finland)

Adaptive Blind Calibration of Gain and Timing Mismatches in a Time-Interleaved ADC - A Performance Analysis

Shahzad Saleem (National University of Computer and Emerging Sciences, Pakistan)

29: Signal Processing 3

Room: S4

Accuracy of the Synchrophasor Estimator Provided by the Interpolated DFT Algorithm

Daniel Belega (University of Timisoara, Romania); Dario Petri (University of Trento, Italy)

An Efficient Extension of the Zero-Crossing Technique to Measure Frequency of Noisy Signals

Domenicantonio Grillo (Università degli Studi di Napoli Federico II, Italy); Nicola Pasquino (University of Naples Federico II, Italy); Leopoldo Angrisani (University of Naples Federico II, Italy); Rosario Schiano Lo Moriello (Università degli Studi di Napoli Federico II, Italy)

Geometric Error Estimation and Compensation in Compact Spherical Loudspeaker Array Calibration

Franz Zotter (IEM Graz, Austria); Balázs Bank (Budapest University of Technology and Economics, Hungary)

Implementation of a Least-Squares Multi-Harmonic Fitting Algorithm in the Multicore Cell Processor

José Santos (Instituto de Telecomunicações, Instituto Superior Técnico, Portugal); Pedro M. Ramos (Instituto de Telecomunicações, IST, Portugal)

Fault diagnosis based on numerical differentiation using wavelet transform

Zhen-hua Wang (Harbin Institute of Technology, P.R. China); Shen Yi (Harbin Institute of Technology, P.R. China); Xiaolei Zhang (Harbin Institute of Technology, P.R. China); Qiang Wang (Harbin Institute of Technology, P.R. China)

32: Virtual measurement systems 1

Room: S6

Estimation of Uncertainty in Measurement of Power Quality Characteristics with a Virtual Measurement Instrument

Ljupco Arsov (Ss. Cyril and Methodius University-Skopje, Macedonia, the former Yugoslav Republic of); Marija Cundeva-Blajer (Ss. Cyril and Methodius University-Skopje & Faculty of Electrical Engineering and Information Technologies, Macedonia, the former Yugoslav Republic of); Zoran Grkov (Macedonian Institute of Quality, Macedonia, the former Yugoslav Republic of); Iljas V Iljazi (South-Eastern European University Tetovo, Macedonia, the former Yugoslav Republic of); Alajdin Abazi (SEEU, Macedonia, the former Yugoslav Republic of)

An Integrated Application Framework For Measurement-Based Product Testing Management

Yu Yu (Ocean University of China, P.R. China); Zhongwen Guo (Ocean University of China, P.R. China); Zhaosui Sun (Ocean University of China, P.R. China); Yunhong Lu (Ocean University of China, P.R. China)

Low Cost Virtual Flickermeter

Vladimir Dimchev (University Ss. Cyril and Methodius, Macedonia, the former Yugoslav Republic of); Zhivko Kokolanski (Assistant, Macedonia, the former Yugoslav Republic of); Mare Srbinovska (Assistant, Macedonia, the former Yugoslav Republic of)

Experiments in a Mechatronics Educational Lab on Signal Acquisition Basic Concepts

Alessandro Sona (University of Padova, Italy); Roberto Ricci (University of Padova, Italy)

Shielding Effectiveness of Composite Aircraft: A Reverberation Chamber and Virtual Measurement Study

Masud Aziz (University of Kansas, USA); Brian Cordill (University of Kansas, USA); Sarah Seguin (University of Kansas, USA); Mark Ewing (University of Kansas, USA); Brian Mamaril (Cessna Aircraft Company, USA); Jeff Phillips (Cessna Aircraft Company, USA); Vandana Pendse (Cessna Aircraft Company, USA)

35: Wireless Sensors and Sensor Networks 3

Room: S7

A step forward the on-line minimization of the synchronization events in TPSN

Domenico Capriglione (University of Cassino, Italy); Luigi Ferrigno (University of Cassino, Italy); Vincenzo Paciello (University of Salerno & University of Salerno, Italy); Antonio Pietrosanto (University of Salerno & CEO of SPRING OFF srl, Italy)

Master-less Time Synchronization for Wireless Sensor Networks with Generic Topology

Daniele Fontanelli (University of Trento, Italy); David Macii (University of Trento, Italy)

Effect of Body Positions and Movements in a Capacitive Intrabody Communication Channel from 100 kHz to 100 MHz

Željka Lučev (University of Zagreb, Croatia); Igor Krois (University of Zagreb, Croatia); Mario Cifrek (University of Zagreb, Croatia)

Miniaturisation of Wireless Sensor Nodes for Smart Digital Home

Gourab Sen Gupta (Massey University, New Zealand); Mark Hetherington (Massey University, New Zealand)

Localized Fine Accuracy Synchronization in Wireless Sensor Network Based on Consensus Approach

Francesco Lamonaca (University of Calabria, Italy); Emanuele Garone (Université Libre de Bruxelles, Belgium); Domenico Grimaldi (University of Calabria, Italy); Alfonzo Nastro (University of Calabria, Italy)

36: Mobile Devices 1

Room: S3

Voltage Regulation on Inductive Power Links for Autonomous Sensors

Joan Albesa (Universitat Politècnica de Catalunya, Spain); Manel Gasulla (Universitat Politècnica de Catalunya, Spain)

Disparity Measurement Using Dynamic Programming

Yu-Cheng Fan (National Taipei University of Technology, Taiwan)

A portable multi-channel behavioral state and physiological signal monitoring system

Chung-Ping Young (National Cheng Kung University, Taiwan); Da-Wei Chang (National Cheng Kung University, Taiwan); Sheng-Fu Liang (National Cheng Kung University, Taiwan); Fu-Zen Shaw (National Cheng Kung University, Taiwan)

A Measurement of Time synchronization On Mobile Devices

Wang-Hsin Hsu (Vanung University, Taiwan); You-Shun Liu (Vanung University, Taiwan); Wen-Yen Lin (Vanung University, Taiwan); Wei-Chen Tai (Ku-Pao Home Economics and Commercial High School, Austria); Jung-Shyr Wu (National Central University, Taiwan)

Low-Cost, Rapid Prototyping of IMU and Pressure Monitoring System using an Open Source Hardware Design

Luke Russell (Carleton University, Canada); Alan Steele (Carleton University, Canada); Rafik Goubran (Carleton University, Canada)