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Measurement, Instrumentation, and Methodologies for Medical, Biomedical, and Healthcare Systems II

Room: Aula Magna

Chairs: Pasquale Arpaia (University of Naples Federico II, Italy), Octavian Adrian Postolache (Instituto de Telecomunicações, Lisboa/IT & Instituto Universitario de Lisboa, ISCTE-IUL, Portugal)

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Erika Pittella (Sapienza University of Rome, Italy)
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Silvia Sangiovanni (Sapienza University of Rome, Italy)

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Simone Corbellini (Politecnico di Torino, Italy)
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Mohanankar Sivaprakasam (IIT Madras, India)

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Alessandro Schiavi (National Institute of Metrological Research, Italy)
Alessio Carullo (Politecnico di Torino, Italy)
Arianna Astolfi (Politecnico di Torino, Italy)
Alberto Vallan (Politecnico di Torino, Italy)
Davide Corona (National Institute of Metrological Research, Italy)

16:20 – 18:00

SS2 - Wireless Sensor Networks in the Internet of Things era

Room: CDF-1

Chairs: Emiliano Sisinni (University of Brescia, Italy), Federico Tramarin (University of Padova, Italy)

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Gianni Cerro (University of Cassino and Southern Lazio, Italy);
Luigi Ferrigno (University of Cassino, Italy)
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Leopoldo Angrisani (University of Naples Federico II, Italy)
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Rosario Schiano Lo Moriello (University of Naples Federico II, Italy)

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Manel Zouari (National Engineering School of Sfax Tunisia, Tunisia)
Slim Naifar (University of Sfax, Tunisia)
Olfa Kanoun (Chemnitz University of Technology, Germany)
Nabil Derbel (University of Sfax, Tunisia)

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Room: CDF-2

Chairs: Lee A Barford (Keysight Laboratories, USA), Lorenzo Peretto (University of Bologna, Italy)

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Stefano Rinaldi (University of Brescia, Italy)

Marco Pasetti (University of Brescia, Italy)

Giulio Vivacqua and Massimo Trioni (A2A SpA, Italy)

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of Single-phase Four Diode Bridge Rectifier 612**

Markus Mirz (RWTH Aachen University, Germany)

Robert Uhl (RWTH Aachen University, Germany)

Tom Vandeplas (Keysight Technologies, Rotselaar, Belgium)

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Antonello Monti (RWTH Aachen University, Germany)

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Mangeni Gavin (UCSI University, Malaysia)

Rodney H.G. Tan (UCSI University, Malaysia)

Teng Hwang Tan (UCSI University, Malaysia)

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Roberto Tinarelli (University of Bologna, Italy)

16:20 – 18:00

Measurement and Instrumentation for Industrial Applications and Processes II

Room: 7A

Chairs: Dario Petri (University of Trento, Italy), Jesus Ureña (University of Alcala, Spain)

**Controlling the Irrigation Process in Agriculture
Through Elongated TDR-Sensing Cables..... 630**

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Christof Huebner (TRUEBNER GmbH, Germany)
Dennis Trebbels (TRUEBNER GmbH, Germany)
Nicola Giaquinto (Politecnico di Bari, Italy)
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Erika Pittella (Sapienza University of Rome, Italy)

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Dominik Exel (Johannes Kepler University Linz, Austria)
Stefan Schuster (Voestalpine Stahl GmbH, Austria)
Bernhard G. Zagar (University of Linz, Austria)
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Johann Reisinger (Voestalpine Stahl GmbH, Austria)

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Werner Kollment (University of Leoben, Austria)
Paul O'Leary (University of Leoben, Austria)
Roland Ritt (University of Leoben, Austria)
Thomas Klünsner (Materials Center Leoben, Austria)

16:20 – 18:00

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Room: 7B

Chair: Marco Parvis (Politecnico di Torino, Italy), Bernardo Tellini (University of Pisa, Italy)

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Zilvinas Nakutis (Kaunas University of Technology, Lithuania)
Marius Saunoris (Kaunas University of Technology, Lithuania)
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Carmine Landi (Second University of Naples, Italy)	
Mario Luiso (University of Campania Luigi Vanvitelli, Italy)	
Mohammad Modarres (Politecnico di Torino, Italy)	

Wednesday, May 24

9:30 – 11:10

Measurement, Instrumentation, and Methodologies for Medical, Biomedical, and Healthcare Systems III

Room: Aula Magna

Chair: Kurt Barbé (Vrije Universiteit Brussel, Belgium), Domenico Grimaldi (University of Calabria, Italy)

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Veronica Silva (Universidade Federal Rural do Semiárido, Brazil)

Antonio Lisboa de Souza (Federal University of Paraiba, Brazil)

Sebastian Yuri Cavalcanti Catunda (Federal University of Rio Grande do Norte, Brazil)

Raimundo Freire (Universidade Federal de Campina Grande - PB, Brazil)

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Giada Giorgi (University of Padova, Italy)

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Carmine Ciofi (University of Messina, Italy)

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Eduardo Palermo (Sapienza, University of Rome, Italy)

Denisa Masiello (Sapienza, University of Rome, Italy)

Stefano Rossi (University of Tuscia, Italy)

9:30 – 11:10

Robotics, Control, Mechanical, and Material Measurements

Room: CDF-1

Chairs: Niclas Björsell (University of Gävle, Sweden), Ruqiang Yan (Southeast University, P.R. China)

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Arash Valiesfahani (Politecnico di Milano, Italy)

Bortolino Saggin (Politecnico di Milano, Italy)

Marianna Magni (Politecnico di Milano, Italy)

Marco Tarabini (Politecnico di Milano, Italy)

Carlo Alberto Biffi (CNR, Italy)

Ausonio Tuissi (CNR, Italy)

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Florian Gosselin (CEA, LIST, Interactive Robotics Laboratory, France)
Franck Gonzalez (Imperial College London, United Kingdom)
Wael Bachta (Sorbonne Universités, UPMC Paris 06, ISIR, France)

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Pierre Payeur (University of Ottawa, Canada)
Ana-Maria Cretu (Université du Québec en Outaouais, Canada)

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Juliana Leitzke (Alpen-Adria Universität, Austria)
Hubert Zangl (Alpen-Adria Universität, Austria)

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Energy and Power Systems II

Room: CDF-2

Chair: David Macii (University of Trento, Italy), Carlo Muscas (University of Cagliari, Italy)

Phasor Measurement Units Performance in Three-Phase Unbalanced Systems 741

Paolo Castello (University of Cagliari, Italy)
Roberto Ferrero (University of Liverpool, United Kingdom)
Paolo Attilio Pegoraro (University of Cagliari, Italy)
Sergio Toscani (Politecnico di Milano, Italy)

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Paolo Attilio Pegoraro (University of Cagliari, Italy)
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David Lavery (Queen's University Belfast, United Kingdom)
John Hastings (Queen's University Belfast, United Kingdom)
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Marco Pau (RWTH Aachen University, Germany)
Lorenzo Peretto (University of Bologna, Italy)
Ferdinanda Ponci (RWTH Aachen University, Germany)
Antonello Monti (RWTH Aachen University, Germany)

9:30 – 11:10

Measurement of Electric Quantities III

Room: 7A

Chair: Luca Callegaro (INRIM, Italy), Lorenzo Peretto (University of Bologna, Italy)

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Luca Callegaro (INRIM, Italy)

Noshewan Shoaib (National University of Sciences and Technology (NUST), Pakistan)

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Ilaria Finardi (Politecnico di Torino, Italy)

Luca Callegaro (INRIM, Italy)

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Lorenzo Peretto (University of Bologna, Italy)

Luigi Rovati (University of Modena and Reggio Emilia, Italy)

Roberto Tinarelli (University of Bologna, Italy)

Mario Bernabei (University of Modena and Reggio Emilia, Italy)

Fast and Automated Verification of Multi-channel Full Time-Domain EMI measurement systems 785

Marco Azpurua (Universitat Politècnica de Catalunya, Spain)

José Oliva (Universitat Politècnica de Catalunya, Spain)

Marc Pous (Universitat Politècnica de Catalunya, Spain)

Ferran Silva (Universitat Politècnica de Catalunya, Spain)

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Paolo Durandetto (INRIM, Italy)

Eugenio Monticone (INRIM, Italy)

Bruno Trinchera (INRIM, Italy)

Danilo Serazio (INRIM, Italy)

Andrea Sosso (INRIM, Italy)

9:30 – 11:10

Non-invasive Measurement Techniques and Instrumentation I

Room: 7B

Chairs: Helena G. Ramos (Instituto de Telecomunicações, Portugal), Artur L. Ribeiro (Instituto de Telecomunicações, Portugal)

Reconstruction of Two-Dimensional Temperature Distribution in Swirling Flames Using TDLAS-Based Tomography 796

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Lijun Xu (Beihang University, P.R. China)

Zhang Cao (Beihang University, P.R. China)

Yuzhen Lin (Beihang University, P.R. China)

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Yicely K. Hernández-Gómez (Universidad Nacional de Colombia, Colombia)

Germán Álvarez-Botero (Universidad Nacional de Colombia, Colombia)

Jan Bacca Rodríguez (Universidad Nacional de Colombia, Colombia)

Fernando Rangel de Sousa (Federal University of Santa Catarina, Brazil)

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Thomas Musch (Ruhr-Universität Bochum, Germany)

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Artur L. Ribeiro (Instituto de Telecomunicações, Portugal)
Helena G. Ramos (Instituto de Telecomunicações, Portugal)

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Camila Salomon (Universidade Federal de Itajubá, Brazil)
Wilson Santana (Universidade Federal de Itajubá, Brazil)
Erik Bonaldi (Instituto Gnarus, Brazil)
Levy Ely de Lacerda de Oliveira (Instituto Gnarus, Brazil)
Luiz Eduardo Borges da Silva (Universidade Federal de Itajubá, Brazil)
Jonas Borges da Silva (Instituto Gnarus, Brazil)
Germano Lambert-Torres (PS Soluções, Brazil)
Alexandre Pellicel (Termonorte, Brazil)
Marco Aurelio Lopes (Termonorte, Brazil)
Gonçalo Figueiredo (Termonorte, Brazil)

14:00 – 17:40

Industry Day Poster Session

Room: DET V Floor

Conducted EMI Equivalent Measurement and Calibration Based on Current Characteristics

Bo Zhao (Jiangsu Institute of Metrology, P.R. China)
Zhiming Feng (Jiangsu Institute of Metrology, P.R. China)
Yuming Ma (Jiangsu Institute of Metrology, P.R. China)
Xiaoming Fan (Shenzhen Zhiyong Electronic Co., Ltd., P.R. China)

Development for Battery Cable Diagnosis System Based on Pulse TDR method

Seung Jin Chang (Yonsei University, Korea)
Moon Kang Jung (Yonsei University, Korea)
Jin Bae Park (Yonsei University, Korea)
Chang Yeop Chae (GM Korea Company, Korea)

14:00 – 15:40

Industry Day Session 1

Room: DET V Floor

Chairs: Simone Corbellini (Politecnico di Torino, Italy), Mirko Marracci (University of Pisa, Italy)

Invited Talk - Electrochemical Noise - Ready for online monitoring of corrosion systems also in the field

Günther SCHMITT (IFINKOR, Germany)
Peter Schrembs (IPS, Germany)

A vision-based droplet characterization technique for particle flow analysis

Chih-Yen Chen (Instrument Technology Research Center, Taiwan)
Chun-Jen Weng (Instrument Technology Research Center, Taiwan)
Chun-Fu Lin (Instrument Technology Research Center, Taiwan)
Chi-Wen Hsieh (National Chiayi University, Taiwan)
Der-Chen Huang (Chung Hsing University, Taiwan)
un-Yu Tang (JComm. Ltd., Taiwan)

DronesBench: a tool for the diagnosis of drones

Pasquale Daponte (University of Sannio, Italy)
Luca De Vito (University of Sannio, Italy)
Francesco Lamonaca (University of Sannio, Italy)
Francesco Picariello (University of Sannio, Italy)
Sergio Rapuano (University of Sannio, Italy)
Maria Riccio (University of Sannio, Italy)
Luca Pompetti (DPM Elettronica S. r. l., Italy)
Mauro Pompetti (DPM Elettronica S. r. l., Italy)

The Optical Payload System Facility (OPSys) for the assembly, alignment and calibration of Space Optical Payloads

Maurizio Deffacis (ALTEC SpA, Italy)
Marta Casti (ALTEC SpA, Italy)
Alessandro Bellomo (ALTEC SpA, Italy)
Silvano Fineschi (INAF Italy, Italy)
Giuseppe Massone (INAF Italy, Italy)
Gerardo Capobianco (INAF Italy, Italy)

Integration and Alignment of the Metis Coronagraph for the Solar Orbiter Mission

Sergio Mottini (Thales Alenia Space, Italy)
Stefano Cesare (Thales Alenia Space, Italy)
Mauro Montabone (Thales Alenia Space, Italy)
Roberto Boccardo (Thales Alenia Space, Italy)
Paolo Sandri (OHB Italia, Italy)
Paolo Sarra (OHB Italia, Italy)
Danilo Morea (OHB Italia, Italy)
Silvano Fineschi (INAF Italy, Italy)
Giuseppe Massone (INAF Italy, Italy)
Gianalfredo Nicolini (INAF Italy, Italy)
Maurizio Pancrazzi (INAF Italy, Italy)
Michela Uslenghi (INAF Italy, Italy)
Marco Castronuovo (Agenzia Spaziale Italiana, Italy)
Rita Carpentiero (Italian Space Agency, Italy)
Roberto Bertacin (Agenzia Spaziale Italiana, Italy)

14:00 – 15:40

Non-invasive Measurement Techniques and Instrumentation II

Room: Aula Magna

Chairs: Sabrina Grassini (Politecnico di Torino & Politecnico di Torino, Italy), Reza Zoughi (Missouri University of Science and Technology, USA)

An Efficient Digitizer for Non-Intrusive AC Voltage Measurement 824

Shenil PS (College of Engineering Trivandrum, India)
Boby George (Indian Institute of Technology Madras, India)

Image Distortion Characterization due to Equivalent Monostatic Approximation in Near Field Bistatic SAR Imaging 830

Zahra Manzoor (Missouri University of Science and Technology, USA)
Mohammad Tayeb Ghasr (Missouri University of Science and Technology, USA)
Kristen M Donnell (Missouri University of Science and Technology, USA)

**Defects Detection based on Sparse Regularization Method
for Electromagnetic Tomography (EMT) 835**

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Lisha Cui (Tianjin Polytechnic University, P.R. China)
Jianming Wang (Tianjin Polytechnic University, P.R. China)
Yukuan Sun (Tianjin Polytechnic University, P.R. China)
Weiming Yang (Tianjin Polytechnic University, P.R. China)
Ronghua Zhang (Tianjin Polytechnic University, P.R. China)
Huaxiang Wang (Tianjin University, P.R. China)

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Mohammad Tayeb Ghasr (Missouri University of Science and Technology, USA)
Reza Zoughi (Missouri University of Science and Technology, USA)

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Mohammad Tayeb Ghasr (Missouri University of Science and Technology, USA)
Reza Zoughi (Missouri University of Science and Technology, USA)

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Sensors, Actuators, Transducers, and Sensor Fusion I

Room: CDF-1

Chairs: Sebastian Yuri Cavalcanti Catunda (Federal University of Rio Grande do Norte, Brazil), Luca De Vito (University of Sannio, Italy)

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Srinivas Rana (Indian Institute of Technology Madras, India)
Boby George (Indian Institute of Technology Madras, India)
Jagadeesh Kumar V (Indian Institute of Technology Madras, India)

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Kin Yau How (The University of Manchester, United Kingdom)
Wuliang Yin (The University of Manchester, United Kingdom)

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Magnetometer and Accelerometer Sensor Reference Frames 862**

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Xi Wen (Tianjin University, P.R. China)
Yu Song (Tianjin University, P.R. China)
Xiaoqian Mao (Tianjin University, P.R. China)
Wei Li (California State University, Bakersfield, USA)
Genshe Chen (Intelligent Fusion Technology, Inc, USA)

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Jagadeesh Kumar V (Indian Institute of Technology Madras, India)

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Energy and Power Systems III

Room: CDF-2

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Marco Cupelli (RWTH Aachen University, Germany)

Antonello Monti (RWTH Aachen University, Germany)

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Guillermo Robles (Universidad Carlos III, Spain)

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Brian G Stewart (University of Strathclyde, United Kingdom)

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George Hallak (University of Applied Sciences Ruhrwest, Germany)

Gerd Bumiller (Hochschule Ruhr West, Germany)

Christoph Nieß (Hochschule Ruhr West, Germany)

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Marco Faifer (Politecnico di Milano, Italy)

Christian Laurano (Politecnico di Milano, Italy)

Roberto Ottoboni (Politecnico di Milano, Italy)

Sergio Toscani (Politecnico di Milano, Italy)

Michele Zanoni (Politecnico di Milano, Italy)

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Jorge Perez-Bailon (University of Zaragoza, Spain)

Alejandro Marquez (University of Zaragoza, Spain)

Belen Calvo (University of Zaragoza, Spain)

Nicolas Medrano (University of Zaragoza, Spain)

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Advances in Instrumentation and Measurement Developments and Techniques I

Room: 7A

Chairs: Chairs: Consolatina Liguori (University of Salerno, Italy), Ferdinanda Ponci (RWTH Aachen University, Germany)

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Hind Bakli (AMC, France)

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Nadia Kourra (University of Warwick, United Kingdom)

Jason M Warnett (University of Warwick, United Kingdom)

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Mark Butcher (CERN, Switzerland)

Alessandro Masi (CERN, Switzerland)

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Sahba Jahromi (University of Oulu, Finland)

Jussi-Pekka Jansson (University of Oulu, Finland)

Juha Kostamovaara (University of Oulu, Finland)

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Chiara Ramella (Politecnico di Torino, Italy)

Simone Corbellini (Politecnico di Torino, Italy)

Marco Pirola (Politecnico di Torino, Italy)

Lili Yu (Nanjing Tech University, P.R. China)

Vito C Farnicola (INRIM - Istituto Nazionale di Ricerca Metrologica, Italy)

14:00 – 15:40

SS3 - Measurement in healthcare - applications in industry and in clinical settings I

Room: 7B

Chairs: Paola Saccomandi (IHU-strasbourg, France), Emiliano Schena (University Campus Bio-Medico of Rome, Italy)

**Measurement of Knee Articulation Looseness by Videofluoroscopy
Image Analysis: CINARTRO..... 939**

Franco Simini (Universidad de la República, Uruguay)

Dario Santos (Universidad de la República, Uruguay)

Jose E Artigas (Universidad de la República, Uruguay)

Veronica Gigirey (Universidad de la República, Uruguay)

Luis Dibarbouré (Universidad de la República, Uruguay)

Luis Francescoli (Universidad de la República, Uruguay)

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magnetic resonance-guided laser ablation: first in vivo study..... 944**

Paola Saccomandi (IHU-strasbourg, France)

Francesco Di Matteo (Università Campus Bio-Medico di Roma, Italy)

Raoul Pop (CHRU-Centre Hospitalier Régional et Universitaire, France)

Céline Giraudeau (IHU-strasbourg, France)

Francesco Marchegiani (IHU-strasbourg, France)

Emiliano Schena (Università Campus Bio-Medico di Roma, Italy)

Luca Breschi (Elesta srl, Italy)

Michele Diana (IRCAD, France)

Guido Costamagna (Università Cattolica del Sacro Cuore, Policlinico Gemelli, Italy);

Jacques Marescaux (IRCAD, France)

Assessment of breathing volumes and kinematics by motion capture systems: comparison of protocols 950

Carlo Massaroni (Università Campus Bio-Medico di Roma, Italy)
Amanda Silvatti (Universidade Federal de Viçosa, Brazil)
Irisz Levai (University of Kent, United Kingdom)
Guglielmo Senesi (Università Campus Bio-Medico di Roma, Italy)
Emiliano Schena (Università Campus Bio-Medico di Roma, Italy)
Paola Saccomandi (IHU-strasbourg, France)
Ricardo de Barros (Universidade Estadual de Campinas, Brazil)
Sergio Silvestri (University Campus Bio-Medico of Rome, Italy)

Respiratory and cardiac rates monitoring during MR examination by a sensorized smart textile 956

Daniela Lo Presti (Università Campus Bio-Medico di Roma, Italy)
Carlo Massaroni (Università Campus Bio-Medico di Roma, Italy)
Paola Saccomandi (IHU-strasbourg, France)
Domenico Formica (Università Campus Bio-Medico di Roma, Italy)
Michele Arturo Caponero (ENEA Frascati Research Centre, Italy)
Francesco Giurazza (Università Campus Bio-Medico di Roma, Italy)
Mario Muto (AORN Cardarelli Hospital, Italy)
Emiliano Schena (Università Campus Bio-Medico di Roma, Italy)

A preliminary study on the validation of an automatic measurement method for Functional Reach assessment by stereophotogrammetry 962

Carmen D'Anna (University Roma Tre, Italy)
Silvio Scena (Sapienza Università di Roma, Italy)
Andrea Scorza (University Roma Tre, Italy)
Maurizio Schmid (University Roma Tre, Italy)
Francesco Orsini (University Roma Tre, Italy)
Salvatore Andrea Sciuto (University Roma Tre, Italy)
Silvia Conforto (University Roma Tre, Italy)

16:00 – 17:40

Industry Day Session 2

Room: DET V Floor

Chairs: Federica Tessarin (Thales Alenia Space, Italy)

FlexInspect: a robot-assisted solution for surface inspections and dimensional measurement

ABB Group, Torino (Italy)

Laser Metrology for Next Generation Gravity Mission

Luciana Bonino (Thales Alenia Space, Italy)
Stefano Cesare (Thales Alenia Space, Italy)
Sergio Mottini (Thales Alenia Space, Italy)
Luca Massotti (European Space Agency (ESA), The Netherlands)
Pierluigi Silvestrin (ESA/ESTEC, The Netherlands)
Marco Pisani (Istituto Nazionale di Ricerca Metrologica (INRiM), Italy)
Kolja Nicklaus (SpaceTech GmbH Immenstaad (STI), Germany)

IXV Initial post-flight assessment

Angelo Denaro (Thales Alenia Space - Italia, Italy)
Salvatore Mancuso (European Space Agency (ESA), The Netherlands)

In Flight Temperature Measurement application COSMO Sky Med in orbit thermal data applied on COSMO SkyMed Second Generation design

Edmondo Scorzafava (Italian Space Agency (ASI), Italy)

Federica Tessarin (Thales Alenia Space, Italy)

Emanuela Bevilacqua (Thales Alenia Space, Italy)

Marco Compassi (Thales Alenia Space, Italy)

Exceptional Spacecraft pointing stability: Euclid's 'Hybrid Solution' and its Fine Guidance Sensor

Massimiliano Saponara (Thales Alenia Space, Italy)

Andrea Bosco (Thales Alenia Space, Italy)

Gonzalo Criado (ESA - ESTEC, The Netherlands)

16:00 – 17:40

Non-invasive Measurement Techniques and Instrumentation III

Room: Aula Magna

Chairs: Francesco Lamonaca (University of Sannio, Italy), Bernardo Tellini (University of Pisa, Italy)

Point cloud acquisition using target image-aided attitude determination method..... 967

Teng Xu (Beihang University, P.R. China)

Lijun Xu (Beihang University, P.R. China)

Xiaolu Li (Beihang University, P.R. China)

Hongming Wang (Beihang University, P.R. China)

LiDAR Ranging System Based on Automatic Gain Control and Timing Discriminators 972

Hongming Wang (Beihang University, P.R. China)

Xiaolu Li (Beihang University, P.R. China)

Lijun Xu (Beihang University, P.R. China)

Teng Xu (Beihang University, P.R. China)

Detection of gap in concrete-metal structures using piezoelectric sensor technique..... 978

Paritosh Giri (University of Western Sydney, Australia)

Sergey Kharkovsky (University of Western Sydney, Australia)

Distribution retrieval of temperature from its histograms via the tunable diode laser absorption spectroscopy 983

Chenhao Ran (Beihang University, P.R. China)

Lijun Xu (Beihang University, P.R. China)

Liuyong Chang (Beihang University, P.R. China)

Zhang Cao (Beihang University, P.R. China)

On the Microwave Photonics Based Pulsed-Time-of-Flight Techniques in the Measurement of the Thickness of Dielectric Sheets 988

Janne P Aikio (University of Oulu, Finland)

Juha Kostamovaara (University of Oulu, Finland)

Markus Berg (University of Oulu, Finland)

Erkki T. Salonen (University of Oulu, Finland)

16:00 – 17:40

Sensors, Actuators, Transducers, and Sensor Fusion II

Room: CDF-1

Chairs: Voicu Groza (University of Ottawa, Canada), Aime' Lay-Ekuakille (University of Salento, Italy)

Microwave Characterization of Graphene Films for Sensor Applications 994

Patrizia Savi (Politecnico di Torino, Italy)

Krishna Naishadham (Georgia Institute of Technology, USA)

Simone Quaranta (University of Ontario, Canada)

Mauro Giorcelli (Politecnico di Torino, Italy)

Ahmad Bayat (Politecnico di Torino, Italy)

A CMOS Low-Power 12-bit Digitally Programmable Analog Sinusoidal Actuation System 999

Alejandro Marquez (University of Zaragoza, Spain)

Jorge Perez-Bailon (University of Zaragoza, Spain)

Pedro Martinez (University of Zaragoza, Spain)

Belen Calvo (University of Zaragoza, Spain)

Nicolas Medrano (University of Zaragoza, Spain)

Design of a VLC-based Beaconing Infrastructure for Indoor Localization Applications 1005

Gergely Zachár (University of Pannonia, Hungary)

Gergely Vakulya (University of Pannonia, Hungary)

Gyula Simon (University of Pannonia, Hungary)

Investigations Into a Low-cost TDS Sensor for Sterile Plant Tissue Culture Media 1011

Jared Seelye (Massey University, New Zealand)

Gourab Sen Gupta (Massey University, New Zealand)

John Seelye (Plant and Food Research, New Zealand)

Short-Range Contactless Laser Sensor 1017

Michele Norgia (Politecnico di Milano, Italy)

Federico Cavedo (Politecnico di Milano, Italy)

Alessandro Pesatori (Politecnico di Milano, Italy)

Kun Li (Beijing Institute of Technology, P.R. China)

16:00 – 17:40

Measurement Systems and Theory I

Room: CDF-2

Chairs: Mauro D'Arco (University of Naples Federico II, Italy), Mauro Serpelloni (University of Brescia, Italy)

Novel Telemetric Technique for Passive Resistive Sensors Based on Impedance Phase Angle Measurement at Constant Frequency 1023

Michele Bona (University of Brescia, Italy)

Michela Borghetti (University of Brescia, Italy)

Emilio Sardini (University of Brescia, Italy)

Mauro Serpelloni (University of Brescia, Italy)

Evaluating the uncertainty of dynamic signals sampled by ADCs 1029

Aldo Baccigalupi (University of Naples Federico II, Italy)

Mauro D'Arco (University of Naples Federico II, Italy)

Annalisa Liccardo (University of Naples Federico II, Italy)

Study on calibration algorithms of gyroscopic drift error that affected by the acceleration harmonic errors of vibration table 1035

Zhongxian Zou (Harbin Institute of Technology, P.R. China)

Ming Zeng (Harbin Institute of Technology, P.R. China)

Xin Zhang (Harbin Institute of Technology, P.R. China)

Shen Yi (Harbin Institute of Technology, P.R. China)

The Monte Carlo Method to Uncertainty Calculation of the Displacement Measurement Interferometry in FTIR Spectrometry Systems 1041

Fabiano Sanches Rocha (Universidade Federal de Minas Gerais, Brazil)

Flavio Henrique Vasconcelos (Universidade Federal de Minas Gerais, Brazil)

Hilton Oliveira-Mota (Universidade Federal de Minas Gerais, Brazil)

MEMS Based Inclinometers: Noise Characteristics and Suitable Signal Processing 1047

Roland Schmidt (University of Leoben, Austria)

Paul O'Leary (University of Leoben, Austria)

Roland Ritt (University of Leoben, Austria)

Matthew Harker (University of Leoben, Austria)

16:00 – 17:40

Advances in Instrumentation and Measurement Developments and Techniques II

Room: 7A

Chairs: Consolatina Liguori (University of Salerno, Italy), Mirko Marracci (University of Pisa, Italy)

A New Instrumentation Concept for the Measurement of Polymer Compressive Creep Behavior 1053

Silvia Brunbauer (Materials Center Leoben Forschung GmbH, Austria)

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Andreas Kaufmann (HOERBIGER Ventilwerke GmbH & Co. KG, Austria)

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Linh A. Magagula (National Metrology Institute of South Africa, South Africa)

Multi-rate signal processing based model for high-speed digitizers 1065

Pietro Monsurrò (University of Rome "La Sapienza", Italy)

Alessandro Trifiletti (University of Rome "La Sapienza", Italy)

Mauro D'Arco (University of Naples Federico II, Italy)

Leopoldo Angrisani (University of Naples Federico II, Italy)

Optimization of the photoelastic fringe pattern processing for the stress evaluation in scintillating anisotropic media 1071

Pier Paolo Natali (Università Politecnica delle Marche, Italy)

Luigi Montalto (Università Politecnica delle Marche, Italy)

Fabrizio Davi (Università Politecnica delle Marche, Italy)

Nicola Paone (Università Politecnica delle Marche, Italy)

Daniele Rinaldi (Università Politecnica delle Marche, Italy)

Lorenzo Scalise (Università Politecnica delle Marche, Italy)

Measuring the Best Linear Approximation of Wiener Systems Using Multilevel Sequences..... 1077

Alessio De Angelis (University of Perugia, Italy)

Johan Schoukens (Vrije Universiteit Brussel, Belgium)

Keith Godfrey (University of Warwick, United Kingdom)

Paolo Carbone (University of Perugia, Italy)

16:00 – 17:40

SS3 - Measurement in healthcare: applications in industry and in clinical settings II

Room: 7B

Chairs: Paola Saccomandi (IHU-strasbourg, France), Emiliano Schena (University Campus Bio-Medico of Rome, Italy)

Development and preliminary characterization of a novel system for the force platforms dynamic calibration 1082

Francesco Orsini (Roma Tre University, Italy)

Andrea Rossi (Roma Tre University, Italy)

Andrea Scorza (Roma Tre University, Italy)

Salvatore Andrea Sciuto (Roma Tre University, Italy)

A Novel Sensor for Wrist based Optical Heart Rate Monitor..... 1088

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Preejith Sp (IIT Madras, India)

Mohanasankar Sivaprakasam (IIT Madras, India)

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Andrea Scorza (Roma Tre University, Italy)

Francesco Orsini (Roma Tre University, Italy)

Salvatore Andrea Sciuto (Roma Tre University, Italy)

Tactile piezoresistive sensors for robotic application: design and metrological characterization 1100

Paola Saccomandi (IHU-strasbourg, France)

Annalisa Fasano (Università Campus Bio-Medico, Italy)

Anna Lisa Ciano (Università Campus Bio-Medico, Italy)

Loredana Zollo (Università Campus Bio-Medico, Rome, Italy)

Maria Carrozza (Scuola Superiore Sant'Anna, Italy)

Domenico Camboni (Scuola Superiore Sant'Anna, Italy)

Emiliano Schena (Università Campus Bio-Medico, Italy)

Calogero Maria Oddo (Scuola Superiore Sant'Anna, Italy)

Fabrication and preliminary assessment of a fiber optic-based relative humidity sensor for application in mechanical ventilation 1106

Carlo Massaroni (Università Campus Bio-Medico di Roma, Italy)

Paola Saccomandi (IHU-strasbourg, France)

Michele Arturo Caponero (Research Center Enea, Italy)

Rosaria D'Amato (Research Center Enea, Italy)

Emiliano Schena (Università Campus Bio-Medico di Roma, Italy)

Thursday, May 25

8:50 – 10:30

SS4 - Recent advances in fiber optic sensors: sensor design, instrumentation and measurement

Room: Aula Magna

Chairs: Emiliano Schena (University Campus Bio-Medico of Rome, Italy), Alberto Vallan (Politecnico di Torino, Italy)

Assessment of a linearly chirped fiber Bragg grating sensor under linear and non-linear temperature gradient 1112

Ambra Varalda (Università Campus Bio-Medico di Roma, Italy)

Carlo Massaroni (Università Campus Bio-Medico di Roma, Italy)

Paola Saccomandi (IHU-strasbourg, France)

Daniele Tosi (Nazarbayev University, Kazakhstan)

Andrea Polimadei (ENEA Frascati Research Centre, Italy)

Michele Arturo Caponero (ENEA Frascati Research Centre, Italy)

Emiliano Schena (Università Campus Bio-Medico di Roma, Italy)

Characterization of fiber optic distributed temperature sensors for tissue laser ablation 1118

Riccardo Gassino (Politecnico di Torino, Italy)

Alberto Vallan (Politecnico di Torino, Italy)

Guido Perrone (Politecnico di Torino, Italy)

Maria Konstantaki (Institute of Electronic Structure and Laser, FORTH – Hellas, Greece)

Stavros Pissadakis (Institute of Electronic Structure and Laser, FORTH – Hellas, Italy)

Single mode-multimode-single mode optical fiber sensors: review and application to temperature measurements using a bend-insensitive fiber 1123

Massimo Olivero (Politecnico di Torino, Italy)

Alberto Vallan (Politecnico di Torino, Italy)

Renato Orta (Politecnico di Torino, Italy)

Guido Perrone (Politecnico di Torino, Italy)

Temperature measurements on overhead lines using Fiber Bragg Grating sensors 1128

Fabián Barón (Universidad Nacional de Colombia, Colombia)

Germán Álvarez-Botero (Universidad Nacional de Colombia, Colombia)

Francisco Amortegui (Universidad Nacional de Colombia, Colombia)

Daniel Pastor (Universidad Politécnica de Valencia, Spain)

Gloria Margarita Varón Durán (Universidad Nacional de Colombia, Colombia)

Research for Wearable Multiple Vital Sign Sensor using Fiber Bragg Grating-Verification of several pulsate points in human body surface 1132

Shun Chino (Shinshu University, Japan)

H Ishizawa (Shinshu University, Japan)

Satoshi Hosoya (Shinshu University, Japan)

Shouhei Koyama (Shinshu University, Japan)

Keisaku Fujimoto (Shinshu University, Japan)

Takashi Kawamura (Shinshu University, Japan)

8:50 – 10:30

Sensors, Actuators, Transducers, and Sensor Fusion III

Room: CDF-1

Chairs: Luca De Vito (University of Sannio, Italy), Andrew Taberner (University of Auckland, New Zealand)

Vapor pressure thermometry at room temperature 1138

Callum Johnston (University of Auckland, New Zealand)

Poul F Nielsen (University of Auckland, New Zealand)

Ian Hunter (MIT, USA)

Andrew Taberner (University of Auckland, New Zealand)

Position Uncertainty of a System for the Localization of a Reciprocating Drill for Geological Inspections 1143

Marco Tarabini (Politecnico di Milano, Italy)

Diego Scaccabarozzi (Politecnico di Milano, Italy)

Bortolino Saggini (Politecnico di Milano, Italy)

Pietro Marzaroli (Politecnico di Milano, Italy)

Hermes Giberti (Università di Pavia, Italy)

A Wireless Sensor Network for the Biomechanical Analysis of the Gait..... 1149

Felipe Mota (Federal University of Minas Gerais, Brazil)

Hilton Oliveira-Mota (Federal University of Minas Gerais, Brazil)

Flavio Henrique Vasconcelos (Federal University of Minas Gerais, Brazil)

A Wide Range Planar Coil Based Displacement Sensor with High Sensitivity 1155

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Boby George (Indian Institute of Technology Madras, India)

A Comparative Study of Polymer Coated Capacitive Sensors for Soil Moisture Sensing..... 1161

Anindita Kalita (Indian Institute of Technology, Kharagpur, India)

Moupali Chakraborty (Indian Institute of Technology, Kharagpur, India)

Karabi Biswas (Indian Institute of Technology, Kharagpur, India)

8:50 – 10:30

Measurement Systems and Theory II

Room: CDF-2

Chairs: Gregorio Andria (Politecnico di Bari, Italy), Alessandro M Ferrero (Politecnico di Milano, Italy)

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Stefania Zinno (University Federico II of Naples, Italy)

Stefano Avallone (University of Naples, Italy)

Nicola Pasquino (University of Naples Federico II, Italy)

Domenico Casillo (University of Naples Federico II, Italy)

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Consolatina Liguori (University of Salerno, Italy)

Alessandro Ruggiero (University of Salerno, Italy)

Domenico Russo (University of Salerno, Italy)

Paolo Sommella (University of Salerno, Italy)

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 Arvind Rajan (Monash University, Malaysia)
 Ye Chow Kuang (Monash University, Malaysia)
 Melanie Ooi (Heriot-Watt University, Malaysia)
 Serge Demidenko (Massey University, New Zealand)

An extension of Kalman filter within the possibility theory 1185
 Simona Salicone (Politecnico di Milano, Italy)
 Wei Jiang (National University of Defense Technology, P.R. China)
 Alessandro M Ferrero (Politecnico di Milano, Italy)
 Roberto Ferrero (University of Liverpool, United Kingdom)
 Qi Zhang (National University of Defense Technology, Italy)

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Francesco Chiavaioli (Istituto di Fisica Applicata Nello Carrara, Italy)
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Chairs: Lorenzo Ciani (University of Florence, Italy), Loredana Cristaldi (Politecnico di Milano, Italy)

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Chairs: Emma Paola Angelini (Politecnico di Torino, Italy), Pasquale Daponte (University of Sannio, Italy)

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Measurement and Instrumentation for Industrial Applications and Processes IV

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Room: 7B

Chairs: Simone Corbellini (Politecnico di Torino, Italy), Octavian Adrian Postolache (Instituto de Telecomunicações, Lisboa/IT & Instituto Universitario de Lisboa, ISCTE-IUL, Portugal)

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Alex Attridge (University of Warwick, United Kingdom)

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Marco Nervo (Centro Conservazione e Restauro “La Venaria Reale”, Venaria Reale, Torino, Italy)

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Novella Grassi (Centro Conservazione e Restauro “La Venaria Reale”, Venaria Reale, Torino, Italy)

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Marco Parvis (Politecnico di Torino, Italy)

Ahmed Elsayed (Politecnico di Torino, Italy)

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