

Message from the Chairman

On behalf of the Technical and Local Committee of the IEEE International Conference on Imaging Systems and Techniques (IST 2012), I would like to welcome you to the vibrant city of Manchester, United Kingdom, a city with a rich history in engineering and technology.

This year, scientists from all over the world are meeting to explore physical and engineering principles, development and applications of new imaging technologies, systems, measurements, and techniques.

In a rapidly changing economy, let's view this event as a unique opportunity to not only exchange and disseminate technological knowledge, but also as a way to establish global collaboration leading to funded research.

This is the ninth consecutive year, following the successful IST events held previously in Stresa, Italy, Niagara Falls, Canada, Minori, Italy, Krakow, Poland, Chania, Greece, Shenzhen, China, Thessaloniki, Greece, and Penang Island, Malaysia where experts from all over the world will meet in an informal setting in Manchester, UK, to devote time to the encouragement of broad discussion of imaging methodologies, shaping the future, and identifying emerging imaging trends.

I would like to thank and highlight the outstanding efforts of the Local Committee Chair and Honorary Chair, Professor Wuqiang Yang (University of Manchester, UK) and Anthony Cassidy (Visit Manchester, Manchester, UK), together with the co-chairs of the IST Conference, for making this event a success; Suman Shrestha (University of Akron) for his significant contribution to the Final Program of this Conference and outstanding coordination skills; Chaya Narayan (University of Akron), Lin Zhang (Cleveland State University), and Vivek Krishna Nagarajan (University of Akron) for their enthusiastic efforts to the organization of the IST2012.

Many thanks go to the dedicated reviewers who did an excellent job preserving quality and promoting academic excellence and scholarship.

Special acknowledgements to the Conference Administrator, Conference Catalysts, LLC, for his outstanding support and dedication.

I am also getting the opportunity to introduce, the IEEE International School on Imaging, sponsored by the Instrumentation and Measurement Society, that will inaugurate in Brazil, on December 2013 after years of hard work and coordinated efforts. I will inform you timely of any planned activities and relevant dates.

I hope you enjoy your stay in Manchester, UK, and I sincerely wish that all attendees find the 2012 IEEE International Conference on Imaging Systems and Techniques (IST2012) to be a rewarding experience for the advancement of knowledge and technical competencies and an opportunity to form unique global collaborative efforts leading to research funding.

George C. Giakos, IEEE Fellow
General Chairman IST
Chairman TC-19 Imaging Measurements
United States

Sunday, July 15

- 4:00 PM – 7:00 PM Registration
- 7:00 PM – 9:00 PM Reception (Lancashire & Cheshire)

Monday, July 16

- 7:00 AM – 9:00 AM Full English Buffet Breakfast (Jenny's Restaurant)
- 8:00 AM Registration
- 9:00 AM Message from the Chairman, Prof. George Giakos
IEEE Fellow, IST General Chairman
University of Akron, US
- 9:30 AM Keynote Speaker: Prof. Reza Zoughi
IEEE Fellow, Missouri University of Science &
Technology, USA
Microwave and millimetre-wave imaging for NDE – past,
present and future
- 10:00 AM Keynote Speaker: Prof. Xiaochuan Pan
IEEE Fellow, University of Chicago, USA
Recent advances in x-ray image reconstruction
- 10:30 AM Keynote Speaker: Dr. Hujun Yin
SMIEEE, University of Manchester, UK
Adaptive nonlinear manifolds and dimensionality
reduction for image processing
- 11:00 AM Tea and Coffee Break
- 11:30 AM - 12:00 PM Parallel Sessions

Polarimetric Imaging and Remote Sensing
Room: Ballroom A
Chair: George C Giakos (The University of Akron, USA)

- 11:30 AM **An Automated Ladar Polarimetric System for Remote
Characterization of Space Materials**
George C. Giakos (University of Akron, USA)
Richard H. Picard (ARCON Corporation, USA)
Willa Inbody (Air Force Research Laboratory, USA)
Phan Dao (Air Force Research Laboratory, USA)
Peter Crabtree (Air Force Research Laboratory, USA)
Patrick J. McNicholl (Air Force Research Laboratory, USA)
Jeff Petermann (University of Akron, USA)
Suman Shrestha (University of Akron, USA)
Chaya Narayan (University of Akron, USA)
Stefanie Marotta (University of Akron, USA)
- 11:45 AM **Autonomous Robotic Ground Penetrating Radar Surveys of Ice
Sheets; Using Machine Learning to Identify Hidden Crevasses**
Rebecca Williams (Dartmouth College, USA)
Laura E. Ray (Dartmouth College, USA)
James H. Lever (CRREL, USA)

Advances in Imaging

Room: Ballroom B

Chair: Gang Lu (University of Kent, United Kingdom)

11:30 AM Three-dimensional Reconstruction of Flame Temperature and Emissivity through Tomographic Imaging and Pyrometric Measurement

Md. Moinul Hossain (University of Kent, United Kingdom)

Gang Lu (University of Kent, United Kingdom)

Yong Yan (University of Kent, United Kingdom)

11:45 AM Automatic Informative Tissue's Discriminators in WCE

Omid HajiMaghsoudi (Shahid Beheshti University, Iran)

A. Talebour (Shahid Beheshti University, Iran)

Hamid Soltanian-zadeh (University of Tehran, Iran)

Hossein Asl Soleimani (Shariati Hospital, Iran)

Image Processing

Room: Ballroom C

Chair: Vaishnavi Ganesh (Sastra University, India)

11:30 AM Image Processing in Artificial Intelligence with Sensors

Vaishnavi Ganesh (Sastra University, India)

Sandhya Vaidyanathan (Sastra University, India)

Eswer K (Sastra University, India)

11:45 AM Using High-Speed Photography and Image Processing for Fixational Eye Movements Measurement

Jiamao Li (Tokyo Institute of Technology, Japan)

Xiaolin Zhang (Tokyo Institute of Technology, Japan)

12:15 PM - 1:00 PM Parallel Sessions

Electrical Capacitance Tomography I

Room: Ballroom A

Chair: Wuqiang Yang (The University of Manchester, United Kingdom)

12:15 PM A Digital and Analog Mixed Electrical Capacitance Tomography System Using Combining Electrode Strategy

Yunjie Yang (Tsinghua University, P.R. China)

Lihui Peng (Tsinghua University, P.R. China)

12:30 PM Real-time 3D Visualisation in Electrical Capacitance Tomography

Lei Ye (The University of Manchester, United Kingdom)

Wuqiang Yang (The University of Manchester, United Kingdom)

12:45 PM Electrical Capacitance Tomography (ECT) and Gamma Radiation Meter for Comparison with and Validation and Tuning of CFD Modeling of Multiphase Flow

Chaminda Pradeep (Telemark University College, Norway)

Ru Yan (Telemark University College, Norway)

Sondre Vestøl (Telemark University College, Norway)

Morten Melaaen (Telemark University College, Norway)

Saba Mylvaganam (Telemark University College, Norway)

Lung Cancer Detection and Discrimination Techniques

Room: Ballroom B

Chair: Dimitris Iakovidis (Technological Educational Institute of Lamia, Greece)

12:15 PM Tracking a Phantom's Lung Tumour Target Using Optical Flow Algorithm and Electronic Portal Imaging Devices
Peng Teo (University of Manitoba & CancerCare Manitoba, Canada)
Roan Crow (CancerCare Manitoba, Canada)
Samantha Van Nest (University of Manitoba, Canada)
Stephen Pistorius (University of Manitoba & CancerCare Manitoba, Canada)

12:30 PM Fast and Robust Automated Segmentation of EIT Lung Images using an Anatomically Constrained Kalman Filter
Ali Zifan (City University, United Kingdom)
Panos Liatsis (City University, United Kingdom)

Signal and Image Analysis I

Room: Ballroom C

Chair: Anna Fabijańska (Lodz University of Technology, Poland)

12:15 PM Extraction of Pulmonary Vessels from MDCT Thorax Scans
Anna Fabijańska (Technical University of Lodz, Poland)

12:30 PM Image De-noising Based on Hodrick-Prescott Filtering
Gabriel Thomas (University of Manitoba, Canada)

12:45 PM Frequency Selection for Compounding Synthetic Aperture Ultrasound Images
Jason R.B. Taylor (University of Manitoba, Canada)
Jose J. Mijares Chan (University of Manitoba, Canada)
Gabriel Thomas (University of Manitoba, Canada)

1:00 PM – 2:00 PM Carvery Lunch Session (Jenny's Restaurant)

2:00 PM - 2:45 PM Parallel Sessions

Electrical Capacitance Tomography II

Room: Ballroom A

Chair: Lihui Peng (Tsinghua University, P.R. China)

2:00 PM Monitoring Solid Flow in a Circulating Fluidised Bed with External Heat Exchanger by Electrical Capacitance Tomography
H. G. Wang (Institute of Engineering Thermophysics, P.R. China)
G. Z. Qiu (Institute of Engineering Thermophysics, P.R. China)
G. R. Zhao (Institute of Engineering Thermophysics, P.R. China)
X. Z. Mou (Institute of Engineering Thermophysics, P.R. China)
Q. G. Lu (Institute of Engineering Thermophysics, P.R. China)
W. Q. Yang (The University of Manchester, United Kingdom)

2:15 PM **Gas/oil/water Flow Measurement by Electrical Capacitance Tomography**
Yi Li (The University of Cambridge, United Kingdom)
Wuqiang Yang (The University of Manchester, United Kingdom)
Zhipeng Wu (The University of Manchester, United Kingdom)
Dimitrios Tsamakidis (The University of Manchester, United Kingdom)
Chenggang Xie (Schlumberger Cambridge Research, United Kingdom)
Songming Huang (Schlumberger Cambridge Research Ltd, United Kingdom)
Chris Lenn (Schlumberger Cambridge Research Ltd, United Kingdom)

2:30 PM **3D Effect of Electrical Capacitance and Resistance Tomography Sensors**
Jiangtao Sun (The University of Manchester, United Kingdom)
Wuqiang Yang (The University of Manchester, United Kingdom)

Diagnostic Imaging Techniques

Room: Ballroom B

Chair: Ioannis S. Gousias (Imperial College London & MRC Clinical Sciences Centre, United Kingdom)

2:00 PM **Automatic Segmentation of Pediatric Brain MRIs Using a Maximum Probability Pediatric Atlas**
Ioannis S. Gousias (Imperial College & MRC Clinical Sciences Imperial College, United Kingdom)
Alexander Hammers (Imperial College, United Kingdom & Neurodis Foundation, France)
Serena Counsell (Imperial College, United Kingdom)
David Edwards (Imperial College, United Kingdom)
Daniel Rueckert (Imperial College, United Kingdom)

2:15 PM **Homography-Based Orientation Estimation for Capsule Endoscope Tracking**
Evangelos Spyrou (Technological Educational Institute of Lamia, Greece)
Dimitris K. Iakovidis (Technological Educational Institute of Lamia, Greece)

2:30 PM **Ultrasound-image-based Displacement and Strain Maps of the Human Carotid Artery Using Weighted-Least-Squares Optical Flow**
I. Z. Apostolakis (National Technical University of Athens, Greece)
A. Gastounioti (National Technical University of Athens, Greece)
S. Golemati (National Kapodistrian University of Athens, Greece)
K. S. Nikita (National Technical University of Athens, Greece)

Tomography for Industrial and Medical Applications

Room: Ballroom C

Chair: Ru Yan (Telemark University College, Norway)

2:00 PM **Parameter Estimation from Tomographic Data Using Self-Organising Maps**
Trevor A York (University of Manchester, United Kingdom)
Aniekeme Ukpogon (University of Manchester, United Kingdom)
Saba Mylvaganam (Telemark University College, Norway)
Ru Yan (Telemark University College, Norway)

2:15 PM **Fan-beam TDLAS Tomography for Gas Concentration Distribution with Limited Data**
Chang Liu (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Zhang Cao (Beihang University, P.R. China)
Yuanhong Yang (Beihang University, P.R. China)

2:30 PM **A GPGPU Accelerated Compressed Sensing with Tight Wavelet Frame Transform Technique for MR Imaging Reconstruction**
B. Hu (Lancaster University, United Kingdom)
X. Ma (Lancaster University, United Kingdom)
M. Joyce (Lancaster University, United Kingdom)
Paul Glover (University of Nottingham, United Kingdom)
Buhary Naleem (University of Nottingham, United Kingdom)

2:45 PM - 3:30 PM **Parallel Sessions**

Hyperspectral Imaging

Room: Ballroom A

Chair: Mehrube Mehrubeoglu (Texas A&M University, USA)

2:45 PM **Spectral Characterization of a Hyperspectral Imaging System Using Optical Standards**
Mehrube Mehrubeoglu (Texas A&M University, USA)

3:00 PM **Experimental Ultra Wide Band Imaging Using Heterogeneously Dense Breast Phantom for Early Cancer Detection**
Mohammed S. Hathal (Universiti Sains Malaysia, Malaysia)
Tareq F. A. Zanoon (Universiti Sains Malaysia, Malaysia)
Mohd F. Ain (Universiti Sains Malaysia, Malaysia)
Mohd Z. Abdullah (Universiti Sains Malaysia, Malaysia)

3:15 PM **Near-Infrared Hyper-spectral Image Analysis of Astaxanthin Concentration in Fish Feed Coating**
Martin Georg Ljungqvist (Technical University of Denmark, Denmark)
Bjarne Kjaer Ersbøll (Technical University of Denmark, Denmark)
Ken-ichi Kobayashi (Toyohashi University of Technology, Japan)
Shigeki Nakauchi (Toyohashi University of Technology, Japan)
Stina Frosch (Technical University of Denmark, Denmark)
Michael Engelbrecht Nielsen (Technical University of Denmark, Denmark)

Remote Sensing I

Room: Ballroom B

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

2:45 PM **Super-resolution Imaging Method Based on Random Radiation Radar Array**
Yuanyue Guo (University of Science and Technology of China, P.R. China)
Dongjin Wang (University of Science and Technology of China, P.R. China)
Xuezhi He (University of Science and Technology of China, P.R. China)
Bo Liu (University of Science and Technology of China, P.R. China)

3:00 PM **Influence of Optical System Distortion on LASIS Data**
Juanjuan Jing (Xi'an Institute of Optics and Precision Mechanics of CAS, P.R. China)
Ruyi Wei (Xi'an Institute of Optics and Precision Mechanics of CAS, P.R. China)
Tao Yu (Xi'an Institute of Optics and Precision Mechanics of CAS, P.R. China)
Qunbo Lv (Academy of Opto-Electronics, Chinese Academy of Sciences, P.R. China)
Jinsong ZHou (Academy of Opto-Electronics, Chinese Academy of Sciences, P.R. China)

3:15 PM **Studying Atmospheric Turbulence Effects on Aircraft Motion for Airborne SAR Motion Compensation Requirements**
Hao Guo (Beihang University, P.R. China)
Yang Li (Beihang University, P.R. China)
Qiulin Qu (Beihang University, P.R. China)
Peiqing Liu (Beihang University, P.R. China)

Feature Extraction and Recognition

Room: Ballroom C

Chair: Antonios Gasteratos (Democritus University of Thrace, Greece)

2:45 PM **Improving the Robustness in Feature Detection by Local Contrast Enhancement**
Vasilios Vonikakis (Advanced Digital Sciences Center, Singapore)
Dimitrios Chrysostomou (Democritus University of Thrace, Greece)
Rigas Kouskouridas (Democritus University of Thrace, Greece)
Antonios Gasteratos (Democritus University of Thrace, Greece)

3:00 PM **Automatic Threat Object Classification Based on Extracted Features from Electromagnetic Imaging System**
A. R. Al-Qubaa (Newcastle University, United Kingdom)
G. Y. Tian (Newcastle University, United Kingdom)

3:15 PM **A Mini-Batch Discriminative Feature Weighting Algorithm for LBP - Based Face Recognition**
Olegs Nikisins (Institute of Electronics and Computer Science, Latvia)
Modris Greitans (Institute of Electronics and Computer Science, Latvia)

3:30 PM – 3:45 PM **Coffee Break**

3:45 PM - 4:30 PM **Parallel Sessions**

Imaging Techniques I

Room: Ballroom A

Chair: Waldemar T Smolik (Warsaw University of Technology, Poland)

3:45 PM **Enhancement of Color Retinal Images in Poor Imaging Conditions**
G. Russel (Health Intelligence Ltd, United Kingdom)
J. P. Oakley (University of Manchester, United Kingdom)
N. McLoughlin (University of Manchester, United Kingdom)
V. Nourrit (University of Manchester, United Kingdom)

4:00 PM **Compensation of a Transmitter's Radiation Pattern for Synthetic Transmit Aperture Acoustic Imaging**
Natsuda Laokulrat (University of Tokyo, Japan)
Yasushige Maeda (The Graduate University for Advanced Studies, Japan)
Masanori Sugimoto (University of Tokyo, Japan)
Hiromichi Hashizume (National Institute of Informatics, Japan)

4:15 PM **Imaging Techniques for Positioning Training in Radiography**
Toshinori Maruyama (Okayama University, Japan)
Hideki Yamamoto (Kibikogen Rehabilitation Center for Employment Injuries, Japan)

Remote Sensing II

Room: Ballroom B

Chair: Andrea Randazzo (University of Genoa, Italy)

3:45 PM **Trainingless Fingerprinting-Based Indoor Positioning Algorithms with Smartphones Using Electromagnetic Propagation Models**
Igor Bisio (University of Genoa, Italy)
Fabio Lavagetto (University of Genoa, Italy)
Mario Marchese (University of Genoa, Italy)
Matteo Pastorino (University of Genoa, Italy)
Andrea Randazzo (University of Genoa, Italy)

4:00 PM **Estimation of Adjacency Effect in the Remotely Sensed Hyperspectral Data over Rugged Scenes**
Cheng Jiang (Beihang University, P.R. China)
Huijie Zhao (Beihang University, P.R. China)
Guorui Jia (Beihang University, P.R. China)

4:15 PM **Motion Error Analysis of 3D Coordinates of Airborne LIDAR Under Typical Terrains**
Tao Peng (Beijing Institute of Technology, P.R. China)
Tian Lan (Beijing Institute of Technology, P.R. China)
Guoqiang Ni (Beijing Institute of Technology, P.R. China)

Aerospace Imaging

Room: Ballroom C

Chair: Bruno Cafaro (Sapienza Università di Roma, Italy)

3:45 PM **Real Time Nondestructive Testing of Composite Aeronautical Structures with a Self-Adaptive Ultrasonic Technique**
Sébastien Robert (CEA - LIST, France)
Olivier Casula (CEA - LIST, France)
Olivier Roy (M2M Society, France)
Guillaume Neau (M2M Society, France)

4:00 PM **A Novel Fresnel Based Robust Data Hiding Algorithm for Medical Images**
Nazeer Muhammad (Hanyang University, South Korea)
Dai-Gyoung Kim (Hanyang University, South Korea)

4:15 PM **X-SAR SpotLight Images Feature Selection and Water Segmentation**
Bruno Cafaro (Sapienza Università di Roma, Italy)
Silvia Canale (Sapienza Università di Roma, Italy)
Fiora Pirri (Sapienza Università di Roma, Italy)

4:45 PM - 5:30 PM

Parallel Sessions

Imaging Techniques II

Room: Ballroom A

Chair: Andrea Salvadè (University of Applied Sciences of Southern Switzerland, Switzerland)

4:45 PM

Imaging of Dielectric Targets with Metallic Inclusions by Means of a Prototype of Microwave Axial Tomograph

A. Salvadè (University of Applied Sciences of Southern Switzerland, Switzerland)

R. Monleone (University of Applied Sciences of Southern Switzerland, Switzerland)

A. Massimini (University of Applied Sciences of Southern Switzerland, Switzerland)

S. Poretti (University of Applied Sciences of Southern Switzerland, Switzerland)

M. Maffongelli (University of Applied Sciences of Southern Switzerland, Switzerland)

M. Pastorino (University of Genoa, Italy)

A. Randazzo (University of Genoa, Italy)

5:00 PM

Surface Defect Detection of Metal Parts: Use of Multimodal Illuminations and Hyperspectral Imaging Algorithms

Mohammed Benmoussat (Fraunhofer IIS, Germany)

Klaus Spinnler (Fraunhofer IIS, Germany)

Mireille Guillaume (Institut Fresnel, France)

5:15 PM

EIT Imaging Fused with CT Slice

Chen Xiaoyan (Tianjin University of Science and Technology, P.R. China)

Jiannan Li (Tianjin University of Science and Technology, P.R. China)

Huaxiang Wang (Tianjin University, P.R. China)

Remote Sensing III

Room: Ballroom B

Chair: Rebecca Williams (Dartmouth College, USA)

4:45 PM

Effect of Frame Size on Energy Consumption in Wireless Image Sensor Networks

Daniel G. Costa (State University of Feira de Santana, Brazil)

Luiz Affonso Guedes (Federal University of Rio Grande do Norte, Brazil)

Francisco Vasques (University of Porto, Portugal)

Paulo Portugal (University of Porto, Portugal)

5:00 PM **A Motion Compensation Approach Integrated in the Omega-K Algorithm for Airborne SAR**
Yanlei Li (Institute of Electronics, Chinese Academy of Sciences, P.R. China)
Xingdong Liang (Institute of Electronics, Chinese Academy of Sciences, P.R. China)
Chi-biao Ding (Institute of Electronics, Chinese Academy of Sciences, P.R. China)
Liang-jiang Zhou (Institute of Electronics, Chinese Academy of Sciences, P.R. China)
Longyong Chen (Institute of Electronics, Chinese Academy of Sciences, P.R. China)
Wen Hong (Institute of Electronics, Chinese Academy of Sciences, P.R. China)

5:15 PM **Accurate Optical Design of an Acousto-optic Tunable Filter Imaging Spectrometer**
Pengwei Zhou (Beihang University, P.R. China)
Huijie Zhao (Beihang University, P.R. China)
Ying Zhang (Beihang University, P.R. China)
ChongChong Li (Beihang University, P.R. China)

Ladars and Lidars
Room: Ballroom C
Chair: Deming Kong (Beihang University, P.R. China)

4:45 PM **Estimation of Cluster Centers on Building Roof from LiDAR Footprints**
Deming Kong (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Xiaolu Li (Beihang University, P.R. China)
Weiwei Xing (Beihang University, P.R. China)

5:00 PM **Airborne LiDAR Strip Adjustment Based on Conjugate Linear Features**
Wang Hongchao (Beijing Institute of Technology, P.R. China)
Chen Siying (Beijing Institute of Technology, P.R. China)
Xu Jixian (Beijing Institute of Technology, P.R. China)
Zhang Yinchao (Beijing Institute of Technology, P.R. China)
Guo Pan (Beijing Institute of Technology, P.R. China)
Chen He (Beijing Institute of Technology, P.R. China)

5:15 PM **A Kernel-density-estimation-based Outlier Detection for Airborne LiDAR Point Clouds**
Xiangrui Tian (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Xiaolu Li (Beihang University, P.R. China)
Lili Jing (Beihang University, P.R. China)
Zhao Yan (Beihang University, P.R. China)

5:30 PM - 7:00 PM

Poster Session

Chair: Antonios Gasteratos (Democritus University of Thrace, Greece)

An Real-Time Roadside Sign Recognition Scheme for Mobile Probing Cars with Smart Phones

Ching-Hao Lai (Institute for Information Industry, Taiwan)
Shu-Min Chuang (Institute for Information Industry, Taiwan)
Po-Chia Chu (Institute for Information Industry, Taiwan)
Chih-Hung Li (Institute for Information Industry, Taiwan)

Vision-based Indoor Occupants Detection System for Intelligent Buildings

Dixin Liu (Tsinghua University, P.R. China)
Youtian Du (Xi'an Jiaotong University, P.R. China)
Qianchuan Zhao (Tsinghua University, P.R. China)
Xiaohong Guan (Xi'an Jiaotong University & Tsinghua University, P.R. China)

An Efficient Fractional Motion Estimation Architecture for AVS Real-Time Full HD Video Encoder

Fei Wang (Peking University, P.R. China)
Yuan Li (Peking University, P.R. China)
Huizhu Jia (Peking University, P.R. China)
Xiaodong Xie (Peking University, P.R. China)
Wen Gao (Peking University, P.R. China)

Infrared Image System for Microelectronic Devices: Auto Focus and Image Correlation Techniques

Daniela Florian (KAI Kompetenzzentrum Automobil- and Industrie-Elektronik GmbH, Austria)
Helmut Köck (KAI Kompetenzzentrum Automobil- and Industrie-Elektronik GmbH, Austria)
Kathrin Plankensteiner (KAI Kompetenzzentrum Automobil- and Industrie-Elektronik GmbH, Austria)
Michael Glavanovics (KAI Kompetenzzentrum Automobil- and Industrie-Elektronik GmbH, Austria)

Visual Odometry with Failure Detection for the Aegis UAV

Jose F. Roger-Verdeguer (Cranfield University, United Kingdom)
Mikael Mannberg (Cranfield University, United Kingdom)
Al Savvaris (Cranfield University, United Kingdom)

Two-Pass Color Interpolation for Color Filter Array

Yi-Hong Yang (National Chiao-Tung University, Taiwan)
Chen Po-Ning (National Chiao-Tung University, Taiwan)
Peng-Hua Wang (National Taipei University, Taiwan)

Optimal Shutter Speed Sequences for Real-Time HDR Video

Benjamin Guthier (University of Mannheim, Germany)
Stephan Kopf (University of Mannheim, Germany)
Wolfgang Effelsberg (University of Mannheim, Germany)

Imaging of the Turn Space and Path of Movement of a Wheelchair for Remodeling Houses of Individuals with SCI

Yoshio Tanimoto (Kibikogen Rehabilitation Center, Japan)
Kuniharu Nanba (Kibikogen Rehabilitation Center, Japan)
Kazunari Furusawa (Kibikogen Rehabilitation Center, Japan)
Hideki Yamamoto (Kibikogen Rehabilitation Center, Japan)
Akihiro Tokuhiko (Kibikogen Rehabilitation Center, Japan)
Hiroyuki Ukida (The University of Tokushima, Japan)

No-Reference Quality Metric Based on Fuzzy Neural Network for Subjective Image Watermarking Evaluation

Methaq Gaata (University Montpellier, France)
Sattar Sadkhn (Babylon University, Iraq)
Saad Hasson (Babylon University, Iraq)

Visual Communication Using LED Panel and Video Camera for Mobile Object

Hiroyuki Ukida (The University of Tokushima, Japan)
Masafumi Miwa (The University of Tokushima, Japan)
Yoshio Tanimoto (Kibikogen Rehabilitation Center, Japan)
Tetsuya Sano (System Enterprise Co., Ltd, Japan)
Hideki Yamamoto (Kibikogen Rehabilitation Center, Japan)

MRI Denoising Based on Neutrosophic Wiener Filtering

J. Mohan (P. A College of Engineering and Technology, India)
V. Krishnaveni (PSG College of Technology, India)
Yanhui Guo (University of Michigan, USA)
Kanchana Jeganathan (King's College London, United Kingdom)

Measurement of Lens Shutter's Switching Time in Full Frame Cameras

Yanyan Zhao (Beihang University, P.R. China)
Yan Yuan (Beihang University, P.R. China)
Lijuan Su (Beihang University, P.R. China)
Fengzhen Huang (Beihang University, P.R. China)
Siyuan Zhang (Beihang University, P.R. China)

Dual-modality Data Acquisition System Based on CPCI Industrial Computer

Cong Xu (Tianjin University, P.R. China)
Feng Dong (Tianjin University, P.R. China)
Zhiqiang Zhang (Tianjin University, P.R. China)

Demodulated Resonance Technique in Fault Diagnosis of High Speed Line Rolling-mill Synchronesh Gears

Fengxing Zhou (Wuhan University of Science and Technology, P.R. China)
Baokang Yan (Wuhan University of Science and Technology, P.R. China)

In-Situ Particle Measurement with Blurred Image Processing Using Telecentric Lenses

Xiaozhen Chen (University of Shanghai for Science and Technology, P.R. China)

Wu Zhou (University of Shanghai for Science and Technology, P.R. China)

Hailong Liu (University of Shanghai for Science and Technology, P.R. China)

Xiaoshu Cai (University of Shanghai for Science and Technology, P.R. China)

Mingxu Su (University of Shanghai for Science and Technology, P.R. China)

Linhu Cheng (University of Shanghai for Science and Technology, P.R. China)

Projective Rectification of Infrared Image Based on Projective Geometry

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

Tao He (Beihang University, P.R. China)

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

Lulu Chen (Beihang University, P.R. China)

Guo Zhanshe (Beihang University, P.R. China)

Grammar-Based Image Segmentation with Taking Care About Runtime and Accuracy Constraints

Salah Hamdi (Laboratory of Medical Image Processing and Faculty of Medicine of Monastir, Tunisia)

Asma Ben Abdallah (Laboratory of Medical Image Processing and Faculty of Medicine of Monastir, Tunisia)

Mohamed Hedi Bedoui (Laboratory of Medical Image Processing and Faculty of Medicine of Monastir, Tunisia)

MIMO FMCW SAR System Using Beat-Frequency Division Waveforms

Jie Wang (National Key Laboratory of Science and Technology on Microwave Imaging & Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Longyong Chen (National Key Laboratory of Science and Technology on Microwave Imaging & Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Xingdong Liang (National Key Laboratory of Science and Technology on Microwave Imaging & Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Wen Hong (National Key Laboratory of Science and Technology on Microwave Imaging & Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Lideng Wei (National Key Laboratory of Science and Technology on Microwave Imaging & Institute of Electronics, Chinese Academy of Sciences, P.R. China)

A Highly Efficient Mode Decision Algorithm and Architecture for AVS HD Video Encoder

Shuai Li (Peking University, P.R. China)

Chuang Zhu (Peking University, P.R. China)

Fei Wang (Peking University, P.R. China)

Hui-zhu Jia (Peking University, P.R. China)

Xiao-dong Xie (Peking University, P.R. China)

Wen Gao (Peking University, P.R. China)

Error Analysis of SAR Motion Compensation

Yongfei Mao (Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Maosheng Xiang (Institute of Electronics, Chinese Academy of Sciences, Canada)

Lideng Wei (Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Yinwei Li (Institute of Electronics, Chinese Academy of Sciences, P.R. China)

Wen Hong (Institute of Electronics, Chinese Academy of Sciences, P.R. China)

A Self-Calibration Procedure for a Sinusoidal Fringe Profilometer

Maurizio Bevilacqua (University of Salerno, Italy)

Marco Landi (University of Salerno, Italy)

Alfredo Paolillo (University of Salerno, Italy)

Optimum Multi-Camera Arrangement Using a Bee Colony Algorithm

Dimitrios Chrysostomou (Democritus University of Thrace, Greece)

Antonios Gasteratos (Democritus University of Thrace, Greece)

OCR-Based Neural Network for ANPR

Xiaojun Zhai (University of Hertfordshire, United Kingdom)

Faycal Bensaali (University of Hertfordshire, United Kingdom)

Reza Sotudeh (University of Hertfordshire, United Kingdom)

Detection of Pedestrians at Night Time Using Learning-based Method and Head Validation

Qiong Liu (South China University of Technology, P.R. China)

Jiajun Zhuang (South China University of Technology, P.R. China)

Kong Shufeng (South China University of Technology, P.R. China)

7:00 PM

Conference Dinner

Tuesday, July 17

7:00 AM – 9:00 AM **Full English Buffet Breakfast (Jenny's Restaurant)**

9:00 AM **Keynote Speaker: Prof. Konstantina S. Nikita**
SMIEEE, National Technical University of Athens
Vascular image analysis to support diagnosis and
assessment of atherosclerosis

9:30 AM **Keynote Speaker: Dr George Zentai**
IEEE Fellow, Varian Medical Systems, USA
New method for breast tumor tracking

10:00 AM **Keynote Speaker: Gang Lu**
University of Kent, UK
Advanced Monitoring and Characterization of Flames
through Digital Imaging

10:30 AM **Coffee Break**

11:00 AM - 12:00 PM **Parallel Sessions**

Imaging Techniques III

Room: Ballroom A

Chair: Maurizio Bevilacqua (University of Salerno, Italy)

11:00 AM **Measurements on Metal-Rubber Profiles with HDR and EF**
Imaging Techniques

M. Bevilacqua (University of Salerno, Italy)
G. Di Leo (University of Salerno, Italy)
M. Landi (University of Salerno, Italy)
A. Paolillo (University of Salerno, Italy)

11:15 AM **Techniques for Electrical Tree Imaging**

Roger Schurch (The University of Manchester, United Kingdom &
Universidad Tecnica Federico Santa Maria, Chile)
Simon M Rowland (The University of Manchester, United Kingdom)
Philip Withers (The University of Manchester, United Kingdom)

11:30 AM **Machine Vision and Magnetic Imaging NDT for the On-Line**
Inspection of Stainless Steel Strips

M. Ricci (University of Perugia & Polo Scientifico Didattico di Terni,
Italy)
A. Ficola (University of Perugia, Italy)
M. L. Fravolini (University of Perugia, Italy)
L. Battaglini (University of Perugia, Italy)
V. Brunori (University of Perugia, Italy)
A. Palazzi (University of Perugia, Italy)
M. Pastorelli (University of Perugia, Italy)
P. Burrascano (University of Perugia, Italy)
P. Valigi (University of Perugia, Italy)
L. Appolloni (ThyssenKrupp Acciai Speciali Terni S.p.A., Italy)
S. Cervo (ThyssenKrupp Acciai Speciali Terni S.p.A., Italy)
C. Rocchi (ThyssenKrupp Acciai Speciali Terni S.p.A., Italy)

11:45 AM **Hyperspectral Imaging and Analysis of Mixed Algae Species in Liquid Media**
Mehrube Mehrubeoglu (Texas A&M University, USA)
Ming Yang Teng (Texas A&M University, USA)
Marci Savage (Texas A&M University, USA)
Alexandra Rafalski (Texas A&M University, USA)
Paul V. Zimba (Texas A&M University, USA)

Imaging Techniques and Devices

Room: Ballroom B

Chair: George Zentai (Varian Medical Systems, USA)

11:00 AM **Establishing Low Dimensional Manifolds for 3D Object Pose Estimation**
Rigas Kouskouridas (Democritus University of Thrace, Greece)
Antonios Gasteratos (Democritus University of Thrace, Greece)

11:15 AM **A MEMS Ultrasonic Transducer Imager Array with Beam Width, Acoustic Power, and Frequency Modulations**
Tahereh Arezoo Emadi (University of Manitoba, Canada)
Gabriel Thomas (University of Manitoba, Canada)
Douglas A. Buchanan (University of Manitoba, Canada)
Stephen Pistorius (University of Manitoba & CancerCare Manitoba, Canada)

11:30 AM **Numerical Modeling of Magnetic Field for Magnetic Particle Imaging**
Waldemar T. Smolik (Warsaw University of Technology, Poland)
Przemysław R. Wróblewski (Warsaw University of Technology, Poland)
Jan Szyszko (Warsaw University of Technology, Poland)

11:45 AM **New Method for Breast Tumor Tracking**
E. Seppi (Varian Medical Systems, USA)
G. Zentai (Varian Medical Systems, USA)
L. Partain (Varian Medical Systems, USA)
M. Richmond (Varian Medical Systems, USA)
R. Pavlyuchkova (Varian Medical Systems, USA)
R. Anderson (Varian Medical Systems, USA)

Imaging Systems Design II

Room: Ballroom C

Chair: Wuliang Yin (Tianjin University, P.R. China & University of Manchester, United Kingdom)

11:00 AM **A Novel Spiral Electromagnetic Induction Sensor for the Measurement of Phase Holdup**
Xu Kai (Tianjin University, P.R. China)
Guang Chen (Tianjin University, P.R. China)
Jianna Hao (Tianjin University, P.R. China)
Wuliang Yin (Tianjin University, P.R. China & University of Manchester, United Kingdom)

11:15 AM **A Dual Modality Tomography System for Particle Concentration and Charge Distribution Measurement in Dense-phase Pneumatic Conveyor of Pulverized Coal**
Jian Li (Southeast University, P.R. China)
Heming Gao (Southeast University, P.R. China)
Chuanlong Xu (Southeast University, P.R. China)
Shimin Wang (Southeast University, P.R. China)

11:30 AM **Quality Measures for Blind Image Deblurring**
Aftab Khan (The University of Manchester, United Kingdom)
Hujun Yin (The University of Manchester, United Kingdom)

11:45 AM **Real-time Single FPGA-Based Multimodal Image Fusion System**
Michał Bartyś (Warsaw University of Technology, Poland)
Barbara Putz (Warsaw University of Technology, Poland)
Adrian Antoniewicz (Warsaw University of Technology, Poland)
Łukasz Zbrzeźny (Bumar Elektronika S.A., Poland)

12:15 PM - 1:00 PM **Parallel Sessions**

Linear and Non-linear Processing

Room: Ballroom A

Chair: Ru Yan (Telemark University College, Norway)

12:15 PM **Interface Imaging in Multiphase Flow Based on Frame by Frame Eigenvalues of Capacitance Matrices from Electrical Capacitance Tomographic Systems**
Ru Yan (Telemark University College, Norway)
Chaminda Pradeep (Telemark University College, Norway)
Joseph Muwanga (Telemark University College, Norway)
Saba Mylvaganam (Telemark University College, Norway)

12:30 PM **Pose Manifolds for Efficient Visual Servoing**
Rigas Kouskouridas (Democritus University of Thrace, Greece)
Angelos Amanatiadis (Democritus University of Thrace, Greece)
Antonios Gasteratos (Democritus University of Thrace, Greece)

12:45 PM **Ontology-based 3D Pose Estimation for Autonomous Object Manipulation**
Rigas Kouskouridas (Democritus University of Thrace, Greece)
Theodora Retzepe (Democritus University of Thrace, Greece)
Eleni Charalampoglou (Democritus University of Thrace, Greece)
Antonios Gasteratos (Democritus University of Thrace, Greece)

Electrical Resistance Tomography Systems and Techniques

Room: Ballroom B

Chair: Jiamin Ye (University of Leeds, United Kingdom)

12:15 PM **Secondary Image Reconstruction Based on Associative Markov Networks for Electrical Resistance Tomography**
Jiamin Ye (University of Leeds, United Kingdom)
Brian S Hoyle (University of Leeds, United Kingdom)

12:30 PM **Two Phase Flow Visualization in an Annular Tube by an Electrical Resistance Tomography**
Shang-Jie Ren (Tianjin University, P.R. China)
Chao Tan (Tianjin University, P.R. China)
Feng Dong (Tianjin University, P.R. China)

12:45 PM **Capacitively Coupled Electrical Resistance Tomography System Based on Quartz Crystal Series Resonance**
Baoliang Wang (Zhejiang University, P.R. China)
Sanfu Fu (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)

Environmental Monitoring Systems and Flame Imaging
Room: Ballroom C
Chair: Lijun Xu (Beihang University, P.R. China)

12:15 PM **Effect of Inclined Angle of Fuel Jet on NO_x Emission in High Temperature Air Combustion**
Xiaolu Li (Beihang University, P.R. China)
Zhongbao Wei (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Yanting Cheng (Beihang University, P.R. China)

12:30 PM **Prediction of NO_x Emissions through Flame Radical Imaging and Neural Network Based Soft Computing**
Xinli Li (North China Electric Power University, P.R. China and University of Kent, United Kingdom)
Duo Sun (University of Kent, United Kingdom)
Gang Lu (University of Kent, United Kingdom)
Jan Krabicka (University of Kent, United Kingdom)
Yong Yan (University of Kent, United Kingdom)

12:45 PM **A Three-Dimensional Shape Descriptor for Burner Flames**
Tian Qiu (University of Kent, United Kingdom)
Yong Yan (University of Kent, United Kingdom)
Gang Lu (University of Kent, United Kingdom)

1:00 PM – 2:00 PM **Carvery Lunch Session (Jenny's Restaurant)**

2:00 PM - 3:00 PM **Parallel Sessions**

Object Detection and Recognition Techniques
Room: Ballroom A
Chair: Antonios Gasteratos (Democirtus University of Thrace, Greece)

2:00 PM **Enhanced Spatial Resolution for EDXRD Inspection Methods by Reconstruction from Multiple Measurements**
Simon Schlesinger (University of Wuppertal, Germany)
Hartwin Bomsdorf (University of Wuppertal, Germany)

2:15 PM **Color Segmentation on FPGA Using Minimum Distance Classifier for Automatic Road Sign Detection**
Jingbo Zhao (Mid-Sweden University, Sweden)
Benny Thörnberg (Mid-Sweden University, Sweden)
Yan Shi (Mid-Sweden University, Sweden)
Ashkan Hashemi (Mid-Sweden University, Sweden)

2:30 PM **An Improved Particle Filter for Multi-feature Tracking Application**
Zhelong Wang (Dalian University of Technology, P.R. China)
Hongyu Zhao (Dalian University of Technology, P.R. China)
Hong Shang (National Earthquake Response Support Service, P.R. China)
Sen Qiu (Dalian University of Technology, P.R. China)

2:45 PM **Object Recognition Using Saliency Maps and HTM Learning**
Ioannis Kostavelis (Democritus University of Thrace, Greece)
Lazaros Nalpantidis (Royal Institute of Technology - KTH, Sweden)
Antonios Gasteratos (Democritus University of Thrace, Greece)

Microwave Imaging

Room: Ballroom B

Chair: Andrea Randazzo (University of Insubria, Italy)

2:00 PM **Microwave Imaging of Elliptically-Shaped Dielectric Cylinders by Means of a Lp Banach-Space Inversion Algorithm**
C. Estatico (University of Insubria, Italy)
A. Fedeli (University of Genoa, Italy)
M. Pastorino (University of Genoa, Italy)
A. Randazzo (University of Genoa, Italy)

2:15 PM **Microwave Imaging At Resolution and Super-Resolution with Ultra-Wide Band Sensors**
Tareq F. Zanoon (Universiti Sains Malaysia, Malaysia)
Mohammed S. Hathal (Universiti Sains Malaysia, Malaysia)
Mohd Z. Abdullah (Universiti Sains Malaysia, Malaysia)

2:30 PM **Acceleration of Projected SIRT Algorithm for EMT Image Reconstruction**
Jianna Hao (Tianjin University, P.R. China)
Wuliang Yin (University of Manchester, United Kingdom)
Qian Zhao (Tianjin University, P.R. China)
Xu Kai (Tianjin University, P.R. China)
Guang Chen (Tianjin University, P.R. China)

2:45 PM **Boundary Element Method for A Kind of 3-D PEC Magnetic Induction Problem**
Qian Zhao (Tianjin University, P.R. China)
Jianna Hao (Tianjin University, P.R. China)
Xu Kai (Tianjin University, P.R. China)
Guang Chen (Tianjin University, P.R. China)
Wuliang Yin (University of Manchester, United Kingdom)

Imaging Systems Design III
Room: Ballroom C
Chair: Kavitha M (IIT Madras, India)

2:00 PM **Characterization of Tissue Mimicking Phantoms for Acoustic Radiation Force Impulse Imaging**
M. Kavitha (Indian Institute of Technology Madras, India)
M. Ramasubba Reddy (Indian Institute of Technology Madras, India)

2:15 PM **A Digital Demodulation Method for Electrical Tomography Based on Sine Wave Rectification**
HaiLi Zhou (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Zhang Cao (Beihang University, P.R. China)
Shangchun Fan (Beihang University, P.R. China)
Hong Pei (Beihang University, P.R. China)

2:30 PM **A Novel ECT-EST Combined Method for Gas-Solids Flow Pattern and Charge Distribution Visualization**
Bin Zhou (Southeast University, P.R. China)
Jianyong Zhang (University of Teesside, United Kingdom)

2:45 PM **A Direct Reconstruction Algorithm for Recovering the Admittivities in 2D Electrical Tomography**
Zhang Cao (Beihang University, P.R. China)
Lijun Xu (Beihang University, P.R. China)
Zheng Qian (Beihang University, P.R. China)

3:15 PM - 4:15 PM **Parallel Sessions**

Electrical Capacitance Tomography III
Room: Ballroom A
Chair: Zhen Ren (University of Manchester, United Kingdom)

3:15 PM **An Electrical Capacitance Tomography System with MatLab-Simulink GUI**
Zhen Ren (The University of Manchester, United Kingdom)
Wuqiang Yang (The University of Manchester, United Kingdom)

3:30 PM **Total Variation Image Reconstruction for Electrical Capacitance Tomography**
Thusara C. Chandrasekera (University of Cambridge, United Kingdom)
Yi Li (University of Cambridge, United Kingdom)
John S. Dennis (University of Cambridge, United Kingdom)
Daniel J. Holland (University of Cambridge, United Kingdom)

3:45 PM **Electrical Capacitance Tomography: A Compressive Sensing Approach**
Hongcheng Wang (United Technologies Research Center, USA)
Igor Fedchenia (United Technologies Research Center, USA)
Sergey Shishkin (United Technologies Research Center, USA)
Alan Finn (United Technologies Research Center, USA)
Lance Smith (United Technologies Research Center, USA)
Meredith Colket III (United Technologies Research Center, USA)

4:00 PM **Electric Field Simulation in Electrical Capacitance Tomography**
Jacek Kryszyn (Warsaw University of Technology, Poland)
Waldemar T. Smolik (Warsaw University of Technology, Poland)
Roman Szabatin (Warsaw University of Technology, Poland)
Jacek Mirkowski (Warsaw University of Technology, Poland)

Imaging Systems Design I

Room: Ballroom B

Chair: Zhaoyan Fan (University of Connecticut, USA)

3:15 PM **Development and Application of ECT Digital System for Online Flow Measurement**

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

3:30 PM **Ultrafast Electron Beam X-ray Computed Tomography for 2D and 3D Two-Phase Flow Imaging**

M. Bieberle (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
F. Barthel (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
D. Hoppe (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
M. Banowski (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
M. Wagner (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
D. Lucas (Helmholtz-Zentrum Dresden-Rossendorf, Germany)
T. Stürzel (Stuttgart University, Germany)
U. Hampel (Technische Universität Dresden, Germany)

3:45 PM **Ultrasound High Resolution Imaging Using a Modified Synthetic Aperture Focusing Method**

Jose J. Mijares Chan (University of Manitoba, Canada)
Jason R. B. Taylor (University of Manitoba, Canada)
Gabriel Thomas (University of Manitoba, Canada)

4:00 PM **A Frequency Selection Scheme for Increased Imaging Speed in ECT**

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

Signal and Image Analysis II

Room: Ballroom C

Chair: Simone Tassani (Institute of Communications and Computer Systems, Greece)

3:15 PM **A Generalized Thresholding Algorithm of Pedestrian Segmentation for Far-infrared Images**

Qiong Liu (South China University of Technology, P.R. China)
Jiajun Zhuang (South China University of Technology, P.R. China)

- 3:30 PM** **A Fourier-based Implicit Evolution Scheme for Active Surfaces, for Object Segmentation in Volumetric Images**
Konstantinos K. Delibasis (National Technical University of Athens, Greece)
Simone Tassani (National Technical University of Athens, Greece)
Pantelis Asvestas (National Technical University of Athens, Greece)
Aristides I. Kechriniotis (National Technical University of Athens, Greece)
George K. Matsopoulos (National Technical University of Athens, Greece)
- 3:45 PM** **Performance Analysis of Image Sensor Communication Over Free Space Optical Channel**
Jiang Liu (Waseda University, Japan)
Zhenni Pan (Waseda University, Japan)
Shigeru Shimamoto (Waseda University, Japan)
- 4:00 PM** **Mitigating the Effect of Optical Back-scatter in Multispectral Underwater Imaging**
Halleh Mortazavi (The University of Manchester, United Kingdom)
John P. Oakley (The University of Manchester, United Kingdom)
Braham Barkat (The Petroleum Institute, UAE)
- 4:15 PM** **Infrared Photon Discrimination of Lung Cancer Cells**
G. C. Giakos, (University of Akron, USA),
S. Shrestha (University of Akron, USA) ,
J. Petermann (University of Akron, USA),
C. Narayan (University of Akron, USA) ,
R. H. Picard (Arcon Co),
W. Inbody (AFRL, USA) ,
Phan D. Dao (AFRL, USA),
P. N. Crabtree (AFRL, USA)
P. McNicholl, (AFRL, USA),
L. Zhang (Cleveland State University, USA),
A. Zhou (Cleveland State University, USA) ,
M . Zervakis (Technical University of Crete, Greece),
M.G. Kounelakis (Technical University of Crete, Greece) ,
E.S. Bei, (Technical University of Crete, Greece),
G. Livanos (Technical University of Crete, Greece)
- 4:30 PM** **Coffee Break**
- 4:30 PM – 5:30 PM** **Steering Committee Meeting**
- 5:00 PM** **Closing Ceremony (Best Paper Awards and IST 2013)**

Wednesday, July 18

9:00 AM	Leave Hotel
10:30 AM	Arrive at Chatsworth House
3:30 PM	Leave to Buxton
4:00 PM	Arrive at Buxton
5:00 PM	Leave to Hotel
6:00 PM	Arrive at Hotel