

**Loughborough Antennas & Propagation Conference (LAPC) 2009**  
**Conference Programme**

**Final version**

**Sunday November 15<sup>th</sup>**

- **Registration** 6:00 – 10:00pm
- **Pre-dinner Drinks Reception Sponsored by The IET** 6:45 – 8:00pm

**Monday November 16<sup>th</sup>**

- **Registration and Coffee** 8:00 – 9:00am
- **Conference Opening** **9:00 – 9:15am**

**INVITED SESSION 1**

**9.15 – 11.15am**

**Chairs: Prof. Yiannis Vardaxoglou and Prof. Raj Mittra**

**Innovative Metamaterials Antennas and Technology**

- 9:15 – 9:45am *Keynote Talk: **Prof. Raj Mittra** Pennsylvania State University, USA*  
**Performance enhancements of antennas using metamaterials;  
Challenges and Future Directions**
- 9:45 – 10:15am *Invited Talk: **Dr. Michael Wiltshire** Imperial College London, UK*  
**Metamaterials - for lenses and cloaking from DC to optics**
- 10:15 – 10:45am *Invited Talk: **Dr. John Batchelor** University of Kent, UK*  
**Convolutd FSS elements for propagation control in buildings**
- 10:45 – 11:15am *Invited Talk: **Prof. Richard Langley** University of Sheffield, UK*  
**Miniaturised periodic structures with antenna applications**

**Refreshments and Poster Session 1**  
**Exhibition Areas A, B, C, D & E**

11:15am - 12:45pm

■ **Poster Session 1: Monday Morning**

**Exhibition Area A**

- A 1 Electronically Tunable Liquid Crystal Based Salisbury Screen Microwave Absorber**  
Robert Cahill
- A 2 Ultra Thin Dipole Antenna Backed by New Planar Artificial Magnetic Conductor**  
Mustafa K. Taher Al-Nuaimi; William Whittow
- A 3 Novel Planar AMC for Low Profile Antenna Applications**  
Mustafa K. Taher Al-Nuaimi; William Whittow
- A 4 Improved Radio Frequency Imaging Resolution using Phase Contrast Interferometry**  
Terry Quinlan; Sandra Dudley; Stuart Walker
- A 5 A new compact printed antenna for mobile communication**  
Indranath Sarkar; Santosh Chowdhury
- A 6 Comparison between Conventional Lenses and an Electrically Thin Lens Made Using a Phase Shifting Surface (PSS) at Ka Band**  
Nicolas Gagnon; Aldo Petosa; Derek McNamara
- A 7 An Antenna for Wireless Sensor Applications**  
Alex Mason; Andrew Shaw; Ahmed I Al-Shamma'a
- A 8 MIMO Antenna Configuration for Femtocell**  
Landry Ndikumasabo
- A 9 Investigation of PCB Microstrip Patch Receiving Antenna for Outdoor RF Energy Harvesting in Wireless Sensor Networks**  
Zhi Wei Sim; Roger Shuttleworth; Bruce Grieve
- A 10 A Measure Of Distortion And Its Variation Due To Attenuation Constant and Frequency Dependent Non-Linear Phase Constant**  
Sultan Shoab; Waqar Shah; Muhammad Naeem; Muhammad Amin

**Exhibition Area B****Poster Session 1: Monday morning**

- B 1 Reconfigurable Wideband Patch Antenna for Cognitive Radio**  
Hattan F. AbuTarboush; Shahbaz Khan; Rajagopal Nilavalan; Hamed Al-Raweshidy;  
Djuradj Budimir
- B 2 Modeling the Illumination Function of a Cassegrain Reflector for a Corrugated Horn Feed and Calculation of the Far Field Pattern**  
Mohammad Asif Zaman; Sajid Muhaimin Choudhury; Md. Gaffar; Md. Abdul Matin
- B 3 Wideband Mutual Coupling Compensation Based on MIMO System Identification**  
Bu-hong Wang; Hon Tat Hui; Mook Seng Leong
- B 4 Electromagnetic Modeling of Complex Uniaxial Waveguide Discontinuities Using a Modified MVM**  
Mohamed Yahia; Jun Wu Tao; Hafedh Benzina; Mohamed Abdelkrim
- B 5 A Beam Switched Loop Antenna for Pattern Reconfigurable Applications**  
Prafulla Deo; Amit Mehta; Dariush Mirshekar; Peter J. Massey; Hisamatsu Nakano
- B 6 Investigation of capacity of on-body channels using MIMO antennas**  
Khalida Ghanem; Peter Hall
- B 7 Simulated Performance of 2.45 GHz Retrodirective Array under RF Pulse Excitation**  
Vincent Fusco; Padmini Sundaralingam
- B 8 A Very Wideband Antenna with Dynamically-Controllable Band Rejection**  
Pablo Pardo; Julien Perruisseau-Carrier
- B 9 Performance of a Leakage-Based Precoded Downlink Multi-User MIMO Scheme Using Measured Channels**  
Pat Chambers; Claude Oestges
- B 10 University of Loughborough CMCR Poster**

**Exhibition Area C****Poster Session 1: Monday morning**

- C 1 On the Frequency Scaling of Rain Attenuation for Space Communications**  
Boris Gremont
- C 2 Moment Method Analysis of a Helical Antenna Printed on a Dielectric Hemisphere**  
Tariq Latef; Salam Khamas
- C 3 A Modified Plate ZAGI Antenna with HIS Reflector**  
Siavash Gharehbaghian Azar; Abdorreza Alavi GHarahbagh; Javad Nourinia;  
Changiz Ghobadi
- C 4 Some Design Remarks on Electrically Small Flush-Mounted UHF Antennas**  
Michael Sabielny
- C 5 Wearable EBG Antenna Bending and Crumpling**  
Richard Langley; Qiang Bai

- C 6 Left-handed Microstrip delay line implemented by complementary split ring resonators**  
Sarinya Pasakawee; Zhirun Hu
- C 7 Design of a Coupling Element Based Penta-band Mobile Phone Antenna**  
Hai Zhao; Gui Lin; Claes Beckman
- C 8 Further Bandwidth Enhancement of PIFA by Adding a Parasitic Element**  
Hassan Chattha; Yi Huang; Yang Lu; Xu Zhu
- C 9 Genetic Algorithm Optimisation of Dual Polarised Pyramidal Absorbers Loaded with a Binary FSS**  
Daniel Holtby; Kenneth Lee Ford; Barry Chambers
- C 10 University of Cranfield Poster**

**Exhibition Area D**

**Poster Session 1: Monday morning**

- D 1 Covermap: Computer Tool to Calculate the Propagation in Open Areas Importing Data from GoogleMaps**  
Francisco Saez de Adana; Francisco Javier Fernandez; Jose Luis Loranca; Rainer Kronberger
- D 2 Beam Steering Techniques for Time-Switched Arrays**  
Yizhen Tong; Alan Tennant; Richard J Langley
- D 3 Reconfigurable Log Periodic Aperture Fed Microstrip Antenna**  
Mohamad Hamid; Peter Gardner; Peter Hall
- D 4 Switchable Wideband-Narrowband Tapered Slot Antenna**  
Mohamad Hamid; Peter Gardner; Peter Hall; Farid Ghanem
- D 5 Snap-On Buttons in a Coaxial-to-Microstrip Transition**  
Tiiti Kellomäki
- D 6 Development of a Compact SPA for 2.4GHz Applications using Commercially Available Elements**  
Stelios A. Mitilneos; Stelios Thomopoulos
- D 7 Beam Forming Dielectric Cylindrical EBG Antenna**  
Claudio Biancotto; Paul Record
- D 8 Results of a novel X-band pre-bunched free electron maser**  
Mohd Fareq Abd Malek; James Lucas; Yi Huang
- D 9 Telemetry Antennas Design for a Space Bound Vehicle**  
Fatemeh Sadeghikia
- D 10 University of Loughborough WiCR Poster**

**Exhibition Area E**

**Poster Session 1: Monday morning**

- E 1 A New Approach to Solve Angular Dispersion of Discrete Ray Launching for Urban Scenarios**  
Zhihua Lai; Nik Bessis; Guillaume de la Roche; Pierre Kuonen; Jie Zhang; Gordon Clapworthy
- E 2 Computed SAR Levels in Vehicle Occupants Due to On-Board Transmissions at 900 MHz**  
Alastair R. Ruddle
- E 3 Carrier-Power Dependence of Passive Intermodulation Products in Printed Lines**  
Alexey Shitvov; Dmitry E Zelenchuk; Alex Schuchinsky
- E 4 A Compact Dual-Port Diversity Antenna for Handheld Devices**  
Qinjiang Rao; Dong Wang
- E 5 Computed Field Distributions within a Passenger Vehicle at 2.4 GHz**  
Lester Low; Hui Zhang; Jonathan Michael Rigelsford; Richard Langley
- E 6 A Review of Wearable Antenna**  
Nurul Husna Mohd Rais
- E 7 Fractal Monopole Antenna for WLAN USB Dongle**  
Qi Luo; Henrique M Salgado; Jose Pereira
- E 8 Wideband Sleeved Blade Monopole Antenna with Coaxial Feed**  
Ivor L. Morrow; G. P. Dingley; William Whittow; A. Cooper
- E 9 Microstrip Antennas Utilising MEMS for Reconfigurable Polarisation States**  
Ivor L. Morrow; D. H. Schaubert; N. Clow
- E 10 CWiND, University of Bedfordshire Poster**

■ **Lunch Day 1 (Restaurant)**

12:45pm - 2:00pm

**INVITED SESSION 2**

**2:00 – 4:00pm**

**Chairs: Prof. Gert Pedersen and Prof. Peter Hall**

**Channel Characterisation and Modelling for Emerging Applications in Wireless Communications**

2:00 – 2:30pm

*Keynote Talk: Prof. Gert Pedersen Aalborg University, Denmark*

**Measurement based investigations of future communications system**

2:30 – 3:00pm

*Invited Talk: Dr. Robert Watson University of Bath, UK*

**Real-time propagation forecasting for earth-space communication**

3:00– 3:30pm

*Invited Talk: Prof. Andy Nix University of Bristol, UK*

**Delivering Live-Action to Handheld Devices: Experimental Results and Recommendations**

3:30 – 4:00pm

*Invited Talk: Dr. Dave Laurenson University of Edinburgh, UK*

**Modelling for vehicle to vehicle applications**

■ **Refreshments and Poster Session 2**  
**Exhibition Areas A, B, C, D & E**

4:00 – 5.30pm

■ **Poster Session 2** : Monday afternoon  
**Exhibition Area A**

- A 1 Complex-point dipole formulation of probe-corrected spherical near-field scanning of electromagnetic fields using symmetric higher-order probes**  
Thorkild Birk Hansen; Sergej Pivnenko; Olav Breinbjerg
- A 2 Reflection Suppression In Cylindrical Near-Field Measurements of Electrically Small Antennas**  
Stuart F Gregson; Allen Newell; Greg Hindman
- A 3 Arm Movements Effect on Ultra Wideband On-Body Propagation Channels**

**and Radio Systems**

Qammer Hussain Hussain Abbasi; Andrea Sani; Akram Alomainy; Yang Hao

**A 4 Compact Electronically Steerable Parasitic Array Radiator Antenna**

Haitao Liu; Steven Gao; Tian Hong Loh

**A 5 A Reconfigurable Antenna for MIMO application**

Sahaya Kulandai Raj Joseph; Joachim Bonney; Pablo Herrero; Schoebel Joerg

**A 6 Effect of Target conductivity on Plasmonic Cloak**

Adnan Noor; Zhirun Hu

**A 7 A Decorrelated Closely Spaced Array of Four Slot Antennas Backed with SIW Cavities for MIMO Communications**

Sema Dumanli; Chris Railton; Dominique L Paul

**A 8 A Study on Phased Array Antenna Using MSA Composed by 3-patches**

Takenori Yasuzumi; Yasuhiro Kazama

**A 9 Mathematical Analysis of True Time Delay for Optical Beam Steering in Laser Radar**

Ganesh Shanbhag; Varsha Vishwanath

**A 10 University of Surrey Poster**

**Exhibition Area B**

**Poster Session 2: Monday afternoon**

**B 1 Efficient Far-Field Reconstruction of Quasi-Planar Antennas from Spherical Spiral Near-Field Data**

Francesco D'Agostino; Flaminio Ferrara; Claudio Gennarelli; Rocco Guerriero; Massimo Migliozi; Carlo Anthony Rizzo

**B 2 Assessment of discretised Sochacki Lenses**

Derek P Gray; John Thornton; Ryutaro Suzuki

**B 3 Analysis of Tapered Plasma Column Using Full Wave Simulator**

Fatemeh Sadeghikia

**B 4 A Study on Dipole Antenna Having Conical Radiation Pattern with EBG as a Reflector**

Hasegawa Shohei; Yasuhiro Kazama; Takenori Yasuzumi

**B 5 A Circular Patch Antenna for a Switchable Circular Polarization Sense with a Slotted Ground Structure**

Won-Sang Yoon; Dong-Hyo Lee; Kyoung-Joo Lee; Sun-Hyung Kim; Sang-Min Han; Young-Sik Kim

**B 6 Electrically small antenna tuning techniques**

Richard Langley; Luyi Liu

**B 7 Variations in MIMO-OFDM Channel Capacity due to Random Human Movement in an Indoor Environment**

Jishu Das Gupta; Karla Ziri-Castro

**B 8 Simulated Terrestrial 850 nm/93 GHz Hybrid System - Attenuation due to Hydrometeors and Performance Availability Assessment**

Vaclav Kvicera; Martin Grabner; Ondrej Fiser

**B 9 Frequency Selective Wall for Enhancing Wireless Signal in Indoor Environments**

Nidal Qasem; Rob Seager

**B 10 Christian-Albrechts-University of Kiel Poster**

**Exhibition Area C**

**Poster Session 2: Monday afternoon**

**C 1 Dual-Polarized Stacked C-band Antenna Element with Novel Hairpin-Type Contactless Stripline to Stripline Transition in Multilayer Integrated Structure for SAR Applications**

Grzegorz Jaworski; Krzysztof Wincza; Slawomir Gruszczynski

**C 2 Small and Robust Antennas for Concrete Embedded Sensors**

Lars Rindorf; Kaj Bjarne Jakobsen

**C 3 A Micromachined 10 GHz Meander Dipole Antenna On High Resistivity Silicon Substrate For Remote Sensing Applications**

Amr Ibrahim

**C 4 105m long anechoic chamber for High Power Microwave measurements**

Vincent Keyser

**C 5 A Further Study of Planar UWB Monopole Antennas**

Yang Lu; Yi Huang; Yao-Chun Shen; Hassan Chattha

**C 6 Dual-band Balanced Handset Antenna for WLAN Application**

A Alhaddad; Raed A Abd-Alhameed; Dawei Zhou; Chan Hwang See; Muhammad Usman; Z Zainal Abidin; Peter S Excell

**C 7 Fabrication of a Multi-Octave Phased Array Aperture**

Jon Pinto; Rob Lewis; Waseem Qureshi; Richard Harper; Gareth Lewis

**C 8 Correlation of Specific Absorption Rates in the Human Head due to Multiple Independent Sources**

William Whittow; Chinthana J Panagamuwa; Benoit Derat; Ivor L. Morrow

**C 9 Printable Windscreen Quad-band GSM Antenna**

Chinwe C Njoku; William Whittow; Chinthana Panagamuwa

**C 10 Institute of Technology University, France**



**Exhibition Area D**

**Poster Session 2: Monday afternoon**

- D 1 Experimental UWB Channel Characterisation of an Electromagnetically Small Environment**  
Javier Gelabert; Athanasios Kavatjikidis; David Edwards; Christopher J Stevens
- D 2 Hidden Markov Models for Packet-Level Errors in Bursty Digital Wireless Channels**  
Omar Salih; Cheng-Xiang Wang; David I Laurenson; Yejun He
- D 3 Wide Tunable Dual-Band Reconfigurable Antenna for Future Wireless Devices**  
Zhen Hua Sampson Hu; Peter Song; James Kelly; Peter Hall; Peter Gardner
- D 4 Frequency diversity array: simulation and design**  
Jingjing Huang; Kin-Fai Tong; Chris J Baker
- D 5 Small Printed Ultra Wideband Antenna with Coupled Slot**  
Yusnita Rahayu; Peter Hall; Razali Ngah; Tharek Abdul Rahman Abdul Rahman
- D 6 A Novel Circular Shaped Dual-Band Dual-Polarized Patch Antenna and Introducing a New Approach for Designing Combined Feed Networks**  
Soheyl Soodmand
- D 7 Design of Printed Dipole with Reflector and Multi Directors**  
Jean-marie Floch; Jean-michel Denoual; Khaled Sallem
- D 8 Reduced Groundplane Shorted Patch Antenna for On-Body Communications**  
Anupam R. Chandran; William G. Scanlon
- D 9 Moving Train Imaging by Ground-Based Ka-Band Radar**  
Yunhua Zhang; Wenshuai Zhai; Xiangkun Zhang; Shi Xiaojin; Xiang Gu
- D 10 Study on Shielding Effectiveness of Mushroom-type Electromagnetic Bandgap Structures in Close Proximity to Patch Antennas**  
Florian Ohnimus; Ivan Ndip; Ege Engin

**Exhibition Area E**

**Poster Session 2: Monday afternoon**

- E 1 SAR Analysis in Human Head Model Exposed to Mobile Base-Station Antenna for GSM-900 band**  
Faruk Ali; Sujoy Mukherjee; Sudhabindu Ray
- E 2 Difference Pattern Synthesis using Particle Swarm Optimizer**  
Asim Khan; Anthony Keith Brown
- E 3 Spatial Diversity Improvement on 10 GHz Fixed Terrestrial Path**  
Martin Grabner; Vaclav Kvicera; Pavel Pechac; Lukas Pecha
- E 4 Meandered Variable Pitch Angle Printed Quadrifilar Helix Antenna**  
Bidhan Bhandari; Steven Gao

**E 5 Finite Integration Technique Capabilities for Indoor Propagation Prediction**

Peter N. Zakharov; Ruslan Dudov; Evgeny V. Mikhailov; Anatoly Korolev; Anatoly Sukhorukov

**E 6 Microcell MIMO RoF system using low cost array antennas and improved DFB matching lines**

Ignacio J Garcia Zuazola; John Batchelor; Anthony Nkansah; David Wake; Nathan Gomes

**E 7 Consideration on Wave Propagation in Underground Dielectrics**

Alina Mihaela Badescu; Octavian Fratu; Simona Halunga; Ioana Marcu

**E 8 Radiation Properties of Wireless-Sensor-Targeted Compact Arrays Loaded by a Pre-Fractal Defected Ground Structure**

Constantine G. Kakoyiannis; Evangelos S. Angelopoulos; Philip Constantinou

**E 9 Isolation Enhancement of Monopole Antennas and PIFAs on a Compact Ground Plane**

Alexandros Feresidis; Titos Kokkinos; Qian Li

**E 10 Manchester University Poster**

■ **Drinks Reception**

*Drinks are sponsored by CST, Microwave Studio®*

6:30pm - 7:00pm

■ **Conference Banquet and Prize Giving (Restaurant)**

7:00pm - 10:30pm

*Invited Banquet Talk: Prof. Peter Hall University of Birmingham, UK*

**Keeping a low profile:** the history of microstrip antennas

■ **Conference Prize Giving**

Two Best Paper Prizes Sponsored by the IET.

Two Best Student Paper Prizes Sponsored by the IET and DSTL.

**Tuesday November 17th**

**INVITED SESSION 3**

**9.30 - 11.30am**

**Chairs: Dr. Ivor Morrow and Prof. Dirk Manteuffel**

### **Small Antennas & Arrays for MIMO Systems**

9:30 – 10:00am *Keynote Talk: **Prof. Dirk Manteuffel** Christian-Albrechts University of Kiel, Germany*

**MIMO antenna design challenges**

10:00 – 10:30am *Invited Talk: **Prof. Cyril Luxey** University of Nice, France*

**Design of multi-antenna systems for UMTS mobile phones**

10:30 – 11:00am *Invited Talk: **Mr. Nathan Clow** DSTL*

**ESA Measurements using a Hybrid Fibre-optic Reflection Measurement System**

11:00 - 11:30am *Invited Talk: **Prof. Dirk Heberling** Technical University of Aachen, Germany*

**Multiport-antennas for MIMO-systems**

■ **Refreshments and Poster Session 3**  
**Exhibition Areas A, B, C & D**

11:30am - 1:00pm

■ **Poster Session 3**

**Exhibition Area A: Tuesday morning**

**A 1 A Development of Fractal PIFA (Planar Inverted F Antenna) with Bandwidth Enhancement for Mobile Phone Applications**

Saidatul Norlyana Azemi; F.Malek

- A 2 Dual Patches Microstrip Fed Antenna with Wide Bandwidth**  
Lester Low; John Batchelor; Rob Heaton; Nongji Chen
- A 3 A Simple 2-User Multiple Access Technique Using Fading Signatures and Space Diversity**  
Walid Al-Hussaibi; Falah H. Ali; Elias Stipidis
- A 4 Small Ultra-Wideband Antenna for Mobile Handset**  
Max James Ammann; David Kearney
- A 5 Numerical and experimental analysis of metallic plate near-field RCS at oblique incidence and applications to radar systems**  
Ramin Deban; Halim Boutayeb; Jean Conan; Ke Wu
- A 6 Variation of Slotline Characteristic Impedance and Wavelength in a Vivaldi Antenna and Their Effect on Radiation Characteristics**  
Peter Ludlow; Vincent Fusco
- A 7 A New Microstrip-Fed Printed Slot Antenna Based on Moore Space-Filling Geometry**  
Jawad K. Ali
- A 8 Bendable Plaster Antenna for 2.45 GHz Applications**  
Tiiti Kellomäki; William Whittow
- A 9 Design of a Tunable Compact Antenna for Digital Video Broadcasting Handheld Terminals**  
Xiu Long Bao; Max James Ammann; Shynu Nair
- A 10 Urban Indoor Signal and Noise Measurements in the Medium Wave Band**  
Igor Fernandez; Pablo Angueira; Iratxe Landa; Amaia Arrinda; Juan Luis Ordiales; David de la Vega; Manuel Velez

**Exhibition Area B**

**Poster Session 3: Tuesday morning**

- B 1 New Patch Configurations to Reduce the Mutual Coupling in Microstrip Array Antennas**  
Ali Farahbakhsh; Shahram Mohanna; Saeed Tavakoli; Mahmood Oukati Sadegh
- B 2 Design of MIMO Relay Systems with Interference Cancellation Under Perfect CSI**  
Tetsuki Taniguchi; Nordin Bin Ramli; Yoshio Karasawa
- B 3 Active Transmission Line on GaAs Substrate**  
Michal Pokorny; Zbynek Raida
- B 4 Treatment of metal laminas with sharp edges at arbitrary angles to the FDTD grid using MAMPs**  
Chris Railton; Dominique L Paul

**B 5 Towards a better excitation of the surface wave: electromagnetic field on the sea surface**

Luca Petrillo; Muriel Darces; Florent Jangal; Jean-Louis Montmagnon; Marc Hélier

**B 6 Software Defined Antenna**

Simon P Benham; David Atkins; Ed Totten; Gary Pettitt; Peter Cushnaghan

**B 7 Realization of High Directivity Enhancement by using an Array of Microstrip Patch Antennas (MPAs) covered by a Dielectric Superstrate**

Raj Mittra

**B 8 Quantification of glucose and cytosine hydrochloride by THz-TDS**

Kastriot Shala; Bin Yang; Richard Dudley; Tina T Chowdhury; Robert Donnan

**B 9 Directional Dependence of the Minimum Phase Property of Antenna Transfer Functions**

James S. McLean; Heinrich Foltz; Robert Sutton

**B 10 Mobile Terminal GPS Antennas in Multipath Environment and Effects of Human Body Presence**

Masood Ur Rehman; Yue Gao; Xiaodong Chen; Clive Parini; Zhinong Ying

**Exhibition Area C**

**Poster Session 3: Tuesday morning**

**C 1 A Coplanar Waveguide Feeding SRR Antenna Including Human Body Effect**

Zhiyuan Duan; Anupam R. Chandran; David Linton; William G. Scanlon

**C 2 Design of C-Slot Microstrip Patch antenna for WiMax Application**

Boutheina Tlili

**C 3 Compact Space-Multimode Diversity Stacked Circular Microstrip Antenna Array for 802.11n MIMO-OFDM WLANs**

Alper Ocalan; Asuman Savascihabes; Ibrahim Gorgec; Ozgur Ertug; Erdem Yazgan

**C 4 Loop-Loaded Printed Dipole Array Design for a Dual-Band Radar Application**

Adnan Sondaş; Mustafa Hikmet Bilgehan Ucar; Yunus Erdemli

**C 5 X-Band Waveguide Array with a Wide Scanning Angle**

Roman Chernobrovkin; Igor Ivanchenko; Alexey Korolev; Leo p. Ligthart; Nina Popenko

**C 6 30 GHz Liquid Crystal Phased Array**

Bahram Sanadgol; Sybille Holzwarth; Jürgen Kassner

**C 7 Patch Antenna with Polarization Agility using Ferrimagnetic Materials**

Theodore Zervos; Antonis A Alexandridis; Fotis Lazarakis; Kostas Dangakis

**C 8 Can Frequency Diversity Provide Performance Gains for WSNs at 2.4GHz for the Fire Hydrant to Above Ground Channel**

Ruoshui Liu; Yan Wu; Ian James Wassell; Kenichi Soga

**C 9 Properties and Applications of Periodic Dielectric Particles as Tunable-Index Materials**

Di Bao; Christos Argyropoulos; Efthymios Kallos; Yang Hao

**C 10 Methodology for the Empirical Analysis of the Scattering Signals from a Wind Turbine**

Itziar Angulo; David de la Vega; Olatz Grande; Yiyang Wu; Carlos Fernández; Pablo Angueira; Juan Luis Ordiales

**Exhibition Area D****Poster Session 3: Tuesday morning****D 1 Five-Element Inverted-F Antenna Array for MIMO Communications and Radio Direction Finding on Mobile Terminal**

Bin Abdullah Al-Hadi Azremi; Mikko Kyrö; Janne Ilvonen; Jari Holopainen; Sylvain Ranvier; Clemens Icheln; Pertti Vainikainen

**D 2 A Study on Double-loop Array Antenna for Mobile Satellite Communications**

Makoto Okiyokota; Takenori Yasuzumi; Yasuhiro Kazama

**D 3 Measurements and Characterization of Ultra Wideband Propagation within Spacecrafts**

Akihisa Matsubara; Tatsuya Ichikawa; Astushi Tomiki; Tomoaki Toda; Takehiko Kobayashi

**D 4 Link characteristics for an off-body UWB transmitter in a hospital environment**

Philip Catherwood; William G. Scanlon

**D 5 Analysis of Sub-wavelength Cavity Leaky-Wave Antennas with High-Impedance Surfaces**

Carolina Mateo-Segura; María García-Vigueras; George Goussetis; Jose-Luis Gomez-Tornero; Alexandros Feresidis

**D 6 On-Body Antenna for the Miners Cardiac Rhythm Sensor**

Rostyslav Dubrovka; Igor Borisovich Shirokov

**D 7 A Minimum Variance Beamformer with Linear and Quadratic Constraints Based on Uniform Linear Antenna Arrays**

Lei Zhang; Wei Liu; Richard Langlely

**D 8 Feed Network for Antenna Decoupling**

Donya Jasteh; Elham Ebrahimi; Peter Hall; Peter Gardner

**D 9 Bandwidth Optimization of EBG Surfaces Using Genetic Programming**

Luisa Deias; Giuseppe Mazzarella; Nicola Sirena

**D 10 Miniaturization of Quadrifilar Helix Antenna for VHF Band Applications**

Alexandru Takacs; Nelson J. G. Fonseca; Hervé Aubert; Xavier Dollat

**■ Lunch Day 2 (Restaurant)**

1:00pm - 2:00pm

**INVITED SESSION 4**

**2:00pm - 4:00pm**

**Chairs: Prof. William Scanlon and Prof. Neils Kuster**

**Bioelectromagnetics in Antennas & Propagation**

2.00 – 2.30pm *Keynote Talk: **Prof. Neils Kuster** IT'IS Foundation Zurich, Switzerland*

**Challenges in developing complex transmitters as SAR and  
OTA requirements tighten**

2:30 – 3:00pm *Invited Talk: **Dr. Max Ammann** Dublin Institute of Technology, Ireland*

**A stable near-field antenna hyperthermia applicator for various  
tissue types and topologies**

3:00 – 3:30pm *Invited Talk: **Prof. Yang Hao** Queen Mary University London, UK*

**Subject-specific numerical modelling for body-centric wireless  
communications**

3:30 – 4:00pm *Invited Talk: **Dr. Roger Appleby** QinetiQ, UK*

**Imaging and sensing from 100GHz to 1THz band**

■ **Refreshments and Poster Session 4**  
**Exhibition Areas A, B, C & D**

4:00pm - 5:30pm

■ **Poster Session 4: Tuesday afternoon**

**Exhibition Area A**

**A 1 Triple-Service GPS-DAB/DMB-WiMAX Patch Antenna for Automotive Applications**  
Niels Koch

**A 2 The Optimal Search for Multifunction Phased Array Radar**

Payam Haftbaradaran; Mahmoud Kamarei; Reza Fatemi Mofrad

**A 3 EMC Compliance Testing of BBC World Service HF Transmitter Sites**

Greg Cook; Ying Fu

**A 4 New Approach for Designing Beam Steering Uniform Antenna Arrays using Genetic Algorithms**

Musa M Abusitta; Raed A Abd-Alhameed; Dawei Zhou; Stephen M R Jones; Peter S Excell; Chan Hwang See

**A 5 Impulse Response of Transition Zone Diffraction on Many Convex Obstacles in Cascade**

Piotr Górnjak; Wojciech Bandurski

**A 6 A Study of Perturbations due to Antennas in close proximity with the Human Body and Body Simulating Liquid Filled Phantoms at 1.8GHz**

Muhammad Khattak; Robert Michael Edwards; J Ma

**A 7 Towards HF Metamaterials**

Florent Jangal; Luca Petrillo; Muriel Darces

**A 8 Power Harvesting for Low Power Wireless Sensor Network**

Akshat Patel; Miral Vaghela; Hassan Bajwa; Prabir Patra

**A 9 Polarisation Dependent EBG Surface with an Inclined Sheet Via**

Sadiq Ullah; James A. Flint; Rob Seager

**A 10 Spatial diversity for off-body communications in an indoor populated environment at 5.8 GHz**

Ameenulla Jahabar Ali; Simon Cotton; William G. Scanlon

**A 11 A CPW Fed Planar Monopole Band Notched UWB Antenna with Embedded Split Ring Resonators**

Rowdra Ghatak; Rahul Debnath; Dipak Poddar; Rabindra Kishore Mishra; Sekhar Ranjan Bhadra Chaudhuri

**Exhibition Area B**

**Poster Session 4: Tuesday afternoon**

**B 1 Comparison of Electromagnetic Field Distribution in Vicinity of Patch and Slot Antennas**

Florian Ohnimus; Ivan Ndip; Ege Engin

**B 2 Measurement of electrically small antennas via optical fibre**

Martin Alexander; Tian Hong Loh; Andrés López Betancort

**B 3 Short-Term and Long-Term Fading of On-Body Transmission Channels at 2.45 GHz**

Yuriy I. Nechayev; Zhen Hua Sampson Hu; Peter Hall

**B 4 Spherical ESPRIT-Based 2-D Direction Finding with Different Distributions of a Spherical Array Antenna**

Julan Xie; Leonidas Marantis; Paul Brennan

**B 5 A Methodology for Calculating the Interference of a Wind Farm on Weather Radar**



Fergal Darcy; David de la Vega

**B 6 Fast Measurements of Antenna Efficiency and Over The Air (OTA) Parameters in Reverberation Chambers**

Carlo Anthony Rizzo; Mats R Andersson

**B 7 Investigation into the Effects of TETRA Radiation on Protein Conformational Changes using Spectrofluorimetry**

Wenchao Liu; Greg Cook; Tony Barker; Les Coulton

**B 8 Twin-dog-bone vs. hourglass structures in periodic arrangement: a comparative study**

Ladislau Matekovits; Karu Esselle; Mario Orefice

**B 9 Design Studies of Ultra-Wideband Microstrip Antenna for Ultra-Wideband Communication**

Shahid Adnan; Raed A Abd-Alhameed; Stephen M R Jones; Z Zainal Abidin; Muhammad Usman; Hmeda Hraga

**B 10 An Introduction to Fibre-to-Air for Cellular Applications**

Jonathan Michael Rigelsford

**B 11 Rain Induced Attenuation Studies for V-band Frequency in Tropical Regions**

Khairayu Badron; Ahmad Fadzil Ismail; Tharek Abdul Rahman; Jafri Din

**Exhibition Area C**

**Poster Session 4: Tuesday afternoon**

**C 1 Design and Analysis of UC-EBG on Mutual Coupling Reduction**

Zuhairiah Zainal Abidin; Raed A Abd-Alhameed; Neil McEwan; Stephen M R Jones; Khairun Nidzam Ramli; A Alhaddad

**C 2 Spatial smoothing for 2D direction finding with passive RFID tags**

Greg Hislop; Christophe Craeye

**C 3 Performance Analysis of Microstrip Line Matching Network for 2.4 GHz Microwave LNA via Matlab Programming**

Devesh Kumar; Rahul Verma; Nitin Nitin Singhal; Lala Bhaskar

**C 4 Resonance Spacecraft Antenna Calibration: Rheometry and Numerical Simulations**

Manfred Sampl; Wolfgang Macher; Christian Gruber; Thomas H. Oswald; Helmut Rucker; Mikhail Mogilevsky

**C 5 Planar Array Design for Low Ambiguity**

David J Sadler

**C 6 Modifying conventional microwave antenna designs using fine scale structures and nanomaterials**

William Whittow; J (Yiannis) Vardaxoglou

**C 7 Effects of metallic semi-rimmed spectacles on SAR in the head from a 900MHz frontal dipole source**

Konstantinos Stergiou; Chinthana J Panagamuwa; William Whittow; Robert Michael Edwards

**C 8 A Flexible Fabric Metasurface for On Body Communication Applications**

Shahid Bashir; Alford Chauraya; Robert Michael Edwards; J (Yiannis) Vardaxoglou

**C 9 A Lift Based Mobility Model for Short Range Link State Assessment in Ad Hoc Network**

Qing Wang; Robert Michael Edwards

**C 10 An Aperture Back-Projection Technique and Measurements Made on a Flat Plate Array**

Doren W. Hess

**C 11 Single Tuned Electrically Small Antennas**

Peter J. Massey

**Exhibition Area D**

**Poster Session 4: Tuesday afternoon**

**D 1 MIMO Communication System's Capacity: Impact of Varying Antenna Array Dimension and Geometry**

Munawwar M Sohul

**D 2 Radiation by a Magneto-Dielectric Loaded Patch Antenna**

Leo Kempel; B. Shanker; John Xiao; Stephen Schneider

**D 3 EM-Matrix Antenna for Real-time Measurements of Electromagnetic Noise in Power Electronic Modules**

Jean-Marc Dienot; Emmanuel Batista

**D 4 UWB Antenna with Single or Dual-Band Notched Characteristic for WLAN Band using Meandered Ground Stubs**

Y. F. Weng; Wenjun Lui; William S. W. Cheung; Ti Yuk

**D 5 A Channel Model for Wireless Sensor Networks in Gas Turbine Engines**

Konstantinos Sasoglou; Ian A Glover; Partha Dutta; Robert Caddell Atkinson; Ivan Andonovic; Griogair W.M. Whyte

**D 6 Inductively Loaded Shorted Patch Antenna With Reduced Size**

Maria Susana Ruiz Palacios; Martín Martínez Silva

**D 7 A Green's Function Approach for Analysis of Body-Area-Network Antennas**

Farshad Keshmiri; Christophe Craeye

**D 8 Inverse Parabolic Step Sequence Ultra Wideband Antenna**

Rashid Saleem; Anthony Keith Brown

**D 9 Study on the Performance Deterioration of Flexible UWB Antennas**

Thomas Peter; Rajagopal Nilavalan

**D 10 Radiation characteristics of a conical monopole antenna with a partially corrugated ground plane**

Charity B Mulenga; James A. Flint

■ **Close of Conference**

5:30pm - 5:35pm

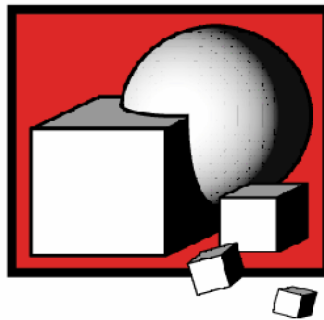
**Wednesday November 18th 2009**

9:00 - 5:00pm

**Free Workshops by CST and IMST**

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**IET** Will be in the foyer on Tuesday

**Foyer and LAPC Registration desk**  
**LAPC**

