PIERS 2011 Marrakesh

Progress In Electromagnetics Research Symposium

Program

March 20–23, 2011
Marrakesh, MOROCCO

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Progress In Electromagnetics Research Symposium

March 20–23, 2011

Marrakesh, MOROCCO

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- The Electromagnetics Academy

SYMPOSIUM VENUE

The 2011 Progress in Electromagnetics Research Symposium will be held on March 20–23, 2011, at Mansour Eddahbi Hotel & Conference Center, Marrakesh, Morroco. During the symposium, the PIERS OFFICE will be located in the Conference Center of MANSOUR EDDAHBI Hotel.

REGISTRATION

The PIERS technical sessions will begin on Sunday morning, March 20, 2011 at Mansour Eddahbi Hotel & Conference Center. You may register in the PIERS OFFICE on Saturday, March 19, from 13:00 to 17:00, or during the symposium from 8:00 through 17:00, March 20–23, 2011.

The on-site registration fee is US$690. The student registration fee is US$490 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration desk during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Saturday, March 19, 2011, from 18:00 to 20:00, symposium reception will take place at Mansour Eddahbi Hotel. For registered PIERS participants, the reception is free. For unregistered companions, the price is EUR 20 per person. Please make your reservation using the booking section at http://directevent.net/piers/Social-Events.php. If you have any question or concerns, please feel free to contact us at piers@directevent.net.

Symposium Banquet

On Tuesday evening, March 22, 2011, from 20:00 to 23:30, symposium banquet is planned for PIERS participants and their guests. A limited number of banquet tickets will be available. For all participants, the price is EUR 60 per person. Please make your reservation using the booking section at http://directevent.net/piers/Social-Events.php. If you have any question or concerns, please feel free to contact us at piers@directevent.net.

PIERS ONLINE

Information on PIERS 2011 Marrakesh and future PIERS is posted at www.piers.org.

GUIDELINE FOR PRESENTER

Oral Presentations

- **Load and TEST presentation files in advance:**
  Presenting authors should upload and test presentation files in the PIERS OFFICE no later than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session rooms.
- **Presentation files format:**
  PDFs and Powerpoint files are recommended. Movies or animations in MPEG, Windows Media, etc, should be tested in PIERS computer in PIERS OFFICE no later than half day before the session. Presentation files in USB disk, CD-ROM, DVD are acceptable by PIERS Computer.
- **Report to Session Chair:**
  Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.
- **20 mins time limit:**
  Each oral presentation, including questions and answers, should be less than 20 minutes.
- **DO NOT change presentation sequence:**
  Session Chair, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each talk and refrain from changing paper presentation sequence.

Poster Presentations

Presenters are requested to stand by their posters during their session.

One panel (98 cm (W) x 200 cm (H)) will be available for each poster. Pins or thumbtacks are provided to mount your posters on the board.

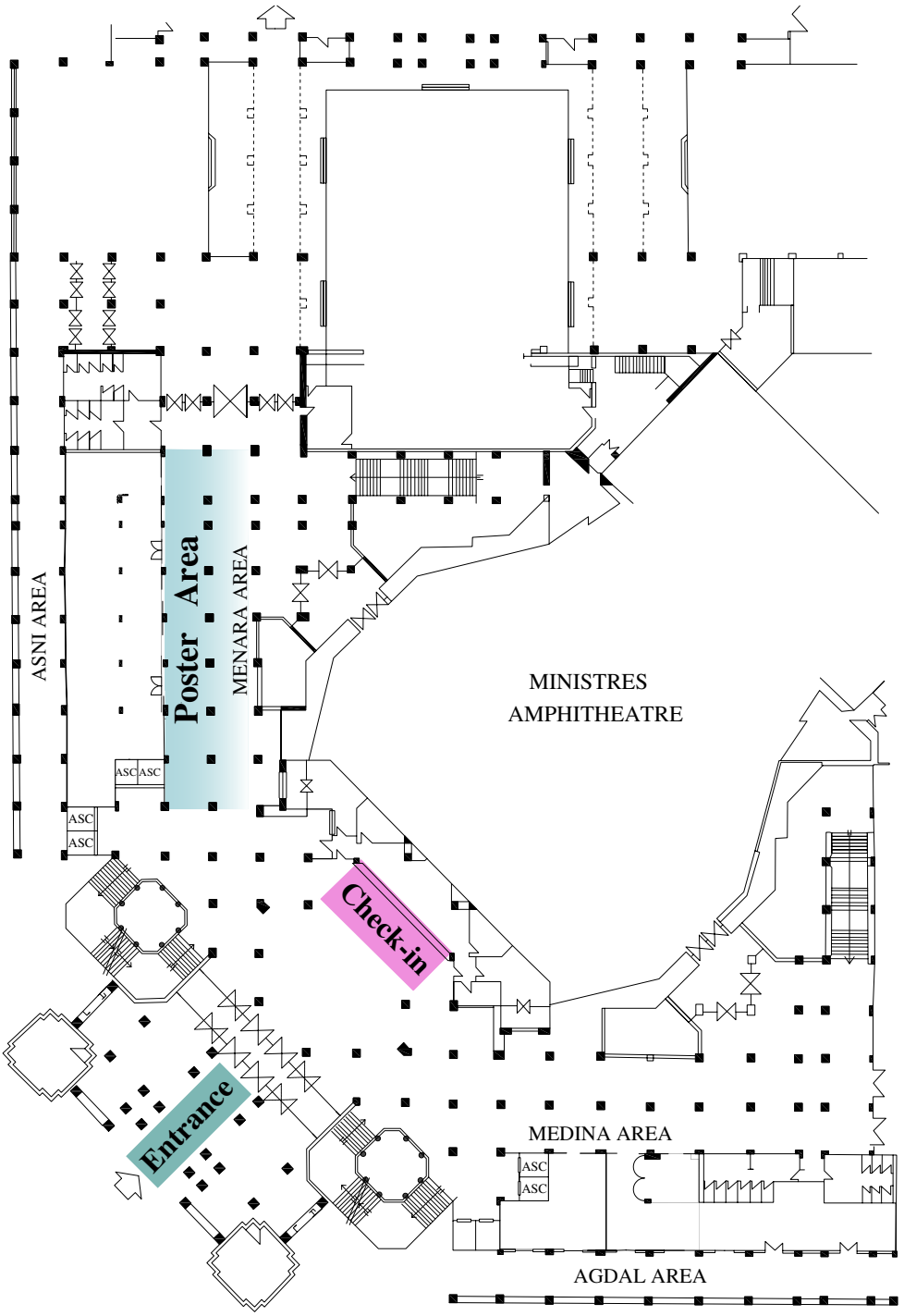
All presenters are required to mount their papers one hour before the session and remove them at the end of their sessions.

ACCOMMODATION

Participants are responsible for making their own housing arrangements. The PIERS Host Hotel is Mansour Eddahbi Hotel. Online Reservation is available. Please visit PIERS 2011 website for detailed information. The information below is provided for your convenience.

Mansour Eddahbi Hotel
http://directevent.net/piers/Housing.php Email: hotel@directevent.net
Address: Boulevard Mohamed VI, Marrakesh, Morocco

MAP OF CONFERENCE SITE



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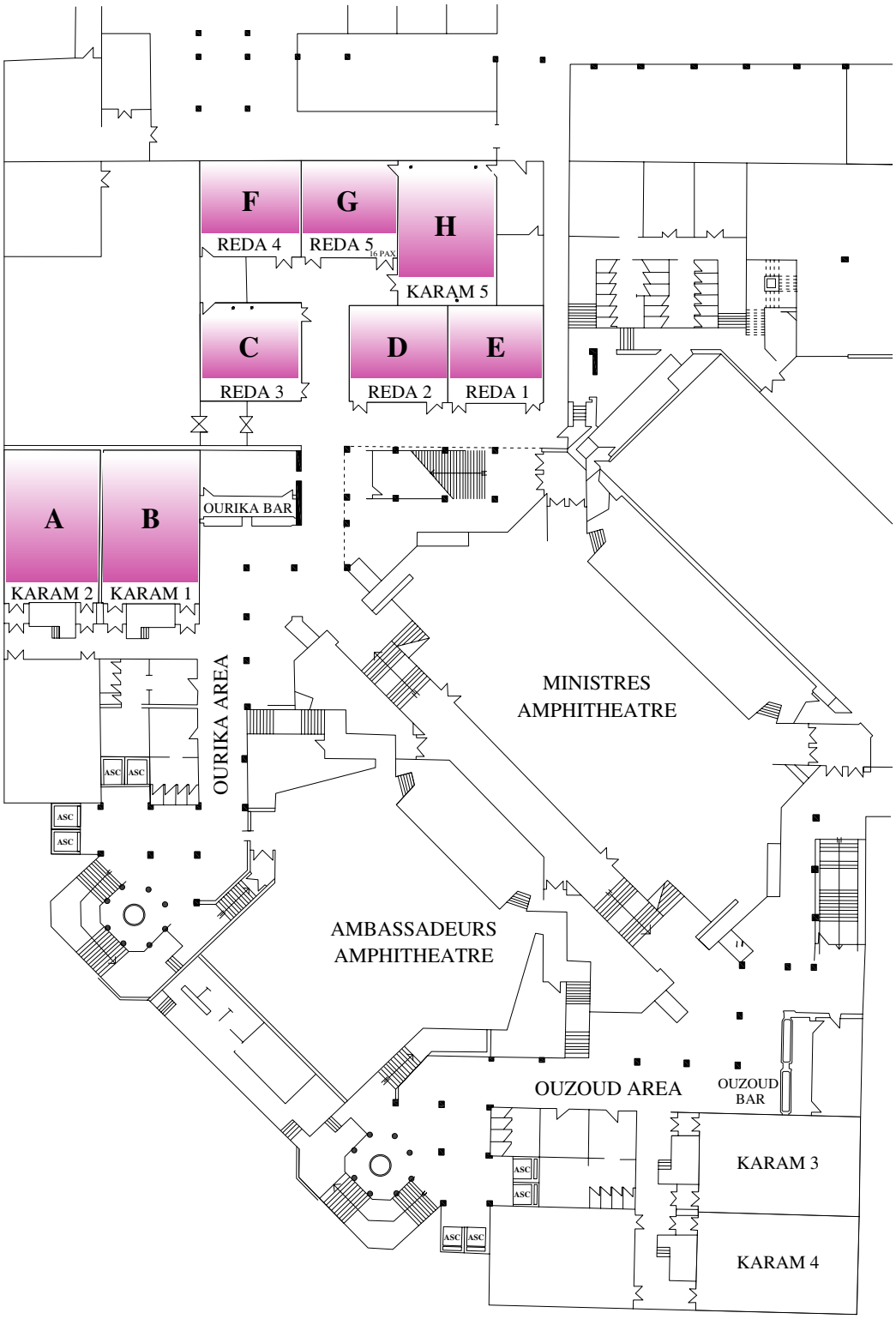
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LEVEL -1

PIERS 2011 MARRAKESH TECHNICAL PROGRAM

Session 1A1
Advances in Nonlinear Optical Cavity Dynamics

Sunday AM, March 20, 2011

Room A

Organized by Philippe Grelu

Chaired by Philippe Grelu, J. Nathan Kutz

08:20 Noise-induced Pulse Interaction in Mode-locked Lasers
Omri Gat (*The Hebrew University of Jerusalem, Israel*);

08:40 Experimental Study of the 1D Kerr Cavity Soliton
François Leo (*Universite Libre de Bruxelles (U.L.B.), Belgium*); *Stéphane Coen* (*The University of Auckland, New Zealand*); *Pascal Kockaert* (*Universite Libre de Bruxelles (U.L.B.), Belgium*); *Simon-Pierre Gorza* (*Universite Libre de Bruxelles (U.L.B.), Belgium*); *Philippe Emplit* (*Universite Libre de Bruxelles (U.L.B.), Belgium*); *Marc Haelterman* (*Universite Libre de Bruxelles (U.L.B.), Belgium*);

09:00 High Repetition-rate Passively Mode-locked Fiber Lasers
Francois Sanchez (*Université d'Angers, France*); *F. Amrani* (*Université d'Angers, France*); *M. Salhi* (*Université d'Angers, France*); *Herve Leblond* (*Université d'Angers, France*); *Andrey Komarov* (*Université d'Angers, France*);

09:20 Complex Self-organized Multi-pulse Dynamics in a Fiber Laser: The Rain of Solitons
Souad Chouli (*Université de Bourgogne, France*); *Philippe Grelu* (*Universite de Bourgogne, France*);

09:40 Ultralong Raman Fiber Lasers and Their Applications: An Overview
Juan Diego Ania-Castañón (*Instituto de Óptica "Daza de Valdés", CSIC, Spain*);

10:00 **Coffee Break**

10:20 Bistability of Soliton Molecules in Mode-locked Fiber Lasers
Alexandr Zaviyalov (*Friedrich-Schiller-Universitat Jena, Germany*); *R. Iliew* (*Friedrich-Schiller-Universitat Jena, Germany*); *O. Egorov* (*Friedrich-Schiller-Universität Jena, Germany*); *Falk Lederer* (*Friedrich Schiller University Jena, Germany*);

10:40 Oscillating and Self-pulsing Laser Cavity Solitons and Indications for 3D Light Localization
Thorsten Ackemann (*University of Strathclyde, UK*); *Neal Radwell* (*University of Strathclyde, UK*); *Yoann Noblet* (*University of Strathclyde, UK*); *Craig McIntyre* (*University of Strathclyde, UK*); *W. J. Firth* (*University of Strathclyde, UK*); *G. L. Oppo* (*University of Strathclyde, UK*);

11:00 Towards Light Bullets in Dissipative Systems: Fast Pulsation and Localised Structures in a Cavity Soliton Laser
P. Genevet (*Universite de Nice Sophia Antipolis, France*); *Stephane Barland* (*Universite de Nice Sophia Antipolis, France*); *Massimo Giudici* (*Universite de Nice Sophia Antipolis, France*); *Jorge R. Tredicce* (*Universite de Nice Sophia Antipolis, France*);

11:20 On the Study of Giant Chirp Oscillators
E. J. R. Kelleher (*Imperial College London, UK*); *C. E. S. Castellani* (*Imperial College London, UK*); *J. C. Travers* (*Imperial College London, UK*); *Z. Sun* (*University of Cambridge, UK*); *A. C. Ferrari* (*University of Cambridge, UK*); *S. V. Popov* (*Imperial College London, UK*); *J. Roy Taylor* (*Imperial College London, UK*);

11:40 Principal Component Analysis for Low-dimensional Modeling of Mode-locked Lasers
J. Nathan Kutz (*University of Washington, USA*); *M. Williams* (*University of Washington, USA*); *E. Shlizerman* (*University of Washington, USA*); *Edwin Ding* (*University of Washington, USA*);

Session 1A2
Extraordinary Transmission: Theory and Experiments

Sunday AM, March 20, 2011

Room B

Organized by Francisco Medina

Chaired by Francisco Medina

08:20 Extraordinary Transmission for the "Wrong" Polarization
Miguel Navarro-Cia (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Vitaliy Lomakin* (*University of California, USA*); *Sergei A. Kuznetsov* (*Novosibirsk State University, Russia*); *Mario Sorolla* (*Universidad Publica de Navarra, Spain*);

08:40 Anisotropy in Extraordinary Transmission Fishnet Structures
Miguel Navarro-Cia (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Mario Sorolla* (*Universidad Publica de Navarra, Spain*);

09:00 Extraordinary Transmission and Light Confinement in Subwavelength Metallic Films Apertures
Rubén Ortuño Molinero (*Universidad Politécnica de Valencia, Spain*); *C. Garcia-Meca* (*Universidad Politécnica de Valencia, Spain*); *Francisco J. Rodriguez-Fortuno* (*Universidad Politécnica de Valencia, Spain*); *A. Martínez* (*Universidad Politécnica de Valencia, Spain*);

09:20 Transmission Properties of Dual-period Arrays of Cylinders
Diana C. Skigin (*Universidad de Buenos Aires, and IFIBA (CONICET), Argentina*); *Marcelo Lester* (*Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina*);

09:40 Bulk Metamaterial under Front Illumination at Terahertz Frequencies
Jorge Carbonell (*Universidad Politécnica de Valencia, Spain*); *S. Wang* (*Université des Sciences et Technologies de Lille, France*); *Eric Lheurette* (*Université des Sciences et Technologies de Lille, France*); *Didier Lippens* (*Université des Sciences et Technologies de Lille, France*);

10:00 **Coffee Break**

10:20 Holey Structured Metamaterials
Francisco J. Garcia-Vidal (*Universidad Autonoma de Madrid, Spain*);

10:40 Anomalous Band Formation in Terahertz Nanoresonators
Jorge Bravo-Abad (*Universidad Autonoma de Madrid, Spain*); *Luis Martin-Moreno* (*Universidad de Zaragoza, Spain*); *Francisco J. Garcia-Vidal* (*Universidad Autonoma de Madrid, Spain*); *Y. M. Park* (*Seoul National University, South Korea*); *H. R. Park* (*Seoul National University, South Korea*); *K. J. Ahn* (*Seoul National University, South Korea*); *H. S. Kim* (*Seoul National University, South Korea*); *Y. H. Ahn* (*Ajou University, South Korea*); *D. S. Kim* (*Seoul National University, South Korea*);

11:00 Analytical Modeling of Extraordinary Transmission in the Presence of Dielectric Slabs
Raul Rodriguez-Berral (*University of Seville, Spain*); *Francisco Medina* (*University of Seville, Spain*); *Francisco L. Mesa* (*University of Seville, Spain*);

11:20 Enhanced Transmission through Deep Subwavelength Apertures Using Metamaterials
Ekmel Ozbay (*Bilkent University, Turkey*);

11:40 Extraordinary Kerr Effect in Transmission in Magnetoplasmonic Nanostructured Films
Vladimir I. Belotelov (*A. M. Prokhorov General Physics Institute of RAS, Russia*); *I. A. Akimov* (*University of Dortmund, Germany*); *M. Pohl* (*University of Dortmund, Germany*); *Viacheslav A. Kotov* (*A. M. Prokhorov General Physics Institute RAS, Russia*); *A. S. Vengurlekar* (*Tata Institute of Fundamental Research, India*); *A. V. Gopal* (*Tata Institute of Fundamental Research, India*); *D. Yakovlev* (*University of Dortmund, Germany*); *A. K. Zvezdin* (*A. M. Prokhorov General Physics Institute of RAS, Russia*); *M. Bayer* (*V. A. Kotelnikov Institute of Radio Engineering and Electronics RAS, Russia*);

Session 1A3a
Near-field Techniques Applied to Based Metamaterial Devices

Sunday AM, March 20, 2011

Room C

Organized by M'hamed Drissi

Chaired by Habiba Hafdallah-Ouslimani

08:00 Engineering Near Field Coupling in Metamaterials
Abdelwaheb Ourir (*ESPCI Paris Tech., France*); *Redha Abdeddaim* (*ESPCI Paris Tech., France*); *Julien de Rosny* (*Universite Denis Diderot Paris 7, France*);

08:20 Metamaterials: An Enabling Technology for Wireless Communications
Omar M. Ramahi (*University of Waterloo, Canada*); *Muhammed S. Boybay* (*University of Waterloo, Canada*); *Omar F. Siddiqui* (*University of Waterloo, Canada*); *Leila Yousefi* (*University of Waterloo, Canada*); *Ali Kabiri* (*University of Waterloo, Canada*); *Hussein Attia* (*University of Waterloo, Canada*); *Mohammed M. Bait-Suwailam* (*University of Waterloo, Canada*); *Zhao Ren* (*University of Waterloo, Canada*);

08:40 Simulation and Measurement and of a Negative Refractive Index in Resonators Planar Medium
Z. Djeffal (*UPMC Université Paris 06, France*); *H. Talleb* (*UPMC Université Paris 06, France*); *David Lautru* (*UPMC Université Paris 06, France*); *Victor Fouad-Hanna* (*UPMC Université Paris 06, France*);

09:00 Characterization of High Impedance Surface (HIS) Properties for Low Profile Antenna Application
Cuong-Manh Tran (*Universite Paris Ouest Nanterre La Defense, France*); *Habiba Hafdallah-Ouslimani* (*University of Paris West Nanterre la Défense, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*);

Session 1A3b
Metamaterials and Their Applications 1

Sunday AM, March 20, 2011

Room C

Organized by Yalin Lu

Chaired by Yalin Lu

09:20 Scattering Properties of Elliptical Cylinder Coated by Lossy DNG Metamaterial
Mousa I. Hussein (*United Arab Emirates Univeristy, United Arab Emirates*);

09:40 Ferromagnetic Resonances in Single and Two-phase Magnetic Microwires
G. Infantes (*Institute of Materials Science of Madrid (CSIC), Spain*); *L. Kraus* (*Institute of Physics, ASCR, Czech Republic*); *V. Raposo* (*Universidad de Salamanca, Spain*); *R. El Kammouni* (*UAE, Morocco*); *M. Britel* (*UAE, Morocco*); *Manuel Vazquez* (*Institute of Materials Science of Madrid (CSIC), Spain*);

10:00 **Coffee Break**

10:20 Enhanced Ferromagnetic and Ferroelectric Properties of La Doped Multiferroic $Bi_5Fe_{0.5}Co_{0.5}Ti_3O_{15}$ Ceramics
Xiang-Yu Mao (*Yangzhou University, China*); *Wei Wang* (*Yangzhou University, China*); *Xiao-Bing Chen* (*Yangzhou University, China*); *Yalin Lu* (*United States Air Force Academy, USA*);

10:40 Enhanced Absorption in Si Solar Cells via Adding Thin Surface Plasmonic Layers and Surface Microstructures
Yalin Lu (*United States Air Force Academy, USA*); *W. J. Mandeville* (*MITRE Corporation, USA*); *M. K. Shaffer* (*U.S. Air Force Academy, USA*); *R. J. Knize* (*U.S. Air Force Academy, USA*); *Kitt Reinhardt* (*US Air Force Office of Scientific Research, AFOSR/NE, USA*);

11:00 Layer-structured $Bi_5F_{0.5}Co_{0.5}Ti_3O_{15}$ Thin Films Grown by Pulsed Laser Deposition
Yalin Lu (*United States Air Force Academy, USA*); *Gail J. Brown* (*US Air Force Research Laboratories (AFRL)/RXPSO, USA*); *Gregory Kozlowski* (*Wright State University, USA*); *Xiao-Bing Chen* (*Yangzhou University, China*);

11:20 Homogenization of Metallic Metamaterials in the Visible Range
Brahim Guizal (*Université de Montpellier 2, France*); *Didier Felbacq* (*Université de Montpellier 2, France*); *Frédéric Zolla* (*Aix-Marseille Universite, France*);

11:40 Light Trapping within the Grooves of Diffraction Gratings
Mario M. Jakas (*Universidad de La Laguna, Spain*); *Francisco Llopis* (*Universidad de La Laguna, Spain*);

Session 1A4
Emerging Modalities and Novel Applications of Inverse Problems in Electromagnetics

Sunday AM, March 20, 2011

Room D

Organized by Tommaso Isernia, Paolo Rocca

Chaired by Paolo Rocca

08:20 3D Tomographic Approach for Microwave Breast Cancer Detection
Elia Amedeo Attardo (*Polytechnic of Turin, Italy*); *Andrea Borsic* (*Dartmouth College, USA*); *Giuseppe Vecchi* (*Polytechnic of Turin, Italy*); *Paul M. Meaney* (*Dartmouth College, USA*);

08:40 Nondestructive Evaluation of Extended Scatterers Using Phaseless Data Subspace-based Optimization Method in the Framework of the Method of Moments
Li Pan (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*); *Swee Ping Yeo* (*National University of Singapore, Singapore*);

09:00 Two-step Inversion Procedure for Microwave Breast Imaging
Toshifumi Moriyama (*Nagasaki University, Japan*); *Z. Meng* (*Fukuoka University, Japan*); *T. Takenaka* (*Nagasaki University, Japan*);

09:20 Can Tissue Oxygenation be Non-invasively Assessed Using Microwave Tomography?
Serguei Semenov (*Keele University, UK*); *J. Kellam* (*Carolinas Medical Center, USA*); *T. Williams* (*Carolinas Medical Center, USA*); *M. Quinn* (*Carolinas Medical Center, USA*); *B. Nair* (*Keele University, UK*);

10:00 **Coffee Break**

10:20 The Linear Sampling Method as a Synthesis Strategy: A Simple Approach to Focusing in Unknown Media
Ilaria Catapano (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Lorenzo Crocco* (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Domenica Iero* (*Universita Mediterranea di Reggio Calabria, Italy*); *Tommaso Isernia* (*Mediterranea University of Reggio Calabria, Italy*);

10:40 Exploiting Inverse Scattering Theories for Real-time Tracking in Homeland Security Applications
Federico Viani (*University of Trento, Italy*); *Paolo Rocca* (*University of Trento, Italy*); *Massimo Donelli* (*University of Trento, Italy*); *Daniele Trinchero* (*Politecnico di Torino, Italy*); *Andrea Massa* (*University of Trento, Italy*);

11:00 A Diagnostic Toolbox for Large Arrays Combining Different Spectral Estimation Techniques
Aniello Buonanno (*SELEX Sistemi Integrati, Italy*); *Michele D'Urso* (*SELEX Sistemi Integrati, Italy*); *Marco Donald Migliore* (*Università degli Studi di Cassino, Italy*); *Daniele Pinchera* (*Università degli Studi di Cassino, Italy*);

11:20 Theoretical Model for Optical Sensing of a Random Monolayer of Particles
Augusto García-Valenzuela (*Universidad Nacional Autónoma de México, México*); *Celia A. Sánchez-Pérez* (*Universidad Nacional Autónoma de México, México*); *E. Gutiérrez Reyes* (*Universidad Nacional Autonoma de Mexico, Mexico*); *Ruben Gerardo Barrera* (*Universidad Nacional Autonoma de Mexico, Mexico*);

Session 1A5
SMOS Satellite CAL/VAL: CAROLS L Band Radiometer Airborne Campaigns

Sunday AM, March 20, 2011

Room E

Organized by Mehrez Zribi, Yann H. Kerr

Chaired by Mehrez Zribi, Jacqueline Boutin

08:20 SMOS Mission and Related Airborne Carols Cal/Val Activities
Yann H. Kerr (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO (CNRS/IRD/CNES/UPS)), France*);

08:40 CAROLS SMOS CAL/VAL Campaigns
Mehrez Zribi (*CESBIO (CNRS/IRD/CNES/UPS), France*); *Mickaël Pardé* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Jacqueline Boutin* (*UPMC, France*); *Pascal Fanise* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Monique Dechambre* (*LATMOS, France*); *Daniele Hauser* (*CETP-IPSL, CNRS, France*); *Yann H. Kerr* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO (CNRS/IRD/CNES/UPS)), France*); *M. Leduc-Leballeur* (*LATMOS (UVSQ/CNRS/UPMC), France*); *G. Reverdin* (*UPMC, France*); *Niels Skou* (*Technical University of Denmark, Denmark*); *S. S. Sobjarg* (*DTU-Space, Denmark*); *Clément Albergel* (*CNRM/GAME (Météo-France, CNRS), France*); *Jean-Christophe Calvet* (*CNRM/GAME (Météo-France, CNRS), France*); *J. P. Wigneron* (*INRA-Bordeaux, France*); *Ernesto Lopez-Baeza* (*University of Valencia, Spain*); *K. Saleh* (*University of Valencia, Spain*); *A. Ruis* (*IEEC/ICE-CSIC, Spain*); *J. Tenerelli* (*National Institute of Marine Research (CLS), France*);

09:00 Radio Frequency Interferences Investigation Using the Airborne L-band Full Polarimetric Radiometer CAROLS
Mickaël Pardé (*LATMOS, France*); *Pascal Fanise* (*LATMOS, France*); *Mehrez Zribi* (*CESBIO, France*); *Monique Dechambre* (*LATMOS, France*);

09:20 Airborne Radar Measurements during the CAROLS Campaign
Monique Dechambre (*LATMOS, France*); *D. Hauser* (*LATMOS, France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*); *L. Baggio* (*LATMOS, France*);

09:40 Sea Surface and Soil Moisture Remote Sensing with GNSS-R in the Frame of CAROLS Campaigns
Fran Fabra (*Institut de Ciències de l'Espai (ICE-IEEC/CSIC), Spain*); *Estel Cardellach* (*Institut de Ciències de l'Espai (ICE-IEEC/CSIC), Spain*); *Antonio Rius* (*Institut de Ciències de l'Espai (ICE-IEEC/CSIC), Spain*);

10:00 **Coffee Break**

10:20 Interpretation of CAROLS L-band Measurements in the Gulf of Biscay (September 2007)
Jacqueline Boutin (*UPMC, France*); *M. Leduc-Leballeur* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Mickaël Pardé* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*); *Pascal Fanise* (*LATMOS (UVSQ/CNRS/UPMC), France*); *G. Reverdin* (*UPMC, France*); *J. Tenerelli* (*National Institute of Marine Research (CLS), France*); *Nicolas Reul* (*IFREMER, France*);

10:40 Sea Surface Salinity Retrieval from CAROLS L-Band Measurements
Adrien Martin (*LOCEAN/IPSL, France*); *Jacqueline Boutin* (*LOCEAN, France*); *D. Hauser* (*LATMOS/IPSL, France*); *G. Reverdin* (*LOCEAN, France*); *M. Pardé* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*); *P. Fanise* (*LATMOS (UVSQ/CNRS/UPMC), France*); *J. Tenerelli* (*National Institute of Marine Research (CLS), France*); *Nicolas Reul* (*IFREMER, France*);

11:00 Retrievals of Soil Moisture and Optical Depth from CAROLS
Mickaël Pardé (*LATMOS (UVSQ/CNRS/UPMC), France*); *Jean-Pierre Wigneron* (*Institut National de la Recherche Agronomique, France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*); *Yann H. Kerr* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO (CNRS/IRD/CNES/UPS)), France*); *Pascal Fanise* (*LATMOS (UVSQ/CNRS/UPMC), France*); *Jean-Christophe Calvet* (*CNRM/GAME (Météo-France, CNRS), France*); *Clément Albergel* (*CNRM/GAME (Météo-France, CNRS), France*); *A. Albitar* (*CESBIO, France*); *Francois Cabot* (*CESBIO, France*); *François Demontoux* (*CESBIO-IRD, France*); *E. Jacquette* (*CESBIO, France*); *Ernesto Lopez-Baeza* (*University of Valencia, Spain*); *A. Mialon* (*CESBIO, France*); *C. Moisy* (*CESBIO-IRD, France*); *Nathalie Novello* (*Institut National de la Recherche Agronomique (INRA), EPHYSE, France*); *P. Richaume* (*CESBIO, France*); *K. Saleh* (*Cambridge University, UK*); *M. Schwank* (*CESBIO-IRD, France*); *P. Waldteufel* (*CESBIO-IRD, France*); *Elena Zakharova* (*CNRM/GAME (Météo-France, CNRS), France*); *Monique Dechambre* (*LATMOS, France*);

11:20 A First Assessment of the SMOS Data in Southwestern France Using in Situ, Airborne and Model Soil Moisture Estimates
Clément Albergel (*CNRM/GAME (Météo-France, CNRS), France*); *Elena Zakharova* (*CNRM/GAME (Météo-France, CNRS), France*); *Jean-Christophe Calvet* (*CNRM/GAME (Météo-France, CNRS), France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*); *Mickaël Pardé* (*INRA, EPHYSE, France*); *Jean-Pierre Wigneron* (*INRA, EPHYSE, France*); *Nathalie Novello* (*INRA, EPHYSE, France*); *Yann Kerr* (*CESBIO (CNRS/IRD/CNES/UPS), France*);

11:40 CNES and ESA CAROLS Airborne Campaigns at the Valencia Anchor Station and Los Monegros Site in the Framework of SMOS Validation
Ernesto Lopez-Baeza (*University of Valencia, Spain*); *M. C. Antolin* (*Center for Desertification Research, Spain*); *C. Bouzinac* (*ESA-ESTEC, The Netherlands*); *E. Carbo* (*Center for Desertification Research, Spain*); *C. Castaneda* (*Agrifood Research and Technology Centre of Aragon, Spain*); *M. Davidson* (*ESA-ESTEC, The Netherlands*); *M. Drusch* (*ESA-ESTEC, The Netherlands*); *J. Herrero* (*Estacion Experimental de Aula Dei (EEAD), Spain*); *S. Juglea* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO), France*); *Yann H. Kerr* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO), France*); *S. Mecklenburg* (*ESA-ESRIN, Italy*); *C. Millan-Scheiding* (*Center for Desertification Research, Spain*); *N. Novello* (*Institut National de la Recherche Agronomique, France*); *Mickaël Pardé* (*LATMOS-IPSL, France*); *K. Saleh* (*University of Valencia, Spain*); *Jean-Pierre Wigneron* (*Institut National de la Recherche Agronomique, France*); *Mehrez Zribi* (*CESBIO (CNRS/IRD/CNES/UPS), France*);

Session 1A6a
Small Antennas

Sunday AM, March 20, 2011

Room F

Organized by Ahmed A. Kishk

Chaired by Ahmed A. Kishk

08:00 A Compact Single Feed, Low Cost Broadband Switched-beam Antenna for Mobile Wimax Applications
Christos D. Nikolopoulos (*National Technical University of Athens, Greece*); *C. I. Tsitouri* (*National Technical University of Athens, Greece*); *Themistoklis D. Dimousios* (*National Technical University of Athens, Greece*); *Christos N. Capsalis* (*National Technical University of Athens, Greece*);

08:20 Compact MIMO Microstrip Antenna with Defected Ground for Mutual Coupling Suppression
Fitri Yuli Zulkifli (*University of Indonesia, Indonesia*); *Eko Tjipto Rahardjo* (*University of Indonesia, Indonesia*);

08:40 A New Compact Tri-band Antenna for MIMO Applications
Shaya Karimkashi (*University of Mississippi, USA*); *Ahmed A. Kishk* (*University of Mississippi, USA*);

09:00 Performance and Capacity Analysis of Compact MIMO Aided OFDM-SDMA Systems
Mostafa Hefnawi (*Royal Military College of Canada, Canada*);

09:20 Wide-Band Rectangular Dielectric Resonator Antenna for Wireless Applications
Achraf Jaoujal (*Abdelmalek Essaadi University, Morocco*); *Noura Aknin* (*Abdelmalek Essaadi University, Morocco*); *Ahmed El Moussaoui* (*Abdelmalek Essaadi University, Morocco*);

09:40 A Very Small UWB Dielectric Resonator Antenna for Mobile and Wireless Communications Systems
Mohssin Aoutoul (*Moroccan Association for Scientific and Innovation Researches — Microelectronics, Morocco*); *N. Healey* (*Moroccan Association for Scientific and Innovation Researches — Microelectronics, Morocco*); *J. Kiwan* (*Moroccan Association for Scientific and Innovation Researches — Microelectronics, Morocco*); *F. Bourzeix* (*Moroccan Association for Scientific and Innovation Researches — Microelectronics, Morocco*); *B. Lakssir* (*Moroccan Association for Scientific and Innovation Researches — Microelectronics, Morocco*); *Mohammad Essaaidi* (*Abdelmalek Essaadi University, Morocco*);

10:00 **Coffee Break**

Session 1A6b
Electrically Small Antennas for Military Applications

Sunday AM, March 20, 2011

Room F

Organized by Steven Weiss, Amir Zaghloul

Chaired by Steven Weiss

10:20 A Super-miniaturized Low Profile Antenna on a Substrate of Rose Curve Resonators
Ali Kabiri (*University of Waterloo, Canada*); *Larbi Talbi* (*University of Quebec in Outaouais, Canada*); *Omar M. Ramahi* (*University of Waterloo, Canada*);

10:40 Ultra Compact VHF Vertically Polarized Antenna for Aircraft
Tangjie Yuan (*University Paris-Ouest Nanterre-La Defense, France*); *Luyang Zhou* (*University Paris-Ouest-La Defense, France*); *Habiba Hafdallah-Ouslimani* (*University Paris-Ouest Nanterre-La Defense, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*); *Gérard Collignon* (*INEO Defense, France*); *Aurélien Marteau* (*INEO Defense, France*);

11:00 Electrically Small Antennas for Military Applications
Steven Weiss (*US Army Research Lab, USA*); *Amir Zaghloul* (*US Army Research Lab, USA*);

11:20 Gain Improvement of Dual Band Patch Antenna Based on Complementary Rectangular Split-ring Resonators
Noelia Ortiz (*Universidad Publica de Navarra, Spain*); *Francisco J. Falcone* (*Universidad Pública de Navarra, Spain*); *Mario Sorolla* (*Universidad Publica de Navarra, Spain*);

Session 1A7
Biosensing with Nanoplasmonics

Sunday AM, March 20, 2011

Room G

Organized by Stefan A. Maier, Harald W. Giessen

Chaired by Stefan A. Maier

08:20 Single Molecule Spectroscopy and Sensing Using Coherent Plasmons — Part I
Peter Nordlander (*Rice University, USA*);

08:40 Single Molecule Spectroscopy and Sensing Using Coherent Plasmons — Part II
Peter Nordlander (*Rice University, USA*);

09:00 Plasmons and DNA: Label-free Sensing and Nanoscale Actuation (Part 1)
Naomi J. Halas (*Rice University, USA*);

09:20 Plasmons and DNA: Label-free Sensing and Nanoscale Actuation (Part 2)
Naomi J. Halas (*Rice University, USA*);

09:40 Optical Spectroscopy of Conductive Molecular Junctions in Plasmonic Cavities
Javier Aizpurua (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *O. Pérez-González* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *N. Zabala* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *A. Borisov* (*Université Paris-Sud, France*); *Naomi J. Halas* (*Rice University, USA*); *Peter Nordlander* (*Rice University, USA*);

10:00 **Coffee Break**

10:20 Hybrid Plasmonic-dielectric Waveguide Platform for Biosensing and Fluorescence Detection
Björn Agnarsson (*University of Iceland, Iceland*); *Hamid Keshmiri* (*University of Iceland, Iceland*); *Kristjan Leosson* (*University of Iceland, Iceland*);

10:40 Plasmonic Modes of Gold Nano-particle Arrays on Thin Gold Films
Andreas Hohenau (*Karl-Franzens University, Austria*); *Joachim R. Krenn* (*Karl-Franzens-Universitaet Graz, Austria*);

11:00 Enhanced Optical Transmission and Improved Spatial Resolution Image through a Plasmon Film Lens with Roughness
Kung-Hau Ding (*Air Force Research Laboratory, USA*); *Jeremy Quinn Bagley* (*University of Washington, USA*); *Leung Tsang* (*University of Washington, USA*);

Session 1A8a
EM Interactions in Biomedical Engineering

Sunday AM, March 20, 2011

Room H

Organized by Mustapha Nadi

Chaired by Mustapha Nadi, Leeka Kheifets

08:00 Analyse of Dispersion of Ex Vivo Electric Properties Measurements of Female Breast Tissues between 1 MHz and 1 GHz
Nadi Mustapha (*Nancy University, France*); *Gagny Camille* (*Nancy University, France*); *Djilali Kourtiche* (*Nancy University, France*); *Patrice Roth* (*Nancy University, France*); *Pierre Schmitt* (*Nancy University, France*);

08:20 Thermographic Analysis of Swiss Albino Mice Exposed to 1.8 GHz GSM Frequency
Aliyu Danjuma Usman (*Universiti Putra Malaysia, Malaysia*); *Wan Fatinhamamah Wan Ahmad* (*Universiti Putra Malaysia, Malaysia*); *Mohd Zainal Abidin Ab Kadir* (*Universiti Putra Malaysia, Malaysia*); *Makhfudzah Mokhtar* (*Universiti Putra Malaysia, Malaysia*); *A. Rusnani* (*Universiti Teknologi Mara (UiTM) Pulau Pinang, Malaysia*);

08:40 Prenatal and Postnatal Cell-phone Exposure and Migraine and Other Headaches in Children
Madhuri Sudan (*University of California, Los Angeles (UCLA), USA*); *Leeka Kheifets* (*University of California, Los Angeles (UCLA), USA*); *Jorn Olsen* (*University of Aarhus, Denmark*);

09:00 FDTD Cell Size Study for SAR Evaluation for Human Head Exposure to Near EM Field
Hiroshi Shirai (*Chuo University, Japan*); *Jun Ohisa* (*Chuo University, Japan*);

09:20 Influence of a Dielectric Insert of High Permittivity on the Transmit Performance of a 300 MHz Multichannel MRI Loop Array
Mikhail Kozlov (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*);

09:40 Laser Surface Modification of Alloys for Reduced Heating in an MRI Environment
O. Benafan (*University of Central Florida, USA*); *S.-Y. Chen* (*University of Central Florida, USA*); *A. Kar* (*University of Central Florida, USA*); *Raj Vaidyanathan* (*University of Central Florida, USA*);

10:00 **Coffee Break**

10:20 Modeling Electromagnetic Interference in Medical Implants Exposed to Uniform Magnetic Fields
Juliano Katrib (*Nancy University, France*); *Mustapha Nadi* (*Nancy University, France*); *Pierre Schmitt* (*Nancy University, France*); *Djilali Kourtiche* (*Nancy University, France*); *Isabelle Magne* (*EDF, R&D, France*);

10:40 Electromagnetic Compatibility between Implantable Cardiac Pacemakers and RFID Systems: Experimental Set-up, Test Protocol and Preliminary Results
Eugenio Mattei (*Italian National Institute of Health (ISS), Italy*); *Giovanni Calcagnini* (*University of Roma La Sapienza, Italy*); *Federica Censi* (*Istituto Superiore di Sanita, Italy*); *Michele Triventi* (*Istituto Superiore di Sanita, Italy*); *Carla Desantis* (*"Sapienza" University of Rome, Italy*); *Pamela Menna* (*"Sapienza" University of Rome, Italy*); *Pietro Bartolini* (*Istituto Superiore di Sanita, Italy*);

Session 1A8b
EMC and Mitigation Techniques: Theory and Practice 1

Sunday AM, March 20, 2011

Room H

Organized by Fethi Choubani

Chaired by Fethi Choubani

11:00 Impedance Variation of an Equipment under Test in a GTEM Cell
David Pouhe (*Technical University Berlin, Germany*);

11:20 Design Optimisation to Reduce the Magnetic Fields Propagated from DC Light Rail Transit Systems
Ade Ogunsola (*Parsons Group International, UK*); *Andrea Mariscotti* (*University of Genoa, Italy*);

11:40 Noise Coupling Reduced by Using Non Uniform Transmission Lines for Power Bus Design in Active RF Circuits
Mohamed Boussalem (*SUPCOM, France*); *Fethi Choubani* (*SUPCOM, Tunisia*); *Jacques David* (*ENSEEIHT, France*); *Tan Hoa Vuong* (*ENSEEIHT, France*); *R. Crampagne* (*ENSEEIHT, France*);

Session 1A9
Poster Session 1

Sunday AM, March 20, 2011

9:00 AM - 12:00 AM

Room K

Chaired by Romain Corcolle

1 Experimental Dynamical Evolution of Impulse and Delta Pulses through Dispersive Vegetation in Remote Sensing Frequency Bands
Ana Vazquez Alejos (*University of Vigo, Spain*); *Luis Medina* (*New Mexico State University, USA*); *Muhammad Dawood* (*New Mexico State University, USA*); *Luis Rodríguez* (*New Mexico State University, USA*); *Paula Gómez* (*University of Vigo, Spain*);

2 A Concave-hexagonal Dual-band Antenna with Defected Ground Structure
Yuta Tahara (*Kansai University, Japan*); *Toshiaki Kitamura* (*Kansai University, Japan*);

3 Investigation on a Ladder-shaped Frequency Selective Surface for Dual-band Operation
Keisuke Morimoto (*Kansai University, Japan*); *Toshiaki Kitamura* (*Kansai University, Japan*); *Daigo Yonetsu* (*Kansai University, Japan*);

4 Study on a Quad-band Microstrip Bandpass Filter Using Quarter-wavelength Resonators
Shota Murata (*Kansai University, Japan*); *Toshiaki Kitamura* (*Kansai University, Japan*); *Yasushi Horii* (*Kansai University, Japan*);

5 Evaluation of a Planar Coil Model Using Shell Elements
Alejandro Ospina Vargas (*Laboratoire de Génie Eléctrique de Paris, France*); *Laurent Santandréa* (*Laboratoire de Génie Electrique de Paris, France*); *Yann Le Bihan* (*Université de Paris Sud XI, France*); *Claude Marchand* (*University Paris-Sud 11, France*);

6 Maxwell's Motor Equation and the Mechanical Power
Sara Liyuba Vesely (*I.T.B. — C.N.R., Italy*); *Alessandro Alberto Vesely* (*Via L. Anelli 13, Italy*); *C. A. Dolci* (*Liceo Einstein, Italy*);

7 Analysis of Light-beam Scattering from DWDD Disk with Control Layer under Considering Rear Process
Yuya Matsunami (*Kansai University, Japan*); *Toshiaki Kitamura* (*Kansai University, Japan*);

8 Electromagnetic Wave Propagating in Gyroelectric Slab in the Perpendicular Configuration
Hui Huang (*Beijing Jiaotong University, China*); *Bo Yi* (*State Key Laboratory of Millimeter Waves, China*); *Bo Huang* (*Peking University, China*);

9 A Simple Algorithm for Multiple Reflection of Rays from a Smooth Surface
Piero Bruscaglioni (*University of Florence, Italy*); *Andrea Ismaelli* (*University of Florence, Italy*);

10 Effects of Non-Sphericity of Scatterers on Polarization of Lidar Returns. Cases of Chebyshev Particles
Piero Bruscaglioni (*University of Florence, Italy*); *Andrea Mannoni* (*University of Florence, Italy*);

11 Three Dimensional FDTD Analysis of Near-field Optical Disk
Shingo Iwata (*Kansai University, Japan*); *Toshiaki Kitamura* (*Kansai University, Japan*);

12 Mapping Technique of Basic Magnetic Field in MR Tomography
Michal Hadinec (*Brno University of Techonology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

13 EMHD Effects Come through at Linear Moving Objects Analysis
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Zoltán Szabó* (*Brno University of Technology, Czech Republic*);

14 GPGPU Acceleration of the Finite-difference Time-domain Program
Hideaki Taniyama (*NTT Corporation, Japan*); *Takashi Shimokawabe* (*Tokyo Institute of Technology, Japan*); *Takayuki Aoki* (*Tokyo Institute of Technology, Japan*); *Masaya Notomi* (*NTT Corporation, Japan*);

15 Modelling of 3D Thin Regions in Magnetostatic NDT Using Overlapping Elements in Dual Formulations
Houda Zaidi (*Laboratoire de Génie Electrique de Paris, France*); *Laurent Santandréa* (*Laboratoire de Génie Electrique de Paris, France*); *Guillaume Krebs* (*University Paris-Sud 11, France*); *Yann Le Bihan* (*Université de Paris Sud XI, France*);

16 Design and Study of a Permanent Magnet Synchronous Motor for an Electric Compressor
M. Khanchoul (*University Paris-Sud 11, France*); *Guillaume Krebs* (*University Paris-Sud 11, France*); *Claude Marchand* (*University Paris-Sud 11, France*); *F. Alves* (*Phenix International, France*); *A. Battelier* (*VALEO Compressor, France*); *M. Roze* (*Phenix International, France*);

17 On Modeling the Near-field Coupling between an Electronic Device and a Transmission Line in the Presence of a Ground Plane
Elagiri-Ramalingam Rajkumar (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Abhishek Ramanujan* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Mohamed Bensetti* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Anne Louis* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*);

18 Full-wave Mode Analysis of Asymmetric Coupled Microstrip Structures: Particular Case of Quasi-symmetric Lines
Abdelhamid Khodja (*U.S.T.H.B University, Algeria*); *R. Touhami* (*U.S.T.H.B University, Algeria*); *Mustapha C. E. Yagoub* (*University of Ottawa, Canada*); *Henri Baudrand* (*ENSEEIHT, France*);

19 2D PIM Simulation Based on COMSOL
Xinbo Wang (*National Key Lab of Science & Technology on Space Microwave Technology, China*); *Wan-Zhao Cui* (*National Key Lab of Science & Technology on Space Microwave Technology, China*); *Jingyu Wang* (*Zhejiang University, China*); *Jingnan Pan* (*Zhejiang University, China*); *Xiaocheng Zheng* (*Zhejiang University, China*); *Jiangtao Huangfu* (*Zhejiang University, China*); *Li-Xin Ran* (*Zhejiang University, China*);

20 A Novel Approach for Modeling Diodes into FDTD Method
Hsin Hsiang Su (*National Sun Yat-Sen University, Taiwan*); *Chih-Wen Kuo* (*National Sun Yat-sen University, Taiwan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*);

21 Magnetic Susceptibility Modelling Using ANSYS
Karel Bartusek (*Brno University of Technology, Czech Republic*); *M. Cap* (*Brno University of Technology, Czech Republic*); *Petr Marcon* (*Brno University of Technology, Czech Republic*); *Jan Mikulka* (*Brno University of Technology, Czech Republic*);

22 Statistics of the Shielding Effectiveness of Metallic Enclosures
Jaume Benoit (*Blaise Pascal University, France*); *Pierre Bonnet* (*Blaise Pascal University, France*); *C. Chauvière* (*Université Blaise Pascal, France*); *Bernard Pecqueux* (*INRIA, France*);

23 Paradigm for Time Reversal Numerical Experiments in Reverberation Chamber: Focusing Fields and Mode Stirrers' Impact
Ibrahim EL Baba (*Blaise Pascal University, France*); *Sebastien Lallechere* (*Blaise Pascal University, France*); *Pierre Bonnet* (*Blaise Pascal University, France*);

24 Simulation of Defects in Photonic Band Gap Structures
Laurent Oyhenart (*UMR CNRS 5218, France*); *Valérie Vignéras* (*UMR CNRS 5218, France*);

25 Simulations of Eigenmodes and Dispersion Relations of 2D Magneto-photonic Crystals
Roman Antos (*Charles University, Czech Republic*); *Martin Veis* (*Charles University, Czech Republic*);

26 Using Functional Programming for the Parallelization of the Finite Element Method
Laurent Santandréa (*Laboratoire de Génie Electrique de Paris, France*);

27 Microstrip Ultra-Wide-Band Filter
Abdel-Fattah Sheta (*King Saud University, Saudi Arabia*); *Ibrahim Elshafiey* (*King Saud University, Saudi Arabia*);

28 Study on Electromagnetic Properties of Reinforced Concrete Construction Wall
Aphibul Pruksanubal (*King Mongkut's University of Technology North Bangkok, Thailand*);

29 Effect of Friction Layer Creep Deformation on Dynamic Behavior of Traveling Wave Rotary Ultrasonic Motor
Chao Chen (*Nanjing University of Aeronautics and Astronautics, China*); *Hua-Feng Li* (*Nanjing University of Aeronautics and Astronautics, China*); *Fan Li* (*Nanjing University of Aeronautics and Astronautics, China*); *Kang Yang* (*Nanjing University of Aeronautics and Astronautics, China*);

30 A Single Balanced Quadruple Subharmonical Mixer with a Compact IF Extraction
Yeong-Hsiang Chang (*National Cheng-Kung University, Taiwan*); *Wei-Chi Chien* (*National Cheng-Kung University, Taiwan*); *Chih-Ming Lin* (*National Cheng-Kung University, Taiwan*); *Chun-Chi Su* (*National Cheng-Kung University, Taiwan*); *Chia-Chin Hung* (*National Cheng-Kung University, Taiwan*); *Yeong-Her Wang* (*National Cheng-Kung University, Taiwan*);

31 Doorway State Mechanism with Electromagnetic Waves in the Optical Regime
Celia A. Sánchez-Pérez (*Universidad Nacional Autónoma de México, México*); *Karen Volke-Sepulveda* (*Universidad Nacional Autonoma de Mexico, Mexico*); *Jorge Flores* (*Universidad Nacional Autónoma de México, Mexico*);

32 A Hemi-directional Antenna Array Concept for Automotive Radar
Stein Arne Askeland (*Norwegian University of Science and Technology (NTNU), Norway*); *Tommaso Cella* (*Norwegian University of Science and Technology (NTNU), Norway*); *Jens Hjelmstad* (*Norwegian University of Science and Technology (NTNU), Norway*);

33 A Dual Polarization Bow-tie Slot Antenna for Broadband Communications
Chang-Ju Wu (*Jinwen University of Science and Technology, Taiwan*); *I-Fong Chen* (*Jinwen University of Science and Technology, Taiwan*); *Chia-Mei Peng* (*Jinwen University of Science and Technology, Taiwan, R.O.C.*);

34 Broadband Fractal Circular-monopole Antenna
Wen-Yi Tsai (*Jinwen University of Science and Technology, Taiwan, R.O.C.*); *I-Fong Chen* (*Jinwen University of Science and Technology, Taiwan*); *Chia-Mei Peng* (*Jinwen University of Science and Technology, Taiwan, R.O.C.*); *Pei-Cheng Hu* (*Jinwen University of Science and Technology, Taiwan, R.O.C.*); *Hsu-Hung Tung* (*Jinwen University of Science and Technology, Taiwan, R.O.C.*); *Hsuan-Chi Lin* (*Jinwen University of Science and Technology, Taiwan, R.O.C.*);

35 Characterization Under Probe of Integrated Antennas at Millimeter-wave Frequencies
Yan Fu (*IMEP-LAHC, France*); *Tan-Phu Vuong* (*Grenoble INP-Minatec, France*); *Laurent Dussopt* (*CEA, LETI, MINATEC, France*); *Fabien Ndagijimana* (*IMEP-LAHC, France*);

36 A Monopole Antenna with CPW-fed for Digital Video Broadcasting Applications
Mau-Phon Houng (*National Cheng-Kung University, Taiwan*); *Yu-Jen Chou* (*Nation University of Tainan, Taiwan*); *Ding-Bing Lin* (*National Taipei University of Technology, Taiwan, R.O.C.*); *I-Tseng Tang* (*National University of Tainan, Taiwan*);

37 Reflection Characteristics of Microstrip Base on Finite Element Method
Qi Liu (*Beijing Jiaotong University, China*); *Hui Huang* (*Beijing Jiaotong University, China*); *Xin Wang* (*Beijing Jiaotong University, China*);

38 Circularly Polarized Rectangular Microstrip Antenna Using Ring Slots on the Ground Plane
Jeung-Keun Park (*Kyungpook National University, Korea*); *Dang-Oh Kim* (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

39 Resonance of Rectangular Microstrip Patch over Ground Plane with Rectangular Aperture in the Presence of High-permittivity Dielectric Layer below the Aperture
Siham Benkouda (*University of Batna, Algeria*); *Tarek Fortaki* (*Université de Batna, Algeria*);

40 Tag Antennas Using Differentially-connected UC-PBG Elements
The-Nan Chang (*Tatung University, Taiwan*);

Session 1P1
Advances in Phase — Space Optics

Sunday PM, March 20, 2011

Room A

Organized by Jorge Ojeda-Castañeda

Chaired by Tatiana Alieva, Genaro Saavedra

13:00 Generalized Wigner Functions for Evanescent Waves
Jonathan C. Petruccelli (*Singapore-MIT Alliance for Research and Technology (SMART) Centre, Singapore*); *Se Baek Oh* (*MIT, USA*); *Lei Tian* (*Massachusetts Institute of Technology, USA*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*);

13:20 Generalized Wigner Functions in Classical Optics: Achieving Exact Conservation
Miguel A. Alonso (*University of Rochester, USA*); *Jonathan C. Petruccelli* (*SMART Centre, Singapore*);

13:40 Detailed Modified Iwasawa Decomposition of Ray Transformation Matrix and Its Applications
Tatiana Alieva (*Universidad Complutense de Madrid, Spain*);

14:00 Radon-Wigner Display Implemented by Spatial Light Modulators
Alejandro Cámara (*Universidad Complutense de Madrid, Spain*); *J. A. Rodrigo* (*Instituto de Optica (CSIC), Spain*); *Tatiana Alieva* (*Universidad Complutense de Madrid, Spain*); *Maria L. Calvo* (*Universidad Complutense de Madrid, Spain*);

14:20 Correlation Digital System Invariant to Position and Rotation
Josue Alvarez-Borrego (*Cicese, México*);

14:40 Orbital Angular Moment Density of Beam Given as a Superposition of Hermite-Laguerre-Gauss Functions
A. M. Caravaca Aguirre (*Universidad Complutense de Madrid, Spain*); *Tatiana Alieva* (*Universidad Complutense de Madrid, Spain*);

15:00 **Coffee Break**

15:20 Light Propagation in Tapered Optical Fibers: Spatial Light Confinement and Generation of Plasmonic Waves
Alexander Hartung (*Institute of Photonic Technology, Germany*); *Falk Wirth* (*Institute of Photonic Technology, Germany*); *Hartmut Bartelt* (*Institute of Photonic Technology, Germany*);

15:40 First-order Optical Systems: Radon-Wigner Transform Approach
Genaro Saavedra (*Universitat de València, Spain*); *Walter D. Furlan* (*Universitat de València, Spain*);

16:00 Wigner Based Analysis of Geometric Related Resolution Degradation and Geometric Super Resolution Configurations
Zeev Zalevsky (*Bar-Ilan University, Israel*);

16:20 Partially Coherent Ambiguity Functions for Depth-variant Point Spread Function Design
Roarke Horstmeyer (*MIT, USA*); *Se Baek Oh* (*MIT, USA*); *Otkrist Gupta* (*MIT, USA*); *Ramesh Raskar* (*MIT, USA*);

16:40 Complex Amplitude Filters for Extended Depth of Field
Jorge Ojeda-Castañeda (*University of Guanajuato, Mexico*); *Emmanuel Yepez-Vidal* (*University of Guanajuato, Mexico*); *Erick Ayala* (*University of Guanajuato, Mexico*);

17:00 Temporal Similarity for Short Pulses
Jorge Ojeda-Castañeda (*University of Guanajuato, Mexico*); *Cristina Margarita Gómez-Sarabia* (*University of Guanajuato, México*); *Helena E. López-Aviléz* (*University of Guanajuato, Mexico*);

17:20 Lens Arrays with Tunable Power and Variable Depth of Focus
Jorge Ojeda-Castañeda (*University of Guanajuato, Mexico*); *Cristina Margarita Gómez-Sarabia* (*University of Guanajuato, México*);

17:40 Conditions for Photon-particle Interactions
Tibor Berceli (*Budapest University of Technology and Economics, Hungary*);

Session 1P2a
Ionospheric Radio Propagation and Effects with Special Emphasis on the Mediterranean and North African Areas

Sunday PM, March 20, 2011

Room B

Organized by Bruno Zolesi, Ljiljana R. Cander

Chaired by Bruno Zolesi, Ljiljana R. Cander

13:00 The European COST (European Cooperation in Scientific and Technology) Actions: An Important Chance to Cooperate and to Grow for All the International Ionospheric Community
Bruno Zolesi (*Istituto Nazionale di Geofisica e Vulcanologia, Italy*); *Ljiljana R. Cander* (*STFC, UK*);

13:20 FORMOSAT/COSMIC foE Observations and IRI Model Predictions
Andrei V. Mikhailov (*Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Russia*); *Loredana Perrone* (*Istituto Nazionale di Geofisica e Vulcanologia, Italy*);

13:40 International Reference Ionosphere 2010 and Application to the Mediterranean and North African Areas
Dieter Bilitza (*George Mason University, USA*);

14:00 Investigation of Ionospheric Slab Thickness Behaviour over Cyprus during Minimum Solar Activity
Haris Haralambous (*Frederick University, Cyprus*);

14:20 A Study of Es Layer Characteristics over Cyprus
Photos Vryonides (*Frederick University, Cyprus*); *Lefteris Economou* (*Inter College, Cyprus*); *Haris Haralambous* (*Frederick University, Cyprus*);

14:40 Ionosphere Storms, Waves and Irregularities in Mediterranean Area
Ljiljana R. Cander (*STFC, UK*);

15:00 **Coffee Break**

15:20 Electromagnetic Ionospheric Anomalies Related to the Central Italy Earthquakes
Loredana Perrone (*Istituto Nazionale di Geofisica e Vulcanologia, Italy*); *L. Korsunova* (*Pushkov Institute of Terrestrial Magnetism, Russia*); *A. Mikhaylov* (*Pushkov Institute of Terrestrial Magnetism, Russia*);

Session 1P2b
Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging

Sunday PM, March 20, 2011

Room B

Organized by Ganquan Xie, Jianhua Li, Herng-Er Horng

Chaired by Akio Oota

15:40 Contact-less Concentration Measurements in Aqueous Glycine Solution Using Microwaves
Akio Oota (*Toyohashi University of Technology, Japan*); *Touru Katou* (*Toyohashi University of Technology, Japan*); *Tatsunori Uchida* (*Toyohashi University of Technology, Japan*); *Ryoji Inada* (*Toyohashi University of Technology, Japan*);

16:00 Integral Localized Approximation Description of v-th Order Bessel Beams in the Generalized Lorenz-Mie Theory and Applications to Optical Trapping
Leonardo André Ambrosio (*University of Campinas, Brazil*); *Hugo E. Hernandez-Figueroa* (*University of Campinas, Brazil*);

16:20 Genetic Algorithms Application for the Optimal Design of Magnetic Vagus Nerve Stimulator
Michal Chojnowski (*Warsaw University of Technology, Poland*); *Jacek Starzynski* (*Warsaw University of Technology, Poland*);

16:40 Near-field Radar for Prostate Cancer Detection: Principles and Clinical Evidence
C. Bellorofonte (*Columbus Clinic, Italy*); *Umberto Spagnolini* (*Politecnico di Milano, Italy*);

17:00 Optical Detection of Hepatitis in Liver Tissue Using Polarization Technique
Masroor Ikram (*Pakistan Institute of Engineering and Applied Sciences, Pakistan*); *M. Umair* (*Pakistan Institute of Engineering and Applied Sciences, Pakistan*); *A. Rahat* (*Pakistan Institute of Engineering and Applied Sciences, Pakistan*); *S. Ali* (*Pakistan Institute of Engineering and Applied Sciences, Pakistan*); *S. Firdous* (*Pakistan Institute of Engineering and Applied Sciences, Pakistan*);

Session 1P3
Metamaterials and Their Applications 2

Sunday PM, March 20, 2011
Room C
Organized by Yalin Lu
Chaired by Yalin Lu

13:00 Slow Light Phenomena in Stacked Metasurfaces
M. Aznabet (*Abdelmalek Essaadi University, Morocco*); *Miguel Navarro-Cia* (*University of Navarre, Spain*); *Miguel Beruete* (*University of Navarre, Spain*); *Francisco J. Falcone* (*University of Navarre, Spain*); *O. El Mrabet* (*Abdelmalek Essaadi University, Morocco*); *Mohammad Essaaidi* (*Abdelmalek Essaadi University, Morocco*); *Mario Sorolla* (*University of Navarre, Spain*);

13:20 Asymmetrical Stripline Based Method for the Electromagnetic Characterization of Metamaterials
Sandra Gómez (*Université Européenne de Bretagne, France*); *Alexis Chevalier* (*Université Européenne de Bretagne, France*); *Patrick Queffelec* (*Université Européenne de Bretagne, France*);

13:40 Dielectric-resonator-like Response of a Metamaterial Particle Composed of a Multi-layered CRLH Transmission Line
Yasushi Horii (*Kansai University, Japan*);

14:00 Design and Fabrication of Random Optical Surfaces by a Modified Speckle-based Method
Vincent Brissonneau (*Thalès Optronique S.A., France*); *L. Escoubas* (*Aix-Marseille University, France*); *G. Soriano* (*Aix-Marseille University, France*); *F. Flory* (*Aix-Marseille University, France*); *G. Maire* (*Aix-Marseille University, France*); *Gerard Berginc* (*THALES, France*);

14:20 Bifurcated Permittivity in a Field-dependent Metamaterial via Discharge Plasma Generation
Osamu Sakai (*Kyoto University, Japan*); *Satoshi Iio* (*Kyoto University, Japan*);

14:40 Anisotropic Composite Right/Left-handed Transmission Line Metamaterials with Ferrite Substrate
Tao Zhou (*Université de Lyon, France*); *Martine Le Berre* (*Université de Lyon, France*); *F. Calmon* (*Université de Lyon, France*); *Didier Vincent* (*Saint-Etienne University, France*); *F. Boukchiche* (*Saint-Etienne University, France*); *Beatrice Payet-Gervy* (*Saint-Etienne University, France*);

15:00 **Coffee Break**

15:20 A New Multi-ring SRR Type Metamaterial Design with Multiple Magnetic Resonances
Oznur Turkmen (*Middle East Technical University, Turkey*); *Evren Ekmekci* (*Middle East Technical University, Turkey*); *Gonul Turhan-Sayan* (*Middle East Technical University, Turkey*);

15:40 Additive Digital Assembly of Metamaterials
E. Rehmi Post (*MIT Center for Bits and Atoms, USA*); *David Cranor* (*MIT Center for Bits and Atoms, USA*); *Maxim Lobovsky* (*MIT Center for Bits and Atoms, USA*); *Jonathan Ward* (*MIT Center for Bits and Atoms, USA*); *Neil Gershenfeld* (*Massachusetts Institute of Technology, USA*);

16:00 VLSI Photonics Using Plasmonic Wires and Rings
El-Hang Lee (*INHA University, South Korea*);

16:20 From Millimeter-waves to Terahertz Metamaterials by Stacking Frequency Selective Surfaces
Miguel Navarro-Cia (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Mariam Aznabet* (*Abdelmalek Essaadi University, Morocco*); *Sergei A. Kuznetsov* (*Novosibirsk State University, Russia*); *Francisco J. Falcone* (*Universidad Pública de Navarra, Spain*); *Mario Sorolla* (*Universidad Publica de Navarra, Spain*);

16:40 Electric Field Thermography for Metamaterial Characterization
Thomas Crépin (*ONERA — The French Aerospace Lab, France*); *F. Issac* (*ONERA — The French Aerospace Lab, France*); *Sylvain Bolioli* (*ONERA — The French Aerospace Lab, France*); *D. Prost* (*ONERA — The French Aerospace Lab, France*);

Session 1P4a
Theoretical Issues and Experimental Constraints in Active Microwave Imaging

Sunday PM, March 20, 2011

Room D

Organized by Amélie Litman, Lorenzo Crocco

Chaired by Amélie Litman, Lorenzo Crocco

13:00 Experimental Choices and Measurements Accuracy: Their Influences on the Inversion Results
Jean-Michel Geffrin (*Universite Paul Cezanne Aix-Marseille III, France*); *C. Eyraud* (*Institut Fresnel, France*); *Amélie Litman* (*Universite Aix-Marseille, France*);

13:20 Compressive Sensing Strategies for Active Microwave Imaging
Giacomo Oliveri (*University of Trento, Italy*); *Lorenzo Poli* (*University of Trento, Italy*); *Matteo Carlin* (*University of Trento, Italy*); *Paolo Rocca* (*University of Trento, Italy*); *Andrea Massa* (*University of Trento, Italy*);

13:40 Microwave Imaging in Cluttered Media with an Ultrawideband Time Reversal-based Prototype
Lucio Bellomo (*Universit du Sud Toulon-Var, France*); *Marc Saillard* (*Universite du Sud Toulon-Var, France*); *Sebastien Pioch* (*Universite du Sud Toulon-Var, France*); *Kamal Belkebir* (*UMR CNRS 6133, France*); *P. C. Chaumet* (*UMR CNRS 6133, France*);

14:00 The Linear Sampling Method as a Focusing Strategy: Available Implicit Information and Hybrid Inversion Approaches
Lorenzo Crocco (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Ilaria Catapano* (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Martina Bevacqua* (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Loreto Di Donato* (*Mediterranea University of Reggio Calabria, Italy*); *Tommaso Isernia* (*Mediterranea University of Reggio Calabria, Italy*);

14:20 Fisher Information in Inverse Scattering
Mats Gustafsson (*Lund University, Sweden*); *Sven Nordebo* (*Linnaeus University, Sweden*);

14:40 Dielectric Permittivity Estimation via Localization of a Reference Target
Adriana Brancaccio (*Seconda Universita' di Napoli, Italy*); *Giovanni Leone* (*Seconda Universita' di Napoli, Italy*);

15:00 **Coffee Break**

15:20 Some Considerations on Embedded Microwave Imaging Systems
Lorenzo Crocco (*National Research Council, Italy*); *Amélie Litman* (*Institute Fresnel, France*);

Session 1P4b
Time Reversal Methods for Electromagnetic Applications

Sunday PM, March 20, 2011

Room D

Organized by Panagiotis Kosmas, Yifan Chen

Chaired by Panagiotis Kosmas

15:40 Time Reversal and Resonant Subwavelength Scaled Media: Beating the Diffraction Limit
Geoffroy Lerosey (*Universite Paris 7, France*); *Fabrice Lemoult* (*ESPCI Paris Tech., France*); *Abdelwaheb Ourir* (*ESPCI Paris Tech., France*); *Julien de Rosny* (*Universite Denis Diderot Paris 7, France*); *Arnaud Tourin* (*Universite Paris 7, France*); *Mathias Fink* (*Universite Denis Diderot Paris 7, France*);

16:00 A Time Reversal based Spatial Inverse Filter Exploiting Temporal Degrees of Freedom
Fabrice Lemoult (*ESPCI Paris Tech., France*); *Geoffroy Lerosey* (*ESPCI Paris Tech., France*); *Mathias Fink* (*ESPCI Paris Tech., France*);

16:20 Performance Assessment of DORT-based Methods for Microwave Breast Imaging
Panagiotis Kosmas (*King's College London, UK*); *Yifan Chen* (*Newcastle University, UK*);

Session 1P5
Remote Sensing

Sunday PM, March 20, 2011

Room E

Chaired by Paolo Pampaloni, Toshiyuki Shiozawa

13:00 Impact of Measurement System Characteristics on Advanced Sounder Information Content
Allen M. Larar (*NASA Langley Research Center, USA*); *Xu Liu* (*NASA Langley Research Center, USA*); *Daniel K. Zhou* (*NASA Langley Research Center, USA*);

13:20 Transmission and Total Reflection of Subhertz Electromagnetic Waves at the Earth-Atmosphere Interface
Toshiyuki Shiozawa (*Chubu University, Japan*);

13:40 Active Earth Observation from Unmanned Aerial System
Chin E. Lin (*National Cheng Kung University, Taiwan*); *Ying-Chi Huang* (*National Cheng Kung University, Taiwan*); *Ya-Hsien Lai* (*National Cheng Kung University, Taiwan*); *Yong-Lan Yeh* (*National Cheng Kung University, Taiwan*); *Chen-Chin Cheng* (*Industrial Technology Research Institute, Taiwan*); *Chin-Chung Nien* (*Industrial Technology Research Institute, Taiwan*);

14:00 Remote Sensing for Climate and Environmental Change
Diane L. Evans (*California Institute of Technology, USA*); *Duane E. Waliser* (*California Institute of Technology, USA*);

14:20 Undersampled Digitally Heterodyned SFGPR with Variable Sampling Frequency
Doroteo Adirosi (*Thales Alenia Space Italia, Italy*); *Giovanni Alberti* (*Consortium for Research on Advanced Remote Sensing Systems — CO.RI.S.T.A., Italy*); *Giovanni Galiero* (*Consortium for Research on Advanced Remote Sensing Systems — CO.RI.S.T.A., Italy*);

14:40 Advanced Tools for Leak Detection in the Urban Water Distribution Networks
Giancarlo Prisco (*SELEX Sistemi Integrati, Italy*); *Michele D'Urso* (*SELEX Sistemi Integrati, Italy*); *Gabriella Bernardi* (*University of Naples "Federico II", Italy*); *Angelo Leopardi* (*Università degli Studi di Cassino, Italy*); *Fulvio Schettino* (*Università degli Studi di Cassino, Italy*);

15:00 **Coffee Break**

15:20 Mapping Snow Cover with X-band Cosmo-Skymed SAR
Simone Pettinato (*Consiglio Nazionale delle Ricerche, Italy*); *Emanuele Santi* (*Consiglio Nazionale delle Ricerche, Italy*); *Marco Brogioni* (*Consiglio Nazionale delle Ricerche, Italy*); *Giovanni Macelloni* (*Consiglio Nazionale delle Ricerche, Italy*); *Simonetta Paloscia* (*CNR-IFAC, Italy*); *Paolo Pampaloni* (*CNR-IFAC, Italy*); *Chuan Xiong* (*Institute for Remote Sensing Applications, China*);

15:40 Neural Network Adaptive Algorithm Applied to High Resolution C-band SAR Images for Soil Moisture Retrieval in Bare and Vegetated Areas
Claudia Notarnicola (*Institute for Applied Remote Sensing, EURAC Research, Italy*); *Emanuele Santi* (*Consiglio Nazionale delle Ricerche, Italy*); *Marco Brogioni* (*Consiglio Nazionale delle Ricerche, Italy*); *Simonetta Paloscia* (*CNR-IFAC, Italy*); *Simone Pettinato* (*Consiglio Nazionale delle Ricerche, Italy*); *G. Preziosa* (*Dipartimento Interateneo di Fisica, Italy*); *Bartolomeo Ventura* (*Dipartimento Interateneo di Fisica, Italy*);

16:00 Forward Models and Retrieval of Soil Moisture of Radar Remote Sensing of Bare Soil at L Band Based on 3D Numerical Simulations of Maxwell Equations Using both Like Polarization and Cross Polarization
Xiaolan Xu (*University of Washington, USA*); *Tien-Hao Liao* (*University of Washington, USA*); *Leung Tsang* (*University of Washington, USA*); *Shaowu Huang* (*University of Washington, USA*); *Jian-Cheng Shi* (*University of California, USA*); *Kun-Shan Chen* (*National Central University, Taiwan*);

16:20 Using of Multi-angular Radiometric Measurements for Short Wind Wave Parameters Estimate
Michael N. Pospelov (*Space Research Institute, Russia*); *Alexey V. Kuzmin* (*Space Research Institute, Russia*); *Ilya N. Sadovsky* (*Vladimir State University, Russia*);

16:40 Performance Improvement of OFDM UWB Synthetic Aperture Radar
Ibrahim Elshafiey (*King Saud University, Saudi Arabia*); *A. Hossain* (*King Saud University, Saudi Arabia*); *Mohamed Elnamaky* (*King Saud University, Saudi Arabia*); *A. Mabrouk* (*International Islamic University, Malaysia*); *Majeed A. S. Alkanhal* (*King Saud University, Saudi Arabia*); *Abdel-Fattah Sheta* (*King Saud University, Saudi Arabia*); *A. Alsanie* (*King Saud University, Saudi Arabia*); *A. Alsuwailem* (*King Saud University, Saudi Arabia*);

17:00 Glacier Parameters Estimation and Snow Classification Integrated nterferometric and Polarimetric SAR
Zhen Li (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*); *Jianmin Zhou* (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*); *Ping Zhang* (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*); *Bangsen Tian* (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*); *Ding Shen* (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*);

17:20 Development of Circularly Polarized Synthetic Aperture Radar (CP-SAR) Onboard Small Satellite
Josaphat Tetuko Sri Sumantyo (*Chiba University, Japan*);

Session 1P6a
Advances in Nano-antennas

Sunday PM, March 20, 2011

Room F

Organized by Maciej Klemm

Chaired by Maciej Klemm, Ruth Oulton

13:00 Nano Particles, Wires and Helical Wires for Subwavelength Energy Transport
Ergun Simsek (*Bahcesehir University, Turkey*); *Can Boran Akdal* (*Bahcesehir University, Turkey*);

13:20 Optical Nanoantennas: Correlative Electron Beam and Optical Spectroscopies and Design of a Broadband Response
Stefan A. Maier (*Imperial College London, UK*); *Ai Leen Koh* (*Imperial College London, UK*); *Dave McComb* (*Imperial College London, UK*); *Joel Yang Kwang Wei* (*IMRE A*Star, Singapore*);

13:40 Directional Control of Field Enhancement by Two Strongly Coupled Nanoantennas
Andrea Locatelli (*Università degli Studi di Brescia, Italy*); *Costantino De Angelis* (*Universita degli Studi di Brescia, Italy*);

14:00 Spin-orbit Coupling of Light in Surface Plasmonic Cross Nano-antennas
Arthur C. T. Thijssen (*University of Bristol, UK*); *M. J. Cryan* (*H.H. Wills Physics Laboratory, UK*); *M. Klemm* (*H.H. Wills Physics Laboratory, UK*); *M. R. Dennis* (*University of Bristol, UK*); *J. B. Götte* (*University of Bristol, UK*); *J. G. Rarity* (*University of Bristol, UK*); *Jeremy L. O'Brien* (*University of Bristol, UK*); *R. Oulton* (*University of Bristol, UK*);

14:20 Coherent Excitation of Single Emitters with Optical Antennas and Ultrashort Laser Pulses
Xuewen Chen (*ETH Zurich, Switzerland*); *Amir Baradaran Ghasemi* (*Shahid Beheshti University, Iran*); *Vahid Sandoghdar* (*ETH Zurich, Switzerland*); *Mario Agio* (*ETH Zurich, Switzerland*);

14:40 Travelling-wave Directional Optical Nanoantennas Integrated with Plasmonic Waveguides
Maciej Klemm (*University of Bristol, UK*);

15:00 **Coffee Break**

15:20 Field-enhancement and Control in Optical Nanoantennas
Javier Aizpurua (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *Aitzol Garcia-Etxarri* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales, Spain*); *Nicolas Large* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales, Spain*); *Martin Schnell* (*CIC NanoGUNE CONSOLIDER, Spain*); *Martina Abb* (*University of Southampton, UK*); *Otto L. Muskens* (*University of Southampton, UK*); *Rainer Hillenbrand* (*CIC NanoGUNE CONSOLIDER, Spain*);

15:40 Controlling Light with Nanoantennas
Alexis Devilez (*Domaine Universitaire de Saint Jérôme, France*); *Brice Rolly* (*Domaine Universitaire de Saint Jérôme, France*); *Sebastien Bidault* (*UMR 7587 ESPCI ParisTech, France*); *Brian Stout* (*Domaine Universitaire de Saint Jérôme, France*); *Nicolas Bonod* (*Domaine Universitaire de Saint Jérôme, France*);

Session 1P6b
Platform Effects and Mutual Coupling in Large Complex Array Systems

Sunday PM, March 20, 2011

Room F

Organized by Michele D'Urso, Christophe Craeye

Chaired by Michele D'Urso

16:00 Mutual Coupling in Large Complex ADS-based Arrays
Giacomo Oliveri (*University of Trento, Italy*); *Paolo Rocca* (*University of Trento, Italy*); *Andrea Massa* (*University of Trento, Italy*);

16:20 System Aspects of Mutual Coupling in Reconfigurable Active Phased Array
S. Celentano (*SELEX Sistemi Integrati, Italy*); *L. Infante* (*SELEX Sistemi Integrati, Italy*); *S. Sabatini* (*SELEX Sistemi Integrati, Italy*); *Maria Rosaria Toma* (*SELEX Sistemi Integrati, Italy*); *T. Johansson* (*SAAB Electronic Defence Systems, Sweden*);

16:40 Active Element Pattern in CP Array Synthesis Strategy
Gabriella Bernardi (*University of Naples "Federico II", Italy*); *Michele D'Urso* (*SELEX Sistemi Integrati S.p.A, Italy*); *Maurizio Felaco* (*SELEX Sistemi Integrati S.p.A, Italy*); *Ettore Flavio Meliado* (*SELEX S.I., Italy*);

17:00 Platform Effect in Circular Arrays with Polarization Diversity
Remi Sarkis (*Université Catholique de Louvain, Belgium*); *Christophe Craeye* (*Universite Catholique de Louvain, Belgium*);

17:20 On the Relationship between Finite and Infinite Arrays in the Context of Radiation and Scattering Problems
Shambhu Nath Jha (*Université Catholique de Louvain, Belgium*); *Nilufer Aslihan Ozdemir* (*Université Catholique de Louvain, Belgium*); *Christophe Craeye* (*Universite Catholique de Louvain, Belgium*);

Session 1P7
Novel Mathematical Methods in Electromagnetics

Sunday PM, March 20, 2011

Room G

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi, Yury V. Shestopalov

13:00 An Interpretation of Maxwell Equation by Using the Formalism of Gravitational Waves
Patrick Vaudon (*University of Limoges, France*);

13:20 Optical Soliton Perturbation with Full Nonlinearity in Non-Kerr Law Media
Anjan Biswas (*Delaware State University, USA*);

13:40 Low-frequency Electromagnetic Scattering by Two PEC Spheres Buried in Conductive Medium
Panayiotis Vafeas (*University of Patras, Greece*); *P. K. Papadopoulos* (*University of Patras, Greece*); *Dominique Lesselier* (*Laboratoire des Signaux et Systèmes, France*);

14:00 An Efficient Algorithm for the Analysis of a Nano Wire in Homogeneous or Layered Media
Ergun Simsek (*Bahcesehir University, Turkey*); *Jianguo Liu* (*Schlumberger-Doll Research, USA*); *Qing Huo Liu* (*Duke University, USA*);

14:20 Velocity Curl and Spin in Electromagnetic Fields
Zi-Hua Weng (*Xiamen University, China*);

14:40 Theorem for the Identity of the $\boldsymbol{L(c,n)}$ and $\hat{\boldsymbol{L}}(\hat{\boldsymbol{c}},\hat{\boldsymbol{n}})$ Numbers and Its Application in the Theory of Waveguides
Georgi Nikolov Georgiev (*University of Veliko Tirnovo "St. St. Cyril and Methodius", Bulgaria*); *Mariana Nikolova Georgieva-Grosse* (*Meterstrasse 4, Germany*);

15:00 **Coffee Break**

15:20 Electromagnetic Sources and Observers in Motion VI — New Motional Optics
Selwyn E. Wright (*ECASS Technologies Ltd., UK*);

15:40 Electromagnetic Sources and Observers in Motion V — A Revised Theory of Relativity
Selwyn E. Wright (*ECASS Technologies Ltd., UK*);

16:00 Generalized Eigenfunction Method and Resonances for Time-dependent Scattering
Michael Meylan (*University of Aucklan, New Zealand*);

16:20 General Vector Formulation for the EFIE and MFIE Applied to Arbitrary Sheets and Exact Expression for the Sum of Fields on Both Sides of a Flat Perfectly Conducting Sheet
Thierry Gilles (*Ecole Royale Militaire, Laboratoire d'Electromagnétisme Appliqué (LEMA), Belgium*); *Marc Piette* (*Ecole Royale Militaire, Laboratoire d'Electromagnétisme Appliqué (LEMA), Belgium*);

Session 1P8
EMC and Mitigation Techniques: Theory and Practice 2

Sunday PM, March 20, 2011

Room H

Organized by Fethi Choubani

Chaired by Fethi Choubani

13:00 Efficient Use of "White Spaces" in the UHF Band (470–862 MHz) Employing Genetic Algorithms
Nicolas C. Capsalis (*National Technical University of Athens, Greece*); *Panayotis G. Kottis* (*National Technical University of Athens, Greece*);

13:20 A Planar Parabolic Patch Antenna for UWB Applications
Mohamed Hayouni (*University 7th November at Carthage, Tunisia*); *Nabil Dakhli* (*University 7th November at Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*); *Tan Hoa Vuong* (*ENSEEIHT, France*); *Jacques David* (*ENSEEIHT, France*);

13:40 A Novel Compact Ultra-wideband Rectangular Shaped Antenna
Mohamed Hayouni (*University 7th November at Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*); *Mohsen Denden* (*University 7th November at Carthage, Tunisia*); *Tan Hoa Vuong* (*University of Toulouse, France*); *Jacques David* (*University of Toulouse, France*);

14:00 A Novel Printed Circular Antenna for Ultra Wideband Applications
Mohamed Hayouni (*University 7th November at Carthage, Tunisia*); *Mohsen Denden* (*University 7th November at Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*); *Tan Hoa Vuong* (*University of Toulouse, France*); *Jacques David* (*University of Toulouse, France*);

14:20 Circular Patch Antenna Directivity Enhanced by Left-handed Material Cavity
Mondher Labidi (*University 7th November at Carthage, Tunisia*); *Nabil Dakhli* (*Research Unit of Telecommunication Systems (6'Tel) at Sup'COM, Tunisia*); *Jamel Belhadj Tahar* (*University 7th November at Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*);

14:40 Coupled Non Uniform Transmission Lines: Modeling and Crosstalk Performances
Mnaouer Kachout (*University 7th November at Carthage, Tunisia*); *Jamel Bel Hadj Tahar* (*University of 7 November of Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*);

15:00 **Coffee Break**

15:20 Design of Non Uniform Meander Line Antennas for Passive RFID Tags in the UHF Band
Karim Bentaher (*University 7 Novembre of Carthage, Tunisia*); *Fethi Choubani* (*University 7th November at Carthage, Tunisia*); *Tan Hoa Vuong* (*University of Toulouse, France*); *Jacques David* (*University of Toulouse, France*);

15:40 Design of Composite Electromagnetic Wave Absorber Made of Fine Spherical Metal Particles Dispersed in Polystyrene Resin
Yang Guan (*Doshisha University, Japan*); *Kenji Sakai* (*Doshisha University, Japan*); *Yuuki Sato* (*Doshisha University, Japan*); *Shinzo Yoshikado* (*Doshisha University, Japan*);

16:00 Identifying EMC Interference Sources of a Microwave Transmission Module in Order to Locate Them
Philippe Descamps (*NXP Semiconductors and Laboratoire de Microelectronique ENSI Caen-NXP (LAMIPS), France*); *Grace Ngamani Njomkoue* (*Technical Unit Radio Frequency (TU-RF), Technology & Innovation (REIRI-Y), France*); *Daniel Pasquet* (*UMR 6508 CNRS, France*); *C. Tolant* (*Technical Unit Radio Frequency (TU-RF), Technology & Innovation (REIRI-Y), France*); *Dominique Lesénéchal* (*UMR 6508 CNRS, France*); *Philippe Eudeline* (*Technical Unit Radio-Frequency (TU-RF), Technology and Innovation (REIRI-Y), France*);

16:20 Low Frequency Monopole-like Small Metamaterial Antenna
Nabil Dakhli (*Research Unit of Telecommunication Systems (6'Tel) at Sup'COM, Tunisia*); *Mohamed Hayouni* (*Research Unit of Telecommunication Systems (6'Tel) at Sup'COM, Tunisia*); *Fethi Choubani* (*Research Unit of Telecommunication Systems (6'Tel) at Sup'COM, Tunisia*); *Jacques David* (*ENSEEIHT, France*);

17:00 Accurate Approximation of Error Probability for Two Types of Adaptive Antenna-based Receivers over Fading Channels
Rim Haddad (*High School of Communication of Tunis, Tunisia*); *Ridha Bouallègue* (*High School of Communication of Tunis, Tunisia*);

17:20 Optimization of a Patch Antenna Performances Using a Left Handed Metamaterial
Akram Boubakri (*University of 7 November of Carthage, Tunisia*); *Jamel Bel Hadj Tahar* (*University of 7 November of Carthage, Tunisia*);

17:40 Simulation and Measurement Techniques to Estimate the High Power Electromagnetic Coupling into Small Casings
Florian Brauer (*Hamburg University of Technology (TUHH), Germany*); *Tobias Dyballa* (*Hamburg University of Technology (TUHH), Germany*); *Jan Luiken Ter Haseborg* (*Hamburg University of Technology (TUHH), Germany*);

16:40 Matching Technique Design for Multi-fed Full Wave Dipole Antenna
Yahya S. H. Khraisat (*Al-Balqa Applied University/Al-Huson University College, Jordan*); *Khedher A. Hmood* (*Universiti Sains Malaysia, Malaysia*); *Anwar Al-Mofleh* (*Universiti Sains Malaysia, Malaysia*);

Session 1P9
Poster Session 2

Sunday PM, March 20, 2011
14:00 PM - 17:00 PM
Room K
Chaired by Mohamed Hicham Belyamoun

1 Global Maps of TEC and Conditions of Radio Wave Propagation in the Mediterranean Area
Olga A. Maltseva (*Southern Federal University, Russia*); *N. S. Mozhaeva* (*Southern Federal University, Russia*); *G. M. Glebova* (*Southern Federal University, Russia*);

2 Analysing the Attenuation at Mobile Phone Bands Provided by Vegetation Supported by Lattice Structures
Paula Gómez (*University of Vigo, Spain*); *Inigo Cuinas* (*University of Vigo, Spain*); *Ana Vazquez Alejos* (*University of Vigo, Spain*);

3 GPS-Galileo Antenna with Circular Polarization
Marcio Silva Pimenta (*Université de Nice-Sophia Antipolis, France*); *Fabien Ferrero* (*University of Nice Sophia Antipolis, France*); *Jean-Marc Ribero* (*University of Nice Sophia Antipolis, France*); *Robert Staraj* (*University of Nice Sophia Antipolis, France*);

4 Microstrip Antenna for Microwave Imaging Application
Shahid Adnan (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Hmeda I. Hraga* (*University of Bradford, UK*); *Issa T. E. Elfergani* (*University of Bradford, UK*); *J. M. Noras* (*University of Bradford, UK*); *R. Halliwell* (*University of Bradford, UK*);

5 Propagation Characteristics of 24 GHz Frequency Band for Automotive Collision Avoidance Radar
Deock-Ho Ha (*Pukyong National University, Korea*); *Yeon-Wook Choe* (*Pukyong National University, Korea*); *Jee-Youl Ryu* (*Pukyong National University, Korea*); *Sung-Un Kim* (*Pukyong National University, Korea*);

6 Swept Versus Real-time Spectrum Analyzer Ability to Accurately Asses Electromagnetic Exposure due to Wireless Communications Signals in the Environment: An Analysis
Paul Bechet (*Land Forces Academy, Romania*); *Simona Miclaus* (*Land Forces Academy, Romania*);

7 A Compact Dual-band Reconfigurable Frequency Selective Reflectors for Pattern Diversity Antenna Application
Chih-Hsiang Ko (*National Chiao Tung University, Taiwan*); *I-Young Tarn* (*National Chiao Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chiao Tung University, Taiwan, R.O.C.*);

8 Frequency Tuned Planar Inverted F Antenna with L Shaped Slit Design for Wide Frequency Range
Issa T. E. Elfergani (*University of Bradford, UK*); *Abubakar Sadiq Hussaini* (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Chan H. See* (*University of Bradford, UK*); *Musa M. Abusitta* (*University of Bradford, UK*); *Hmeda I. Hraga* (*University of Bradford, UK*); *A. G. Alhaddad* (*University of Bradford, UK*); *Jonathan Rodriguez* (*Instituto de Telecomunicações, Portugal*);

9 Beam Steering of Time Modulated Antenna Arrays Using Particle Swarm Optimization
Musa M. Abusitta (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Issa T. E. Elfergani* (*University of Bradford, UK*); *A. D. Adebola* (*University of Bradford, UK*); *Peter S. Excell* (*Glyndwr University, UK*);

10 The Compact Design of Dual-band and Wideband Planar Inverted F-L-antennas for WLAN and UWB Applications
Hmeda I. Hraga (*University of Bradford, UK*); *Chan H. See* (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Shahid Adnan* (*University of Bradford, UK*); *Issa T. E. Elfergani* (*University of Bradford, UK*); *F. Elmegri* (*University of Bradford, UK*);

11 The Application in Spacecraft of High Temperature Superconducting Magnetic Energy Storage
Bo Yi (*Beijing Jiaotong University, China*); *Hui Huang* (*Beijing Jiaotong University, China*);

12 Comparison Study of Eddy Current Losses of Induction Motors Fed by SPWM and SVPWM Inverters
Jingjing Han (*Beijing Jiaotong University, China*); *Ruifang Liu* (*Beijing Jiaotong University, China*); *Hui Huang* (*Beijing Jiaotong University, China*);

13 An Investigation into the Effects of the Location of via on Mushroom-like EBG Structure
Hsin Hsiang Su (*National Sun Yat-Sen University, Taiwan*); *Chih-Wen Kuo* (*National Sun Yat-Sen University, Taiwan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*);

14 Comparative Reliability Evaluation on TVS diode Made by Domestic Products and Foreign Advanced Products
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Chul-Hee Kim* (*Korea Electronics Technology Institute (KETI), Korea*); *Kwan-Hun Lee* (*Korea Electronics Technology Institute (KETI), Korea*); *Byeong-Jin Ma* (*Korea Electronics Technology Institute (KETI), Korea*);

15 Reliability Analysis of Low Noise Amplifier Using Radio Communication
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Chul-Hee Kim* (*Korea Electronics Technology Institute (KETI), Korea*); *Kwan-Hun Lee* (*Korea Electronics Technology Institute (KETI), Korea*);

16 Regulatory Analysis of the Intermodulation Interference between the PCS Receiver and the Low-power Radio Devices
Dang-Oh Kim (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

17 Tuning Microwave Devices and Systems
Mateusz Mazur (*Telemobile Electronics Ltd., Poland*); *Jerzy Julian Michalski* (*Telemobile Electronics Ltd., Poland*); *Jacek Gulgowski* (*Telemobile Electronics Ltd., Poland*); *Tomasz Kacmajor* (*Telemobile Electronics Ltd., Poland*);

18 Low Field Microwave Absorption in Ni-Zn Ferrite Nanoparticles in Different Aggregation States
Raúl Valenzuela (*Universidad Nacional Autónoma de México, Mexico*); *Souad Ammar* (*Université de Paris 7, France*); *Frédéric Herbst* (*Université de Paris 7, France*); *Raúl Ortega-Zempoalteca* (*Universidad Nacional Autónoma de México, Mexico*);

19 Micromachined Suspended Band-stop Resonator for Frequency Tuning
Yun-Ho Jang (*Seoul National University, South Korea*); *Ignacio Llamas-Garro* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*); *Zabdiel Brito-Brito* (*Instituto Politécnico Nacional, Mexico*); *Yong-Kweon Kim* (*Seoul National University, South Korea*); *Jung-Mu Kim* (*Chonbuk National University, South Korea*);

20 Statistical Characteristics of Region Propagation of Decametric Radiowaves in Time of Heliogeophysical Disturbanses
Nadezda P. Sergeenko (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Russian Academy of Sciences, Russia*); *M. V. Rogova* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowaves Propagation, Russian Academy of Sciences, Russia*);

21 Remote Pipeline Inspection with a Millimetre Wave SAR
Helmut Essen (*Fraunhofer FHR, Germany*); *Thorsten Brehm* (*Fraunhofer FHR, Germany*); *Carl Strübbe* (*P-Systems, Germany*);

22 Millimeter Wave Radar Network for Foreign Object Detection on Runways
Helmut Essen (*Fraunhofer FHR, Germany*); *Paul Warok* (*Fraunhofer FHR, Germany*); *Martin Schröder* (*Fraunhofer FHR, Germany*); *Rüdiger Zimmermann* (*Fraunhofer FHR, Germany*); *Wolfgang Koch* (*Fraunhofer FKIE, Germany*); *Marek Schikora* (*Fraunhofer FKIE, Germany*);

23 Soil Parameters Retrieval Using a Neural Network Algorithm Trained by a Two Layers Multi-scale Bidimensional SPM Model
Lilia Bennaceur Farah (*Ecole Nationale d Ingenieurs de Tunis, Tunisia*); *Ibtissem Hosni* (*Ecole Nationale d Ingenieurs de Tunis, Tunisia*); *Imed Riadh Farah* (*ENSI, Tunisia*); *Raouf Bennaceur* (*Faculte des Sciences de Tunis, Tunisia*); *M. R. Boussema* (*Ecole Nationale d'Ingenieurs de Tunis, Tunisia*);

24 Accuracy of Wind Field Deduced from Envisat WSM SAR Images along the Range
Paolo Trivero (*Piemonte Orientale "Amedeo Avogadro", Italy*); *Walter Biamino* (*Università del Piemonte Orientale "Amedeo Avogadro", Italy*); *Maria Borasi* (*Università del Piemonte Orientale "Amedeo Avogadro", Italy*); *Marco Cavagnero* (*Università del Piemonte Orientale "Amedeo Avogadro", Italy*);

25 Imaging Permittivity Measurements for Automated Material Inspection
Nadia Fatihi (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Sebastian Hantscher* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Jasmin Rubart* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Christian Krebs* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Dirk Nuessler* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Helmut Essen* (*Fraunhofer FHR, Germany*);

26 Combined Direct and Remote Sensing Measurements of Wave Parameters at the off-shore Research Platform in the Black Sea
Natalia Y. Komarova (*Space Research Institute, Russia*); *Francesco De Biasio* (*Istituto Scienze dell'Atmosfera e del Clima (ISAC), Italy*); *Alexander S. Kuznetsov* (*Marine Hydrophysical Institute, Ukraine*); *Michael N. Pospelov* (*Space Research Institute, Russia*); *Stefano Zecchetto* (*Istituto Scienze dell'Atmosfera e del Clima (ISAC), Italy*);

27 Geophysical Parameter Retrieval Algorithm for CrIS and Testing Results
Daniel K. Zhou (*NASA Langley Research Center, USA*); *Xu Liu* (*NASA Langley Research Center, USA*); *Allen M. Larar* (*NASA Langley Research Center, USA*);

28 Hyperspectral Remote Sensing of Atmosphere and Surface Properties
Xu Liu (*NASA Langley Research Center, USA*); *Daniel K. Zhou* (*NASA Langley Research Center, USA*); *Allen M. Larar* (*NASA Langley Research Center, USA*); *Ping Yang* (*Texas A&M University, USA*);

29 RCS Simulations on Wet Corner Reflectors with SBR Code SIGRAY
Erich Kemptner (*Microwaves and Radar Institute, Germany*);

30 Design of Q-band Polarizer Having Excellent Polarity
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Bierng-Chearl Ahn* (*Chungbuk National University, Korea*);

31 Reconfigurable Amplifier for Wifi/Wimax Applications Using RF MEMS
Nerea Otegi (*University of the Basque Country, Spain*); *Aitziber Anakabe* (*University of the Basque Country (UPV/EHU), Spain*); *Joaquín Portilla* (*University of the Basque Country (UPV/EHU), Spain*); *Juan-Mari Collantes* (*University of the Basque Country, Spain*);

32 Design of Super-compact Multi-layered CRLH Transmission Lines Using the Latest Low-temperature Co-fired Ceramics (LTCC) Technology
Shinya Ueno (*Kansai University, Japan*); *Naohiro Inoue* (*Kansai University, Japan*); *Takuya Kaneko* (*Kansai University, Japan*); *Yasushi Horii* (*Kansai University, Japan*);

33 Study of Microwave Circuits Using the FDTD Method. Example of Multiconductor Transmission Lines Loaded by Diodes and Transistors Mesfet Modeled by Their Non-linear Equivalent Schemes
Amine Amharech (*Laboratoire LCEMINAS, France*); *Hassane Kabbaj* (*Laboratoire LCEMINAS, France*);

34 Optimum Design of Wave Absorber for Milli-meter Band Based on Alumina Ceramic Containing Carbon Black
Hikaru Terasaki (*Aoyama Gakuin University, Japan*); *Takenori Yasuzumi* (*Aoyama Gakuin University, Japan*); *Y. Maeda* (*Wicera Co., Ltd., Japan*); *M. Uno* (*Wicera Co., Ltd., Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

35 Lowpass and Bandstop Filters Using CSRRs and SRRs in Finline Configurations
Alicia Casanueva Lopez (*Universidad de Cantabria, Spain*); *Alain León* (*Instituto Superior Politécnico José Antonio Echeverría, CUJAE, Cuba*); *J. Herrero* (*Estacion Experimental de Aula Dei (EEAD), Spain*); *Angel Mediavilla* (*University of Cantabria, Spain*); *Abdelwahed Tribak* (*University of Cantabria, Spain*); *J. Cagigas* (*Universidad de Cantabria, Spain*);

36 Development of THz Coherent Sources Using Quantum Cascade Lasers
Shoichi Shiba (*The University of Tokyo, Japan*); *N. Sekine* (*National Institute of Information and Communications Technology, Japan*); *Y. Irimajiri* (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*); *T. Koyama* (*National Institute of Information and Communications Technology, Japan*); *H. Maezawa* (*Nagoya University, Japan*); *S. Yamamoto* (*The University of Tokyo, Japan*);

37 Modeling by FDTD of Some Optical Properties of Photonic Crystals Based on a Nanocomposite of Silver in TiO_2
Amel Labbani (*Mentouri University of Constantine, Algeria*); *Abdelmadjid Benghalia* (*Mentouri University of Constantine, Algeria*);

38 Materials Adsorption Characterization by Random Coherent Electromagnetic Waves
C. I. Cabello (*CINDECA-CONICET La Plata-UNLP, Argentina*); *G. Bertolini* (*CINDECA-CONICET La Plata-UNLP, Argentina*); *M. J. González* (*CEQUINOR-CONICET La Plata-UNLP, Argentina*); *I. L. Botto* (*CEQUINOR-CONICET La Plata-UNLP, Argentina*); *R. Arizaga* (*Universidad Nacional de La Plata, Argentina*); *Marcelo Trivi* (*Universidad Nacional de La Plata, Argentina*);

39 A Proposal for a Low-cost TO-can 25-Gb/s Laser Diode Package
Tien-Tsorng Shih (*National Kaohsiung University of Applied Sciences, Taiwan*); *Pei-Hao Tseng* (*National Sun Yat-sen University, Taiwan*); *Yung-Yu Lai* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Yaw-Dong Wu* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Wood-Hi Cheng* (*National Sun Yat-sen University, Taiwan*);

40 Light Coupling from Optical Fiber to Silicon Nanowaveguide Using Si-SiO_2 Dielectric Metamaterial Structure
Shinmo An (*Inha University, Republic of Korea*); *Beom-Hoan O* (*Inha University, Korea*); *Seung-Gol Lee* (*Inha University, Korea*); *Se-Geun Park* (*Inha University, Korea*); *El-Hang Lee* (*Inha University, Korea*);

Session 2A1
Instabilities and Solitons in Nonlinear Photonics: Part 1

Monday AM, March 21, 2011

Room A

Organized by Mustapha Tlidi, Majid Taki

Chaired by Mustapha Tlidi, Majid Taki

08:20 Difference Differential Equations for a Resonator with a Very Thin Nonlinear Medium
Luigi A. Lugiato (*Universita dell'Insubria, Italy*); *Franco Prati* (*Università dell'Insubria, Italy*);

08:40 One-dimensional Wave Turbulence in Framework of Generalized Nonlinear Schrodinger Equation
Dmitry Agafontsev (*Lebedev Institute of Physics, Russia*); *V. Zakharov* (*University of Arizona, USA*);

09:00 Finite-size Effects and Information Capacity of Cavity Solitons
Gregory Kozyreff (*Universite Libre de Bruxelles, Belgium*); *Lendert Gelens* (*Vrije Universiteit Brussels (VUB), Belgium*);

09:20 Logical Operations Using Cavity Solitons
Damia Gomila (*Campus Universitat Illes Balears, Spain*); *Adrian Jacobo* (*Campus Universitat Illes Balears, Spain*); *Manuel A. Matias* (*Campus Universitat Illes Balears, Spain*); *Pere Colet* (*Campus Universitat Illes Balears, Spain*);

09:40 Control and Managing of Optical Localized States and Spatial Solitons in Liquid Crystal Light-valves
Stefania Residori (*Université de Nice Sophia-Antipolis, France*); *U. Bortolozzo* (*Université de Nice Sophia-Antipolis, France*); *F. Haudin* (*Université de Nice Sophia-Antipolis, France*); *R. Rojas* (*Pontificia Universidad Catolica de Valparaiso, Chile*); *Marcel G. Clerc* (*Universidad de Chile, Chile*); *A. Piccardi* (*University "Roma Tre", Italy*); *A. Alberucci* (*University, Italy*); *Gaetano Assanto* (*University "Roma Tre", Italy*);

10:00 **Coffee Break**

10:20 Spatio-temporal Characteristics of Spatial Solitons in Molecular Reorientational Kerr Media with Sharp Raman Resonance
Herve Maillotte (*Université de Franche-Comté, France*); *Gil Fanjoux* (*Université de Franche-Comté, France*); *J. Michaud* (*Université de Franche-Comté, France*); *Michael Delque* (*Université de Franche-Comté, France*); *Thibaut Sylvestre* (*Université de Franche-Comté (UFC), France*);

10:40 Experimental Solitons and Fronts in a Transverse One-dimensional Optical Kerr Cavity
Eric Louvergneaux (*Université Lille 1, France*); *Vincent Odent* (*Université Lille 1, France*); *Saliya Coulibaly* (*Universite des Sciences et Technologies de Lille, France*); *Pierre Glorieux* (*Université Lille 1, France*); *Majid Taki* (*Université Lille 1, France*);

11:00 The Dynamics of a Stabilized Nonlinear Fiber Ring Resonator: from CW Pumping to Synchronously Pumped Regime
Philippe Emplit (*Universite Libre de Bruxelles, Belgium*); *Stéphane Coen* (*The University of Auckland, New Zealand*); *François Leo* (*Universite Libre de Bruxelles, Belgium*); *Pascal Kockaert* (*Universite Libre de Bruxelles, Belgium*); *Simon-Pierre Gorza* (*Universite Libre de Bruxelles, Belgium*); *Majid Taki* (*Université des Sciences et Technologies de Lille 1, France*); *Arnaud Mussot* (*Université des Sciences et Technologies de Lille 1, France*); *Eric Louvergneaux* (*Université Lille 1, France*); *Marc Haelterman* (*Universite Libre de Bruxelles, Belgium*);

11:20 Optical Similaritons and Their Collisions inside Fiber Amplifiers
Govind P. Agrawal (*University of Rochester, USA*); *Sergey A. Ponomarenko* (*Dalhousie University, Canada*);

11:40 An Optical Instability Phenomena in The Optical Emission of InGaN Devices
Kotaro Oikawa (*Yokohama City University, Japan*); *Ruggero Micheletto* (*Yokohama City University, Japan*);

Session 2A2
Electromagnetic Modeling, Inversion and Applications

Monday AM, March 21, 2011

Room B

Organized by Ganquan Xie, Michael Oristaglio, Jianhua Li

08:20 Novel Analytic Method Based on Differential Geometry and Perturbation Theory for Electromagnetic Wave Problems
Morten Willatzen (*University of Southern Denmark, Denmark*);

08:40 1D Inversion of Multi-component and Multi-frequency Low-induction Number EM Device (PROMIS) for Near-surface Exploration
Cyril Schamper (*Université Pierre et Marie Curie, France*); *Fayçal Rejiba* (*Université Pierre et Marie Curie, France*);

09:00 3D Laser Imaging
Gerard Berginc (*Thales Optronique, France*); *Michel Jouffroy* (*Thales Optronique, France*);

09:20 A Hessian Based Numerical Convergence Analysis of a Dual-grid Tikhonov Regularized Gauss-Newton Reconstruction Approach to Electromagnetic Tomography
Naren Naik (*Indian Institute of Technology, India*); *Jerry Eriksson* (*Umea University, Sweden*);

10:00 **Coffee Break**

10:20 A Fully Automatic Model Predicting the Electromagnetic Radiations of High Frequency Electronic Devices
Abhishek Ramanujan (*ESIGELEC, France*); *Zoheir Riah* (*IRSEEM/ESIGELEC, France*); *Anne Louis* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Bélahcène Mazari* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*);

Session 2A3
Microwave/Terahertz Photonics Technologies and Their Applications

Monday AM, March 21, 2011

Room C

Organized by Katsumi Iwatsuki

Chaired by Katsumi Iwatsuki

08:20 Amplified Stimulated Terahertz Emission from Optically Pumped Graphene
Taiichi Otsuji (*Tohoku University, Japan*); *S. A. Boubanga Tombet* (*Tohoku University, Japan*); *Silvia Chan* (*University of Pennsylvania, USA*); *Takayuki Watanabe* (*Tohoku University, Japan*); *Akira Satou* (*The University of Aizu, Japan*); *Victor Ryzhii* (*The University of Aizu, Japan*);

08:40 Nano/micro Semiconductor Devices for Optical Communications
Redouane Katouf (*National Institute of Information and Communications Technology, Japan*); *Naoukatu Yamamoto* (*National Institute of Information and Communications Technology, Japan*); *Kouichi Akahane* (*National Institute of Information and Communications Technology, Japan*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology (NICT), Japan*);

09:00 Amplitude Modulation of Terahertz Quantum Cascade Laser by External Photon Injection with a Photon Energy above or below the Bandgap of Host Material
Iwao Hosako (*National Institute of Information and Communications Technology, Japan*); *Norihiko Sekine* (*National Institute of Information and Communications Technology, Japan*);

09:20 High-speed Electro-optic Modulation Devices for Coherent Systems
Tetsuya Kawanishi (*National Institute of Information and Communications Technology (NICT), Japan*);

09:40 Terahertz-wave Imaging Using Photonics-based Noise Source
Tadao Nagatsuma (*Osaka University, Japan*); *Takuto Kumashiro* (*Osaka University, Japan*);

10:00 **Coffee Break**

10:20 Recent R&D Trends in Broadband Optical Access System Technologies towards the Second-generation FTTH Era in Japan
Naoto Yoshimoto (*NTT Access Network Service Systems Laboratories, Japan*);

10:40 Ultra High-speed Optical OFDM for Future Broad-Band Applications
Ting Wang (*NEC Labs America, Inc., USA*);

11:00 A New Configuration of Broadband Wireless Access in Heterogeneous Ubiquitous Antenna and Its Experimental Investigation
Takeshi Higashino (*Osaka University, Japan*); *Kenji Miyamoto* (*Osaka University, Japan*); *Katsutoshi Tsukamoto* (*Osaka University, Japan*); *Shozo Komaki* (*Osaka University, Japan*); *Takayoshi Tashiro* (*NTT Access Network Service Systems Laboratories, Japan*); *Kazutaka Hara* (*NTT Access Network Service Systems Laboratories, Japan*); *Junichi Kani* (*NTT Access Network Service Systems Laboratories, Japan*); *Naoto Yoshimoto* (*NTT Access Network Service Systems Laboratories, Japan*); *Katsumi Iwatsuki* (*NTT Service Integration Laboratories, Japan*);

11:20 Radio Agents Technologies for Wireless-as-a-service Network
Katsutoshi Tsukamoto (*Osaka University, Japan*); *Takeshi Higashino* (*Osaka University, Japan*); *Shozo Komaki* (*Osaka University, Japan*);

11:40 Next Generation Free Space Optics System for Ubiquitous Communications
Pham Tien Dat (*Waseda University, Japan*); *Chedlia Ben Naila* (*Waseda University, Japan*); *Peng Liu* (*Waseda University, Japan*); *Kazuhiko Wakamori* (*Waseda University, Japan*); *Mitsuji Matsumoto* (*Waseda University, Japan*); *Katsutoshi Tsukamoto* (*Osaka University, Japan*);

Session 2A4
Electromagnetic Nondestructive Evaluation (NDE) 1

Monday AM, March 21, 2011

Room D

Organized by Lalita Udpa

Chaired by Satish S. Udpa, Antonello Tamburrino

08:00 Application of Volume-integrals to Nondestructive Evaluation: (1) Overview of the Method
Harold A. Sabbagh (*Victor Technologies, LLC, USA*); *R. Kim Murphy* (*Victor Technologies, LLC, USA*); *Elias H. Sabbagh* (*Victor Technologies, LLC, USA*); *John C. Aldrin* (*Computational Tools, USA*); *Jeremy Knopp* (*Air Force Research Laboratory, USA*); *Mark P. Blodgett* (*Air Force Research Laboratory, USA*);

08:20 Application of Volume-integrals to Nondestructive Evaluation: (2) The Forward Problem
Harold A. Sabbagh (*Victor Technologies, LLC, USA*); *R. Kim Murphy* (*Victor Technologies, LLC, USA*); *Elias H. Sabbagh* (*Victor Technologies, LLC, USA*); *John C. Aldrin* (*Computational Tools, USA*); *Jeremy Knopp* (*Air Force Research Laboratory, USA*); *Mark P. Blodgett* (*Air Force Research Laboratory, USA*);

08:40 Fast Imaging of Void Defects in Conductive Half-space
T. Henriksson (*University Paris Sud, France*); *M. Lambert* (*University Paris Sud, France*); *Dominique Lesselier* (*Laboratoire des Signaux et Systèmes, France*);

09:00 Semi-analytical Simulation of Eddy Current Testing Signals Due to Narrow Cracks Embedded in a Multi-layered Planar Medium
R. Miorelli (*CEA LIST, France*); *C. Reboud* (*CEA LIST, France*); *Dominique Lesselier* (*Laboratoire des Signaux et Systèmes, France*); *Theodoros Theodoulidis* (*University of Western Macedonia, Greece*);

09:20 Surface Impedance Boundary Conditions in Eddy Current NDT Models
Theodoros Theodoulidis (*University of Western Macedonia, Greece*);

09:40 Numerical Modeling of Crack in Ferromagnetic Material by Eddy Current Testing
Antonello Tamburrino (*Università di Cassino, Italy*); *S. Ventre* (*Università di Cassino, Italy*);

10:00 **Coffee Break**

10:20 Detection of Subsurface Defects in Multilayer Structures with Steel Fasteners
Guang Yang (*Michigan State University, USA*); *Zhiwei Zeng* (*Xiamen University, China*); *Y. Deng* (*University of Colorado Denver, USA*); *X. Liu* (*University of Colorado Denver, USA*); *Lalita Udpa* (*Michigan State University, USA*); *S. S. Udpa* (*Michigan State University, USA*);

10:40 Checking of Combustion Chamber of Rocket Using ECT with AMR Sensor
Dong Feng He (*National Institute for Materials Science, Japan*); *Mitsuharu Shiwa* (*National Institute for Materials Science, Japan*); *J. Takatsubo* (*Advanced Industrial Science and Technology, Japan*); *S. Moriya* (*Japan Aerospace Exploration Agency, Japan*);

11:00 Observation of Defects in Polymer and Composite Materials Using Terahertz Waves
Kaori Fukunaga (*National Institute of Information and Communications Technology, Japan*); *Maya Mizuno* (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*); *Masaki Suzuki* (*Takenaka Corporation, Japan*);

11:20 Magnetic Flux Leakage NDE Using Statistical Copulas
Ameet V. Joshi (*608 Strohm Road, Traverse City, USA*);

11:40 Detecting Material Change in Rectangular Cavities Using Neural Networks and Signal Processing Techniques
Matthew Pillar (*University of Waterloo, Canada*); *Omar M. Ramahi* (*University of Waterloo, Canada*);

Session 2A5
Emerging Strategies and Innovative Algorithms for the Solution of Inverse Scattering Problems 1

Monday AM, March 21, 2011

Room E

Organized by Andrea Massa, Andrea Francesco Morabito

Chaired by Andrea Massa, Andrea Francesco Morabito

08:00 Target Property Assessment without Inversion — Measurement Data Observations
Paul M. Meaney (*Dartmouth College, USA*); *Amir H. Golnabi* (*Dartmouth College, USA*); *Neil Epstein* (*Thayer School of Engineering, Dartmouth College, USA*); *Tomasz M. Grzegorczyk* (*Delpsi, LLC, USA*); *Shireen D. Geimer* (*Dartmouth College, USA*); *Keith D. Paulsen* (*Dartmouth College, USA*);

08:20 Estimation of Reinforcing Bars by Using Real GA with Discrete Chromosomes
Toshiyuki Tanaka (*Nagasaki University, Japan*); *Takahiro Matsuoka* (*Nagasaki University, Japan*); *Takashi Takenaka* (*Nagasaki University, Japan*); *Toshifumi Moriyama* (*Nagasaki University, Japan*);

08:40 Efficient Inverse Scattering Solutions Using the Distorted Born Iterative Method and the Multilevel Fast Multipole Algorithm on Regular Grids
Andrew J. Hesford (*University of Rochester, USA*); *Weng Cho Chew* (*University of Illinois, USA*);

09:00 Potentialities and Effectiveness of the IMSA-FBTS Strategy for the Solution of Inverse Scattering Problems
Giacomo Oliveri (*University of Trento, Italy*); *Federico Caramanica* (*University of Trento, Italy*); *Toshifumi Moriyama* (*Nagasaki University, Japan*); *Andrea Massa* (*University of Trento, Italy*); *Takashi Takenaka* (*Nagasaki University, Japan*);

09:20 On the Role and Exploitation of the Information in Inverse Scattering Problems
Massimo Donelli (*University of Trento, Italy*); *Giacomo Oliveri* (*University of Trento, Italy*); *Paolo Rocca* (*University of Trento, Italy*); *Andrea Massa* (*University of Trento, Italy*);

09:40 The Subspace-based Optimization Method in Reconstruction of Perfectly Electric Conductors
Xiuzhu Ye (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*);

10:00 **Coffee Break**

10:20 Microwave NDE of Brain Tissues: Exploiting Geometrical A-priori Information
Hervé Tortel (*Institute Fresnel, France*); *Amélie Litman* (*Institute Fresnel, France*); *M. Luong* (*CEA Saclay, France*); *G. Ferrand* (*CEA Saclay, France*); *A. France* (*CEA Saclay, France*);

10:40 Joint Petrophysical Inversion of Electromagnetic, Seismic and Gravity Data
Aria Abubakar (*Schlumberger-Doll Research, USA*); *Guozhong Gao* (*Schlumberger-Doll Research, USA*); *Tarek M. Habashy* (*Schlumberger-Doll Research, USA*);

11:00 The Linear Sampling Method as a Focusing Strategy: A Generalized Formulation Using Multipoles Expansion
Ilaria Catapano (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Lorenzo Crocco* (*Institute for Electromagnetic Sensing of Environment, National Research Council, Italy*); *Tommaso Isernia* (*Mediterranea University of Reggio Calabria, Italy*);

11:20 A Comparison of Focusing Algorithms for Ground Based SAR System
Caner Ozdemir (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*); *Sevket Demirci* (*Mersin University, Turkey*);

11:40 Imaging of Wide-angle Near-field Inverse Synthetic Aperture Radar Data Using Back-projection Algorithm
Sevket Demirci (*Mersin University, Turkey*); *Deniz Üstün* (*Mersin University, Turkey*); *Caner Ozdemir* (*Mersin University, Turkey*);

Session 2A6
Antenna and Array 1

Monday AM, March 21, 2011

Room F

Chaired by Jean-Marie Floch

08:00 A Quasi-static Theory for Dielectric-coated Thin-wire Antenna Structures
A. Ike Mowete (*University of Lagos, Nigeria*); *Ade Ogunsola* (*Parsons Group International, UK*); *Leonardo Sandrolini* (*University of Bologna, Italy*);

08:20 Novel Symmetrical EH-horn Antennas Based on EBG Technology
Irina Khromova (*Public University of Navarra, Spain*); *Inigo Ederra* (*Public University of Navarra, Spain*); *Ramon Gonzalo* (*Universidad Publica de Navarra, Spain*);

08:40 Rain and Ka-band Antennas
Mos Kharadly (*The University of British Columbia, Canada*);

09:00 Compact and High Gain Array Using Printed Dipole Array with Reflector and Directors
Jean-Marie Floch (*IETR, France*); *Jean-Michel Denoual* (*IETR, France*);

09:20 Developments Low Cost Probe Compensated Cylindrical Near Field Measurement for Antenna Radiation Wave
Eko Tjipto Rahardjo (*University of Indonesia, Indonesia*); *Fitri Yuli Zulkifli* (*University of Indonesia, Indonesia*); *M. D. Firmansah* (*University of Indonesia, Indonesia*); *C. Apriono* (*University of Indonesia, Indonesia*);

09:40 A Circularly Polarized Microstrip Antenna Array with a Binomial Power Distribution
Nadeen R. Rishani (*American University of Beirut, Lebanon*); *Ali Halim Ramadan* (*American University of Beirut, Lebanon*); *Mohammed Al-Husseini* (*American University of Beirut, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*);

10:00 **Coffee Break**

10:20 Performance Characteristics of a Dual-sense Helical-beam Antenna
Sulaiman Adeniyi Adekola (*University of Lagos, Nigeria*); *A. Ike Mowete* (*University of Lagos, Nigeria*); *Ayotunde Abimbola Ayorinde* (*University of Lagos, Nigeria*);

10:40 Analytical Prediction of Feed Efficiency in Offset Gregorian Reflector Antennas with Non Planar Log-periodic Type Feeds
Dirk I. L. de Villiers (*University of Stellenbosch, South Africa*);

11:00 Study of Microstrip Patch Resonator Printed on Anisotropic Substrate Characterized by Permittivity and Permeability Tensors
Siham Benkouda (*University of Batna, Algeria*); *Tarek Fortaki* (*Université de Batna, Algeria*);

11:20 Design of Flat Gain UWB Tapered Slot Antenna for on-body Concealed Weapons Detections
Ali Atiah (*Manchester Metropolitan University, UK*); *Nick Bowring* (*Manchester Metropolitan University, UK*);

11:40 Surface Wave Enhancement Using HF Metamaterials
Luca Petrillo (*ONERA, France*); *Florent Jangal* (*ONERA, France*); *Muriel Darces* (*UPMC University Paris 06, France*); *Jean-Louis Montmagnon* (*UPMC University Paris 06, France*); *Marc Helier* (*UPMC University Paris 06, France*);

Session 2A7
Statics and Dynamics of Magnetic Nanostructures: Vortices and Nanomagnonics

Monday AM, March 21, 2011

Room G

Organized by Jean-Claude Serge Levy

Chaired by Jean-Claude Serge Levy

08:00 Spin-dynamics Simulations of Vortex Precession in 2-D Magnetic Dots
Philippe Depondt (*University of Paris 6, France*);

08:20 Probing GHz Dynamics of Double Vortex Metastable State in Circular Nanomagnet: Micromagnetic Simulations and Experiment
Farkhad G. Aliev (*Universidad Autonoma de Madrid, Spain*); *Dennis Dieleman* (*Universidad Autonoma de Madrid, Spain*); *Ahmad A. Awad* (*Universidad Autonoma de Madrid, Spain*);

08:40 The Effect of the Damping on the Stability of the In-plane Vortex State in 2D Magnetic Nanodots
Slawomir Mamica (*Adam Mickiewicz University, Poland*); *Jean-Claude Serge Levy* (*Université Paris 7, France*); *Philippe Depondt* (*Université Paris 6, France*); *Maciej Krawczyk* (*Adam Mickiewicz University, Poland*);

09:00 Consequences of Localization of Non-linear Effects in Magnetic Dots
Jean-Claude Serge Levy (*Université Paris Diderot and CNRS UMR 7162, France*);

09:20 Non-autonomous Dynamics of a Spin-torque Oscillator in a Wide Frequency Range: Fractional and Hysteretic Synchronization to External Periodic Signals
Sergei Urazhdin (*West Virginia University, USA*); *V. S. Tiberkevich* (*Oakland University, USA*); *Andrei N. Slavin* (*Oakland University, USA*);

09:40 Spin Waves in $[Co_x\ Pd_y]$ Multilayers and Layered Nanograins
Slawomir Mamica (*Adam Mickiewicz University, Poland*); *Maciej Krawczyk* (*Adam Mickiewicz University, Poland*); *Priyanka Manchanda* (*The LNM Institute of Information and Technology, India*); *Arti Kashyap* (*The LNM Institute of Information and Technology, India*); *Anjan Barman* (*S. N. Bose National Centre for Basic Sciences, India*);

10:00 **Coffee Break**

10:20 Electric Field Control of Surface Spin Waves
Robert L. Stamps (*University of Western Australia, Australia*); *V. Gunawan* (*University of Western Australia, Australia*); *K. Livesey* (*University of Western Australia, Australia*);

10:40 Switching of the Polarity of Vortices in Magnetic Nanodots by a Spin-polarized Electric Current
Franz G. Mertens (*University of Bayreuth, Germany*); *Denis D. Sheka* (*National Taras Shevchenko University of Kiev, Ukraine*); *V. P. Kravchuk* (*Institute for Theoretical Physics, Ukraine*); *Yu. B. Gaididei* (*Institute for Theoretical Physics, Ukraine*);

11:00 Effective Magnetic Parameters of One-dimensional Magnonic Crystals in the Long-wavelength Limit
Michał Mruczkiewicz (*Adam Mickiewicz University, Poland*); *Maciej Krawczyk* (*Adam Mickiewicz University, Poland*); *Jarosław W. Kłos* (*Adam Mickiewicz University, Poland*); *Mykhaylo L. Sokolovskyy* (*Adam Mickiewicz University, Poland*);

11:20 Investigation of Spin Dynamics in Planar Two-dimensional Magnonic Crystals Using the Plane Wave Method and Micromagnetic Simulations
Mykhaylo L. Sokolovskyy (*Adam Mickiewicz University, Poland*); *Maciej Krawczyk* (*Adam Mickiewicz University, Poland*); *M. O. Dvornik* (*University of Exeter, UK*); *Volodymyr V. Kruglyak* (*University of Exeter, UK*);

11:40 The Magnonic Spectra of Finite-thickness Slabs with Inclusions Forming 2D Lattices of Different Symmetry
Jarosław W. Kłos (*Adam Mickiewicz University, Poland*); *Mykhaylo L. Sokolovskyy* (*Adam Mickiewicz University, Poland*); *Javier Romero-Vivas* (*Adam Mickiewicz University, Poland*);

Session 2A8
Antenna Channel Interactions in Multipath Wireless Channels

Monday AM, March 21, 2011

Room H

Organized by Andres Alayon Glazunov

Chaired by Andres Alayon Glazunov

08:20 Evidence of Ducting Mode Electromagnetic Wave Propagation in the Indoor Environment
Alexandr Draganov (*Argon ST, USA*); *John Weinfield* (*Argon ST, USA*); *Lin Haas* (*Argon ST, USA*); *Marc Harlacher* (*Argon ST, USA*);

08:40 Some Examples of Uncorrelated Antenna Radiation Patterns for MIMO Applications
Andres Alayon Glazunov (*KTH, Royal Institute of Technology, Sweden*); *J. Zhang* (*University of Bedfordshire, UK*);

09:00 Clustering Impact on the Statistics of the Multipole Expansion Coefficients of a Wireless Channel
Andres Alayon Glazunov (*University of Bedfordshire, UK*); *J. Zhang* (*University of Bedfordshire, UK*);

10:00 **Coffee Break**

10:20 Space Diversity Evaluation in Millimeter Band Wireless Communication Systems
Mehran Atamanesh (*Sharif University of Technology, Iran*); *Forouhar Farzaneh* (*Sharif University of Technology, Iran*);

10:40 Antenna Height Compensation for an Indoor to Outdoor Channel Model Based on a 2D Finite Difference Model
Guillaume De La Roche (*University of Bedfordshire, UK*); *Dmitry Umansky* (*University of Lyon, France*); *Z. Lai* (*University of Bedfordshire, UK*); *G. Villemaud* (*University of Lyon, France*); *Jean-Marie Gorce* (*University of Lyon, France*); *Jie Zhang* (*University of Bedfordshire, UK*);

11:00 Angle of Arrival and Doppler Spectrum in the Presence of Generalized Two-dimensional Anisotropic Scattering
Petros Karadimas (*University of Bedfordshire, UK*); *Jie Zhang* (*University of Bedfordshire, UK*);

11:20 A New Approach for Measurements of Signal Level Contents in a Real Wireless System in the City of Curitiba, Brazil
Horacio Tertuliano Filho (*Federal University of Parana, Brazil*); *G. D. Patriota* (*Federal University of Parana, Brazil*); *C. Alves* (*Federal University of Parana, Brazil*); *J. Carvalho* (*Federal University of Parana, Brazil*); *W. H. Fiorese* (*Federal University of Parana, Brazil*); *Ricardo Schumacher* (*Federal University of Parana, Brazil*); *C. A. Dartora* (*Universidade Federal do Paraná, Brazil*); *J. R. Descardeci* (*Federal University of Tocantins, Brazil*);

Session 2A9
Poster Session 3

Monday AM, March 21, 2011
9:00 AM - 12:00 AM
Room K
Chaired by Olivier Dubrunfaut

1 All-optical Technique to Measure the Pyroelectric Coefficient in Electro-optic Crystals
Jacopo Parravicini (*University dell'Aquila, Italy*); *Jassem Safioui* (*Universite de Franche-Comte, France*); *Mathieu Chauvet* (*Universite de Franche-Comte, France*); *Paolo Minzioni* (*University of Pavia, Italy*); *Vittorio Degiorgio* (*University of Pavia, Italy*);

2 Design of Lightning Systems with Usage Sensitivity Analysis for Improvement of Numerical Model
T. Kriz (*Brno University of Technology, Czech Republic*);

3 Microwave Photonic Signal Processing with Multiple Sagnac Loop Structures
Xudong Wang (*University of Sydney, Australia*); *Erwin Chan* (*University of Sydney, Australia*); *Robert A. Minasian* (*University of Sydney, Australia*);

4 Inhabitation of Proinflammatory Cytokine Release from Microglia Cells Using Static Magnetic Field
Che-Tong Lin (*Taipei Medical University, Taiwan*); *Po-Chieh Yang* (*Taipei Medical University, Taiwan*); *Chien-Wu Yeh* (*Cathay General Hospital, Taiwan*); *Shu-Li Lin* (*Cathay General Hospital, Taiwan*); *Jen-Chang Yang* (*Taipei Medical University, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

5 Development and Biocompatibility Tests of a Novel Paramagnetic Nano-membrane for Wound Dressing
Sheng-Wei Feng (*Taipei Medical University, Taiwan*); *Ya-Hui Chan* (*Taipei Medical University, Taiwan*); *Wan-Hong Lan* (*National Taiwan University, Taiwan*); *Yuh-Yuan Shiau* (*National Taiwan University, Taiwan*); *Che-Tong Lin* (*Taipei Medical University, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

6 Neurogenerative Effects of Static Magnetic Field on Neurite-elongation of NGF-induced PC12 Cells
Haw-Ming Huang (*Taipei Medical University, Taiwan*); *Chien-Wu Yeh* (*Cathay General Hospital, Taiwan*); *Shu-Li Lin* (*Cathay General Hospital, Taiwan*); *Yuh-Yuan Shiau* (*National Taiwan University, Taiwan*); *Wei-Jen Chang* (*Taipei Medical University, Taiwan*);

7 Static Magnetic Files Affect Fibroblast Cell Proliferation via Changing the Binding Capability of Growth Factors and Their Receptors
Sheng-Yang Lee (*Taipei Medical University, Taiwan*); *Kon-Shien Fan* (*En-Chu Kong Hospital, Taiwan*); *Yuh-Yuan Shiau* (*National Taiwan University, Taiwan*); *Wei-Jen Chang* (*Taipei Medical University, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

8 Static Magnetic Fields Affect Red Blood Cells in Cryopreservation
Chun-Yen Lin (*Taipei Medical University, Taiwan*); *Jen-Chang Yang* (*Taipei Medical University, Taiwan*); *Wei-Jen Chang* (*Taipei Medical University, Taiwan*); *Wan-Hong Lan* (*National Taiwan University, Taiwan*); *Sheng-Yang Lee* (*Taipei Medical University, Taiwan*); *Yung-Kai Huang* (*Taipei Medical University, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

9 Artifact Removal Algorithms for Microwave Imaging of the Breast
Martin O'Halloran (*National University of Ireland Galway, Ireland*); *Martin Glavin* (*National University of Ireland Galway, Ireland*); *Edward Jones* (*National University of Ireland Galway, Ireland*);

10 An Algorithm of Action Potential Duration Distribution with 3D Biventricular Heart Model
Elena Ryzhii (*University of Aizu, Japan*); *Maxim Ryzhii* (*University of Aizu, Japan*);

11 Influence of Weak Electromagnetic Fields on Cerebrovascular System of the Person
Yu. Ya. Varakin (*Scientific Center of Neurology RAMS, Russia*); *V. G. Ionova* (*Scientific Center of Neurology RAMS, Russia*); *G. V. Gornostaeva* (*Scientific Center of Neurology RAMS, Russia*); *Elena A. Sazanova* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation RAS, Russia*); *Nadezda P. Sergeenko* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Russian Academy of Sciences, Russia*);

12 Interpolation of 3D Magnetic Resonance Data
Jan Mikulka (*Brno University of Technology, Czech Republic*); *Eva Gescheidtová* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

13 Homogeneous Phantom Model vs. Visible Human Dataset: Impact on MRI-induced Heating of Metal Implants
Eugenio Mattei (*Italian National Institute of Health (ISS), Italy*); *Giovanni Calcagnini* (*University of Roma La Sapienza, Italy*); *Federica Censi* (*Istituto Superiore di Sanita, Italy*); *Michele Triventi* (*Istituto Superiore di Sanita, Italy*); *Pietro Bartolini* (*Istituto Superiore di Sanita, Italy*);

14 Design and Fabrication of Planar Magnetoinductive Resonator Arrays for MRI System Field Shaping
Petr Drexler (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Radek Kubasek* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

15 Measurement of Concentration and Mobility Spectrum of Air Ions in the Natural Environment
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*); *Zoltán Szabó* (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*);

16 Service Oriented Modular System for Modeling of the Human Body Stimulation
Robert Szmurlo (*Warsaw University of Technology, Poland*); *Bartosz Sawicki* (*Warsaw University of Technology, Poland*); *Jacek Starzynski* (*Warsaw University of Technology, Poland*); *Stanislaw Wincenciak* (*Warsaw University of Technology, Poland*);

17 White Light Reflexion near the Critical Angle for Refractive Index Dispersion Measurement
Celia Sánchez-Pérez (*Universidad Nacional Autonoma de Mexico, México*); *Augusto García-Valenzuela* (*Universidad Nacional Autónoma de México, México*);

18 Cryogenic Technique for Cancer Destroying Optimalization
Jan Hrozek (*Brno University of Technology, Czech Republic*); *Jan Mikulka* (*Brno University of Technology, Czech Republic*);

19 Image Reconstruction by EIT with Usage NMR
T. Kriz (*Brno University of Technology, Czech Republic*); *J. Dedkova* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

20 Utilization of Boundary Conditions in MR Image Reconstruction
K. Ostanina (*Brno University of Technology, Czech Republic*); *J. Dedkova* (*Brno University of Technology, Czech Republic*); *Tomáš Kriz* (*Brno University of Technology, Czech Republic*);

21 The Vagarious Dispersive Behavior in a Magnetically Uniaxial Metamaterial around the Plasma Frequency
Dexin Ye (*Zhejiang University, China*); *Shan Qiao* (*Zhejiang University City College, China*); *Jiangtao Huangfu* (*Zhejiang University, China*); *Li-Xin Ran* (*Zhejiang University, China*);

22 A Novel Preconditioner Based on CSL Operator for Solving the Helmholtz Equations
Yuehui Li (*University of Electronic Science and Technology of China, China*); *Zai-Ping Nie* (*University of Electronic Science and Technology of China, China*); *Xiang-Qian Zhang* (*University of Electronic Science and Technology of China, China*); *Xiang Yang Sun* (*University of Electronic Science and Technology of China, China*);

23 The Characteristics of 116 Ore Belt in the Shihu Gold Deposit of Western Hebei — Based on the EH-4, China
Liu Yang (*Central South University, China*); *Songling Chen* (*Central South University, China*); *Tagen Dai* (*Central South University, China*); *Haiyang Zou* (*Central South University, China*);

24 Application of EH4 in the Yuquanling Iron Deposit of Hebei, China
Liu Yang (*Central South University, China*); *Songling Chen* (*Central South University, China*); *Tagen Dai* (*Central South University, China*); *Haiyang Zou* (*Central South University, China*); *Chaozhuang Xi* (*Hunan Jinxin Gold Group Co., Ltd., China*);

25 Application of EH4 in the II Forecast Area of Yushiwa Iron Mine of Hanxing Area, China
Gaofeng Du (*Central South University, China*); *Tagen Dai* (*Central South University, China*); *Liu Yang* (*Central South University, China*);

26 Validity of Image Theorems under Spherical Geometry
Shaolin Liao (*Argonne National Laboratory, USA*); *Sasan Bakhtiari* (*Argonne National Laboratory, USA*); *Henry Soekmadji* (*Hamilton Sundstrand, USA*);

27 A Novel and Simple Analytical Method for Analysis of AMC and EBG Properties of Lossless Artificial Impedance Surfaces
Mohsen Fallah (*Iran University of Science and Technology (IUST), Iran*); *Farrokh Hojat Kashani* (*Iran University of Science and Technology (IUST), Iran*); *Seyed Hosein Mohseni Armaki* (*Iran University of Science and Technology (IUST), Iran*);

29 Investigation of the Metallic Cavity Influence on the Electromagnetic Behavior of the Setup Used in Studying the Ratchet Effect
Dina Medhat (*CNRS, France*); *Alexandru Takacs* (*University of Toulouse, France*); *Hervé Aubert* (*Centre National de la Recherche Scientifique (CNRS), France*); *Jean-Claude Portal* (*CNRS, France*);

30 Synthesis of Electromagnetic Sources by Reversed-TLM Method
Alina Ungureanu (*IMEP-LAHC, France*); *Tan-Phu Vuong* (*IMEP-LAHC, Grenoble INP, France*); *Fabien Ndagijimana* (*IMEP-ENSERG-INPG, France*);

31 Full Wave Analysis of Finite Uniform Metallic Grid FSS under Oblique Incidence Using Scale Changing Technique
Euloge Budet Tchikaya (*University of Toulouse, France*); *Farooq Ahmad Tahir* (*University of Toulouse, France*); *Hervé Aubert* (*CNRS; LAAS, France*);

32 A Study of the VLF Electric Field Spectra in Titan's Atmosphere Using TLM Method
Sergio Toledo-Redondo (*Universidad de Granada, Spain*); *Juan Antonio Morente* (*University of Granada, Spain*); *Alfonso Salinas* (*University of Granada, Spain*); *Jorge Andres Porti* (*University of Granada, Spain*); *E. A. Navarro* (*Universidad de Valencia, Spain*); *A. Méndez* (*Universidad de Granada, Spain*); *J. F. Fornieles* (*Universidad de Granada, Spain*);

33 Dielectric Properties of Semiconducting YBaCuO Thin Films for Future Uncooled THz Bolometers: Characterization Using a Coaxial-discontinuity Technique
Aurelie Gensbittel (*University Pierre et Marie Curie (UPMC), France*); *Alireza Banisadr* (*University Pierre et Marie Curie (UPMC), France*); *Olivier Dubrunfaut* (*University Pierre et Marie Curie (UPMC), France*); *Jean-Claude Badot* (*Chimie-Paris Tech., France*); *Alain Kreisler* (*University Pierre et Marie Curie (UPMC), France*); *Annick Degardin* (*University Pierre et Marie Curie (UPMC), France*);

34 Rapid Idea of Located Defects on Grounding Systems
Moussa Lefouili (*University of Jijel, Algeria*); *Kamal Kerroum* (*Blaise Pascal University, France*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*); *Vesna Arnautovski-Toseva* (*Ss. Cyril and Methodius University, Macedonia*);

35 Model to Predict Losses in the Permanent Magnets for Dynamic Applications
Zoubida Belli (*University of Jijel, Algérie*); *Ilhem Boutana* (*University of Jijel, Algeria*); *Mohamed Rachid Mekideche* (*University of Jijel, Algeria*);

36 Analytical Model of TeraHertz Frequency Voltage Noise in Schottky-barrier Diodes and Heterostructure Barrier Varactors
Fatima Zohra Mahi (*University of Bechar, Algeria*); *L. Varani* (*University Montpellier II, France*); *P. Shiktorov* (*Semiconductor Physics Institute, Lithuania*); *E. Starikov* (*Semiconductor Physics Institute, Lithuania*); *V. Gruzinskis* (*Semiconductor Physics Institute, Lithuania*);

37 Application of EH4 in the Zhayaoku Area of Fushan Iron Mine of Hebei, China
Gaofeng Du (*Central South University, China*); *Tagen Dai* (*Central South University, China*); *Liu Yang* (*Central South University, China*);

38 Terahertz Current and Voltage Noise in Nanometric Schottky-barrier Diodes
Abdelhhamid H. Mahi (*University of Bechar, Algeria*); *Fatima Zohra Mahi* (*University of Bechar, Algeria*); *L. Varani* (*University Montpellier II, France*);

39 A Set of New SDA Basis Functions with Strongly Decaying Properties
F. Z. Siabah (*University Mentouri, Algeria*); *M. Bouchaour* (*University Mentouri, Algeria*); *M. T. Benhabiles* (*University Mentouri, Algeria*); *Mohamed Lahdi Riabi* (*University Mentouri, Algeria*);

40 Novel FDTD Method with Low Numerical Dispersion and Anisotropy
Xiang-Qian Zhang (*University of Electronic Science and Technology of China, China*); *Zai-Ping Nie* (*University of Electronic Science and Technology of China, China*); *Mingyao Xia* (*Peking University, China*); *Shi-Wen Qu* (*University of Electronic Science and Technology of China, China*); *Yuehui Li* (*University of Electronic Science and Technology of China, China*);

Session 2P1
Instabilities and Solitons in Nonlinear Photonics: Part 2

Monday PM, March 21, 2011

Room A

Organized by Mustapha Tlidi, Andrei G. Vladimirov

Chaired by Mustapha Tlidi, Andrei G. Vladimirov

13:00 Two-dimensional Cavity Polariton Solitons
Falk Lederer (*Friedrich Schiller University Jena, Germany*); *O. Egorov* (*Friedrich-Schiller-Universität Jena, Germany*); *A. V. Yulin* (*University of Bath, United Kingdom*); *Dmitry V. Skryabin* (*University of Bath, UK*);

13:20 Chromatic Dispersion Slope Strongly Impacts Parametric Gain in Birefringent Photonic Crystal Fibers
S. Coulibaly (*Universite des Sciences et Technologies de Lille, France*); *Zheng Liu* (*Universite des Sciences et Technologies de Lille, France*); *Majid Taki* (*Université des Sciences et Technologies de Lille, France*); *Govind P. Agrawal* (*University of Rochester, USA*);

13:40 Multimode Localized Structures Far from Equilibrium
Ehud Meron (*Ben-Gurion University, Israel*);

14:00 Light Propagation and Localization in Modulated Optical Waveguides
Yuri S. Kivshar (*Australian National University, Australia*);

14:20 Impact of Light Polarization and Optical Feedback on Spatially Localized Structures in Vertical-cavity Surface-emitting Lasers
Krassimir Panajotov (*Vrije Unversiteit Brussels, Belgium*); *Xavier Hachair* (*Vrije Unversiteit Brussels, Belgium*); *Giovanna Tissoni* (*Universita dell'Insubria, Italy*); *Mustapha Tlidi* (*Universite Libre de Bruxelles, Belgium*);

14:40 An Exploration of Ring Semiconductor Lasers and Alternative Mechanisms for Localized Light Emission
Stephane Barland (*Universite de Nice Sophia Antipolis, France*); *M. Dufay* (*Universite de Nice Sophia Antipolis, France*); *L. Gil* (*Valbonne, France*);

15:00 **Coffee Break**

15:20 Dark Localized Structures near the Zero-diffraction Regime of a Nonlinear Optical Cavity Containing a Left-handed Material
Pascal Kockaert (*Universite Libre de Bruxelles, Belgium*); *Mustapha Tlidi* (*Universite Libre de Bruxelles, Belgium*); *Lendert Gelens* (*Vrije Universiteit Brussel (V.U.B.), Belgium*);

15:40 Dynamical Behavior in the Complex Swift-Hohenberg Equation
Lendert Gelens (*Vrije Universiteit Brussels (VUB), Belgium*); *Edgar Knobloch* (*University of California, USA*);

16:00 Disorder and Phase-locking in a Cavity Soliton Laser
Thorsten Ackemann (*University of Strathclyde, UK*); *Neal Radwell* (*University of Strathclyde, UK*); *Yoann Noblet* (*University of Strathclyde, UK*); *Craig McIntyre* (*University of Strathclyde, UK*); *W. J. Firth* (*University of Strathclyde, UK*); *G. L. Oppo* (*University of Strathclyde, UK*); *Pavel V. Paulau* (*NASB, Belarus*);

16:20 Self-pulsing Localized Structures in a Semiconductor Laser with Saturable Absorber
L. Columbo (*Politecnico e Università di Bari, Italy*); *Franco Prati* (*Università dell'Insubria, Italy*); *Massimo Brambilla* (*Politecnico e Università di Bari, Italy*); *T. Maggipinto* (*Politecnico e Università di Bari, Italy*);

16:40 Applications of Cavity Solitons in VCSELs with Optical Injection
C. McIntyre (*University of Strathclyde, UK*); *G. L. Oppo* (*University of Strathclyde, UK*); *Franco Prati* (*Università dell'Insubria, Italy*); *Giovanna Tissoni* (*Universita dell'Insubria, Italy*);

Session 2P2
Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals

Monday PM, March 21, 2011

Room B

Organized by Ganquan Xie, Tzong-Jer Yang, Chien-Jang Wu

Chaired by Antonio Puccini

13:20 Investigation of Receiver Sensitivity in Notebook Platform with Multimode Functions
Yao-Huang Kao (*Chung-Hua University, Taiwan*); *Hui Chun Yang* (*National Chiao Tung University, China*);

13:40 The Equivalent Rest-mass of Photon
Antonio Puccini (*Order of Malta, Italy*);

14:00 A Mechanical Effect Induced by Electromagnetic Radiation May Explain the Wave Function Collapse of a Quantum Object
Antonio Puccini (*Order of Malta, Italy*);

14:20 Quantum Mechanics Suggests that Photons with Different Energy Do Not Travel at the Same Speed
Antonio Puccini (*Order of Malta, Italy*);

14:40 Low Frequency Surface Plasmon Polaritons on a Periodically Structured Metal Strip with High Confinement of Fields
Jin-Jei Wu (*Chung Hua University, Taiwan, R.O.C.*); *Her-Lih Chiueh* (*Lunghwa University of Science and Technology, Taiwan*); *Tzong-Jer Yang* (*Chung-Hua University, Taiwan, R.O.C.*); *Dichi Tsai* (*Chung Hua University, Taiwan, R.O.C.*); *Hung Erh Lin* (*Chung Hua University, Taiwan, R.O.C.*); *Bear Hu* (*Chung Hua University, Taiwan, R.O.C.*); *Ricardo Wu* (*Chung Hua University, Taiwan, R.O.C.*); *Daniel Wang* (*Chung Hua University, Taiwan, R.O.C.*); *Hung Jung Chang* (*Chung Hua University, Taiwan, R.O.C.*); *Chun Cheng Li* (*Chung Hua University, Taiwan, R.O.C.*); *Ing-Jar Hsieh* (*Chung Hua University, Taiwan, R.O.C.*);

15:00 **Coffee Break**

15:20 Inconsistencies on the Measurement of the Effective Refractive Index of Turbid Colloids and How to Avoid Them
Ruben Gerardo Barrera (*Universidad Nacional Autonoma de Mexico, Mexico*); *E. Gutiérrez Reyes* (*Universidad Nacional Autonoma de Mexico, Mexico*); *Augusto García-Valenzuela* (*Universidad Nacional Autónoma de México, México*); *Celia A. Sánchez-Pérez* (*Universidad Nacional Autónoma de México, México*);

16:00 Nonlocal Homogenization Theory of Multilayered Metal-dielectric Nanostructured Metamaterials
Alexandr V. Chebykin (*St. Petersburg State University of Information Technologies, Mec, Russia*); *Alexey A. Orlov* (*St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia*); *Pavel A. Belov* (*Queen Mary University of London, UK*);

16:20 Low Loss Optical Meta Material Implemented in Photonic Quasi Crystal
Kaisar R. Khan (*University of Ottawa, Canada*); *Trevor J. Hall* (*University of Ottawa, Canada*);

Session 2P3
Transformation Optics, Metamaterials and Plasmonics

Monday PM, March 21, 2011

Room C

Organized by Brahim Guizal, Didier Felbacq

Chaired by Brahim Guizal, Didier Felbacq

13:00 Selective and Collaborative Optimization Methods for Plasmonics: A Comparison
Sameh Kessentini (*University of Technology of Troyes, France*); *Dominique Barchiesi* (*University of Technology of Troyes, France*); *Thomas Grosges* (*University of Technology of Troyes, France*); *Marc Lamy de la Chapelle* (*Universite Paris 13, France*);

13:20 Electromagnetic Heat-induced in Meso-structures: Computation of Temperature in Metallic Dimers
Dominique Barchiesi (*University of Technology of Troyes, France*); *Thomas Grosges* (*University of Technology of Troyes, France*); *Eric Kremer* (*University of Limoges, France*); *Marc Lamy de la Chapelle* (*Universite Paris 13, France*);

13:40 Generation of Encryption Keys from Plasmonics
Michael Francois (*University of Technology of Troyes, France*); *Thomas Grosges* (*University of Technology of Troyes, France*); *Dominique Barchiesi* (*University of Technology of Troyes, France*); *Robert Erra* (*Ecole Superieure d'Informatique, Electronique, Automatique (ESIEA), France*);

14:00 Second and Third Harmonic Generation in Induced Photonic Crystals
Pierre Godard (*Aix-Marseille Universite, France*); *Frédéric Zolla* (*Aix-Marseille Universite, France*); *André Nicolet* (*Aix-Marseille Universite, France*);

14:20 Probing Optical Modes on Disordered Metal Films with Spontaneous Decay Rate Fluctuations
V. Krachmalnicoff (*Institut Langevin, ESPCI ParisTech, CNRS, France*); *E. Castanie* (*Institut Langevin, ESPCI ParisTech, CNRS, France*); *Y. De Wilde* (*Institut Langevin, ESPCI ParisTech, CNRS, France*); *Remi Carminati* (*ESPCI, France*);

14:40 Disordered Semiconductor Strongly Coupled to Surface Plasmons
Joel Bellessa (*Université de Lyon, France*); *S. Aberra Guebrou* (*Université de Lyon, France*); *Clementine Symonds* (*Université de Lyon, France*); *J. C. Plenet* (*Université de Lyon, France*); *E. Homeyer* (*Université de Lyon, France*);

15:00 **Coffee Break**

15:20 Nonlinear and Tunable Metamaterials
Yuri S. Kivshar (*Australian National University, Australia*);

15:40 Bulk Micro-resonances and Artificial Magnetism — A full 3d-framework
Guy Bouchitte (*Universite de Toulon, France*); *Cristophe Bourel* (*Universite de Toulon, France*); *Didier Felbacq* (*GES UMR 5650, France*);

16:00 Broadband Free-space Characterization of Metamaterials
Mohamed Hicham Belyamoun (*University Pierre et Marie Curie (UPMC), France*); *Olivier Dubrunfaut* (*University Pierre et Marie Curie (UPMC), France*); *Christelle Pareige* (*CNRS, France*); *Y. Zhu* (*University of Paris Sud, France*); *Said Zouhdi* (*University Paris Sud, France*); *Florence Ossart* (*University Pierre et Marie Curie (UPMC), France*);

16:20 Nonlocality and Additional Extraordinary Waves in Multilayered Metal-dielectric Nanostructures
Alexey A. Orlov (*St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia*); *P. M. Voroshilov* (*St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia*); *Alexandr V. Chebykin* (*St. Petersburg State University of Information Technologies, Mec, Russia*); *Pavel A. Belov* (*Queen Mary University of London, UK*);

16:40 Optimal Parameters of Metallic Nanorods Arrays for Subwavelength Imaging
Pavel A. Belov (*Queen Mary University of London, UK*); *Atiqur Rahman* (*Queen Mary University of London, UK*); *Sergei Yu. Kosulnikov* (*St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia*);

17:20 Strong Coupling of Plasmons with Confined Waveguide Modes
A. Castanie (*University of Montpellier 2, France*); *Didier Felbacq* (*Université de Montpellier 2, France*); *B. Guizal* (*University of Montpellier 2, France*); *Joel Bellessa* (*University Claude Bernard Lyon 1, France*);

Session 2P4a
Electromagnetic Nondestructive Evaluation (NDE) 2

Monday PM, March 21, 2011

Room D

Organized by Lalita Udpa

Chaired by Satish S. Udpa, Antonello Tamburrino

13:00 Development of Microwave Interferometry Nondestructive Testing Solution
Karl Schmidt (*Evisive, Inc., USA*); *Jack Little* (*Evisive, Inc., USA*);

13:20 Design and Fabrication of a Modular Eddy Current Micro Sensor
Tim Griesbach (*Leibniz Universitaet Hannover, Germany*); *M. C. Wurz* (*Leibniz Universitaet Hannover, Germany*); *L. Rissing* (*Leibniz Universitaet Hannover, Germany*);

13:40 Effect of Nonperfect Contact between the Material under Test and an Open-ended Coaxial Probe on Complex Permittivity Measurement
M. D. Perèz (*University of Bologna, Italy*); *Ugo Reggiani* (*University of Bologna, Italy*); *Leonardo Sandrolini* (*University of Bologna, Italy*);

Session 2P4b
Sensor-based Structural Damage Detection: Concrete Applications

Monday PM, March 21, 2011

Room D

Organized by Shahid Kabir, Othman Sidek

Chaired by Shahid Kabir, Othman Sidek

14:00 Wireless Electronic Structural Surveillance Sensors Using Inductively Coupled Sacrificial Transducers
Praveen Pasupathy (*The University of Texas at Austin, USA*); *A. Abu Yousef* (*The University of Texas at Austin, USA*); *Dean P. Neikirk* (*The University of Texas at Austin, USA*); *S. L. Wood* (*The University of Texas at Austin, USA*);

14:20 A Meta Model for Damage Prognosis of Concrete Structure
Othman Sidek (*Universiti Sains Malaysia, Malaysia*); *Sayed Abulhasan Quadri* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia, Malaysia*);

14:40 Multi Agent System for Agile Wireless Sensor Network to Monitor Structures
Othman Sidek (*Universiti Sains Malaysia, Malaysia*); *Sayed Abulhasan Quadri* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*);

15:00 **Coffee Break**

15:20 Optical Image Analysis Based Concrete Damage Detection
Akram Salem (*Universiti Sains Malaysia (USM), Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*); *Atif Mohamed Musbah* (*Universiti Sains Malaysia (USM), Malaysia*);

15:40 Sensors-based Noise Removal Method from Pile Integrity Test (PIT) for Concrete Marine Piles
S. Mohsen (*University Sains of Malaysia (USM), Malaysia*); *S. Mohsen S. Asaei* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*); *Atif Mohamed Musbah* (*Universiti Sains Malaysia (USM), Malaysia*);

16:00 Sub-surface Concrete Structure Damage Quantification Using TIR and Visual Inspection
Atif Mohamed Musbah (*Universiti Sains Malaysia (USM), Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*); *Akram Salem* (*Universiti Sains Malaysia (USM), Malaysia*);

16:20 Infrared Thermography for Assessing and Monitoring Electrical Components within Concrete Structures
Mohd Shawal Jadin (*Universiti Sains Malaysia, Malaysia*); *Soib Taib* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*);

16:40 Detection and Quantification of Corrosion Damage Using Ground Penetrating Radar (GPR)
Shahid Kabir (*Universiti Sains Malaysia (USM), Malaysia*); *Ahmad Zaki* (*Universiti Sains Malaysia (USM), Malaysia*);

17:00 Radar-based Quantification of Corrosion Damage in Concrete Structures
Ahmad Zaki (*Universiti Sains Malaysia (USM), Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*);

17:20 Determining the Effect of Faraday-rotation and Optimum Rotation Angle in Different Types of Magneto-optical PBG Structures
Othman Sidek (*Universiti Sains Malaysia, Malaysia*); *Muhammad Hassan Bin Afzal* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*);

17:40 Underwater Communication Systems: A Review
Mohd Ansor Bin Yusof (*Universiti Sains Malaysia, Engineering Campus, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia, Engineering Campus, Malaysia*);

Session 2P5
Emerging Strategies and Innovative Algorithms for the Solution of Inverse Scattering Problems 2

Monday PM, March 21, 2011

Room E

Organized by Andrea Massa, Andrea Francesco Morabito

Chaired by Giacomo Oliveri, Andrea Francesco Morabito

13:00 Novel Techniques for UWB Microwave Imaging of Objects with Canonical Shape
Gianluigi Tiberi (*University of Pisa, Italy*); *Navid Ghavami* (*University of Oxford, UK*); *David J. Edwards* (*Oxford University, UK*); *Agostino Monorchio* (*University of Pisa, Italy*);

13:20 High Resolution Optical Profilometry Using Diffractive Tomographic Microscopy
S. Arhab (*Aix-Marseille Universite, France*); *Gabriel Soriano* (*Aix-Marseille Universite, France*); *Kamal Belkebir* (*Aix-Marseille Universite, France*); *Anne Sentenac* (*Aix-Marseille Universite, France*); *Hugues Giovannini* (*Aix-Marseille Universite, France*);

13:40 An Inversion Strategy for Fast Multi-frame Microwave Tomography
Serguei Semenov (*Keele University, UK*); *B. Nair* (*Keele University, UK*); *J. Kellam* (*Carolinas Medical Center, USA*); *T. Williams* (*Carolinas Medical Center, USA*); *M. Quinn* (*Carolinas Medical Center, USA*);

14:00 An Innovative Inversion Approach Based on Contrast Source-extended Born Model and Markov Random Fields
Roberta Autieri (*Universita di Napoli Parthenope, Italy*); *Michele D'Urso* (*SELEX Sistemi Integrati S.p.A, Italy*); *C. Eyraud* (*Universite Paul Cezanne Aix-Marseille III, France*); *Amélie Litman* (*Universite Paul Cezanne Aix-Marseille III, France*); *Vito Pascazio* (*Universita di Napoli Parthenope, Italy*); *Tommaso Isernia* (*Mediterranea University of Reggio Calabria, Italy*);

14:20 Inversion of Subcanopy Soil Moisture Profile Using Radar Data
Alireza Tabatabaeenejad (*University of Michigan, USA*); *Mahta Moghaddam* (*University of Michigan, USA*);

14:40 The Solution of Thick Region Inverse Source Problems with Time Domain TLM
Mohamed H. Bakr (*McMaster University, Canada*); *Yu Zhang* (*McMaster University, Canada*); *Natalia K. Nikolova* (*McMaster University, Canada*);

15:00 **Coffee Break**

15:20 On the Use of Eigenfunction Expansions in Microwave Tomography
Joe Lovetri (*University of Manitoba, Canada*); *Puyan Mojabi* (*University of Manitoba, Canada*);

15:40 Combination of Contrast Source Extended Born Model and Subspace Based Optimization Method for Reconstruction of Lossy High Dielectric Scatterers
Krishna Agarwal (*National University of Singapore, Singapore*); *Michele D'Urso* (*SELEX Sistemi Integrati, Italy*); *Xudong Chen* (*National University of Singapore, Singapore*);

16:00 Elastodynamic Wave Field Inversion for Applications in Non-destructive Testing
Karl Joerg Langenberg (*University of Kassel, Germany*);

16:20 Experimental Study on Imaging Algorithm with Simple UWB Radar for a Target with Translation and Rotation
Takuya Sakamoto (*Kyoto University, Japan*); *Toru Sato* (*Kyoto University, Japan*);

16:40 Re-arranging Scattering Equations to Counteract Non Linearity of the Inverse Problem: Rationale and Comparisons
Lorenzo Crocco (*National Research Council, Italy*); *Michele D'Urso* (*SELEX Sistemi Integrati S.p.A, Italy*); *Tommaso Isernia* (*Mediterranea University of Reggio Calabria, Italy*); *Andrea Francesco Morabito* (*University 'Mediterranea' of Reggio Calabria, Italy*);

17:00 Solving 2-D Inverse Scattering Problems Using Truncated Cosine Fourier and Cubic B-spline Expansions
Abbas Semnani (*K. N. Toosi University of Technology, Iran*); *Ioannis T. Rekanos* (*Aristotle University of Thessaloniki, Greece*); *Manouchehr Kamyab* (*K. N. Toosi University of Technology, Iran*); *C. S. Antonopoulos* (*Aristotle University of Thessaloniki, Greece*);

Session 2P6a
Antenna and Array 2

Monday PM, March 21, 2011

Room F

Chaired by Michal Okoniewski

13:00 New Reconfigurable PIFA Antenna Based on the Transform of Geometry in Space
Trong Duc Nguyen (*Grenoble INP-Minatec, France*); *Ngoc Hien Doan Thi* (*Grenoble INP-Minatec, France*); *Yvan Duroc* (*Grenoble Institute of Technology (Grenoble-INP), France*); *Van Yem Vu* (*Hanoi University of Science and Technology, Vietnam*); *Tan-Phu Vuong* (*Grenoble INP-Minatec, France*);

13:20 Miniaturized Printed Yagi Antenna for 2.45 GHz RFID Readers
Giovani Bulla (*Grenoble Institute of Technology (GINP), France*); *Minh Thuy Le* (*France, France*); *Alvaro A. A. de Salles* (*Federal University of Rio Grande do Sul (UFRGS), Brazil*); *Tan-Phu Vuong* (*Grenoble INP-Minatec, France*);

13:40 A Matrix-vector-potential Analysis of the Bi-elliptical Toroidal Helical Antenna
Sulaiman Adeniyi Adekola (*University of Lagos, Nigeria*); *A. Ike Mowete* (*University of Lagos, Nigeria*); *Hisham Abubakar Muhammed* (*University of Lagos, Nigeria*);

14:00 Applications and Properties of Array Lenses for Circular Polarization
Michal Okoniewski (*University of Calgary, Canada*); *R. H. Phillion* (*University of Calgary, Canada*);

14:20 Dual Band **3** × **3** Polarised Mimo Antenna System
Muhammad Usman (*University of Hail, Saudi Arabia*); *Mohamad Rahal* (*University of Hail, Saudi Arabia*); *Ibrahim Rida* (*University of Hail, Saudi Arabia*);

Session 2P6b
Reconfigurable Antennas

Monday PM, March 21, 2011

Room F

Organized by Robert Staraj, Ala Sharaiha

Chaired by Robert Staraj, Ala Sharaiha

15:20 Design of an Antenna with Reconfigurable Band Rejection for UWB Cognitive Radio
Mohammed Al-Husseini (*American University of Beirut, Lebanon*); *Youssef Tawk* (*University of New Mexico, USA*); *Christos G. Christodoulou* (*University of New Mexico, USA*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*);

15:40 Overview of Reconfigurable and Compact Antennas Using a Magneto-dielectric Material
Laure Huitema (*Xlim Laboratory, France*); *Moharnad Hajj* (*Xlim Laboratory, France*); *Thierry Monediere* (*Xlim Laboratory, France*); *D. Souriou* (*UMR CNRS 3192, France*); *Alexis Chevalier* (*UMR CNRS 3192, France*); *J. L. Mattei* (*LEST-UMR CNRS 6165, France*); *Patrick Queffelec* (*UMR CNRS 3192, France*);

16:00 An Ultra-miniature Tunable Antenna Using a Magneto-dielectric Material for DVB-H/DVB-T Applications
Constant Manouan Aka Niamien (*Université Européenne de Bretagne (UEB), France*); *Sylvain Collardey* (*Université Européenne de Bretagne (UEB), France*); *Ala Sharaiha* (*Université Européenne de Bretagne (UEB), France*); *Kouroch Mahdjoubi* (*Université Européenne de Bretagne (UEB), France*);

16:20 Small Reconfigurable PIFA for DVB-H Applications
Florian Canneva (*Université de Nice Sophia-Antipolis, France*); *Fabien Ferrero* (*University of Nice Sophia Antipolis, France*); *Jean-Marc Ribero* (*University of Nice Sophia Antipolis, France*); *Robert Staraj* (*University of Nice Sophia Antipolis, France*);

16:40 A Frequency Reconfigurable Microstrip Rectangular Patch Antenna Using Stubs
Lama Mokalled (*American University of Beirut, Lebanon*); *Mohammed Al-Husseini* (*American University of Beirut, Lebanon*); *Ali Halim Ramadan* (*American University of Beirut, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*);

17:00 A DVB-H Antenna Using a Magneto-dielectric Superstrate
Fabien Ferrero (*University of Nice Sophia Antipolis, France*); *Jean-Marc Ribero* (*University of Nice Sophia Antipolis, France*); *Robert Staraj* (*University of Nice Sophia Antipolis, France*); *Jean-Luc Mattei* (*University of Brest, France*); *Patrick Queffelec* (*Université Européenne de Bretagne, France*);

17:20 Reconfigurable Directivity Antenna Array Integrated into the Substrate
Gilma Inés Angel Castillo (*Los Andes University, Colombia*); *Juan Carlos Bohórquez Reyes* (*Los Andes University, Colombia*); *Omar Ariel Nova Manosalva* (*Los Andes University, Colombia*); *Néstor Misael Peña Traslaviña* (*Los Andes University, Colombia*);

17:40 Ultra Miniature CPW Reconfigurable Slot Antenna in the UHF Band
Benjamin Jannier (*Universite de Rennes 1, France*); *Ala Sharaiha* (*University of Rennes 1, France*);

Session 2P7
Computational Electromagnetics, Hybrid Methods

Monday PM, March 21, 2011

Room G

Organized by Hafedh Trabelsi

Chaired by Hafedh Trabelsi

13:00 Numerical Models, Based on the Finite Element Method, for Asymmetric High Impedance Surfaces
Yu Zhu (*Laboratoire de Genie Electronique de Paris, France*); *Alain Bossavit* (*Laboratoire de Genie Electronique de Paris, France*); *Y. Duval* (*EADS Innovation Works, France*); *Said Zouhdi* (*University Paris Sud, France*);

13:20 Modeling and Simulation of Temperature Distribution in Laser-tissue Interaction
A. Yasin Citkaya (*Bogazici University, Turkey*); *S. Selim Seker* (*Bogazici University, Turkey*);

13:40 Using Bioheat Equation 3D WEB-spline Prediction of Ocular Surface Temperature
Fulya C. Kunter (*Bogazici University, Turkey*); *S. Selim Seker* (*Bogazici University, Turkey*);

14:00 FDTD Method on a FCC Grid for the Wave and Maxwell Equations
Mike E. Potter (*University of Calgary, Canada*);

14:20 On the Integration of Behavioral Component Descriptions in the Full-wave Transmission-line Modeling Method
Ian Scott (*The University of Nottingham, UK*); *Gaëlle Kergonou* (*The University of Nottingham, UK*); *Christos Christopoulos* (*University of Nottingham, UK*); *Flavio Canavero* (*Politecnico di Torino, Italy*); *Stephen Greedy* (*University of Nottingham, UK*); *David W. P. Thomas* (*University of Nottingham, UK*); *Phillip Donald Sewell* (*Univeristy of Nottingham, UK*);

14:40 On the Use of Fast Iterative PO to Model SAR Signal from Complex Structures
Alessandro Mori (*University of Florence, Italy*); *Mario Calamia* (*University of Florence, Italy*); *Angelo Freni* (*University of Florence, Italy*);

15:00 **Coffee Break**

15:20 3D FEA of SMPM Accounting for Skew and End Windings
Mohamed Hédi Gmiden (*University of Sfax, Tunisia*); *Hafedh Trabelsi* (*University of Sfax, Tunisia*);

15:40 Performance Improvement of Different Topologies of Claw Pole TFPM Based on a 3D FEA
Anis Njeh (*University of Sfax, Tunisia*); *Hafedh Trabelsi* (*University of Sfax, Tunisia*);

16:00 On the Iron Losses Computation of a Three Phase PWM Inverter-fed SMPM by Using VPM and Transient FEA
Ali Mansouri (*Engineering school of Sfax, Tunisia*); *Hafedh Trabelsi* (*Engineering school of Sfax, Tunisia*);

16:20 Efficient FEM/BEM Procedures for Time-dependent Electromagnetic Scattering Problems
Ernst P. Stephan (*Leibniz University Hannover, Germany*); *A. Issaoui* (*Leibniz University Hannover, Germany*); *Z. Nezhi* (*Leibniz University Hannover, Germany*);

17:00 Scattering of Electromagnetic Waves by Inhomogeneous Dielectric Gratings Loaded with Parallel Perfectly Conducting Strips — Matrix Formulation of Point Matching Method —
Tsuneki Yamasaki (*Nihon University, Japan*); *Keizo Doi* (*Nihon University, Japan*); *Ryosuke Ozaki* (*Nihon University, Japan*); *Takashi Hinata* (*Nihon University, Japan*);

17:20 A Combined Field Integral Equation for Higher-order Generalized Impedance Conditions
A. Bendali (*University of Toulouse, France*); *M'B. Fares* (*CERFACS, France*); *K. Lemrabet* (*USTHB, Algeria*); *Florence Millot* (*CERFACS, France*); *Sébastien Pernet* (*CERFACS, France*);

Session 2P8
Signals, Waves and Shielding

Monday PM, March 21, 2011

Room H

Organized by Leszek Nowosielski

Chaired by Leszek Nowosielski, Marian Wnuk

13:20 The Methods of Measuring Attenuation of Thin Absorbent Materials Used for Electromagnetic Shielding
Leszek Nowosielski (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Jacek Rychlica* (*Military University of Technology, Poland*);

13:40 Small Chambers Shielding Efficiency Measurements
Rafal Przesmycki (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*);

14:00 Procedure for Absorption Measurements of Absorbing Materials
Kazimierz Piwowarczyk (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*);

14:20 Multilayer Microstrip Antenna on Flat Base in the X Band (8.5 GHz–12 GHz)
Marian Wnuk (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*);

15:00 **Coffee Break**

15:20 Active Microstrip Antennas Operating in X Band
Marek Bugaj (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*);

15:40 Efficient Method of 3G Signal Detection
Pawel Skokowski (*Military University of Technology, Poland*); *Jerzy Lopatka* (*Military University of Technology, Poland*);

16:00 Power Amplifier Linearization for Software Defined Radio Using Look-up Table
Piotr Marszalek (*Military University of Technology, Poland*); *Pawel Skokowski* (*Military University of Technology, Poland*); *Jerzy Lopatka* (*Military University of Technology, Poland*);

16:20 MIMO Implementation with Alamouti Coding Using USRP2
Anna Kaszuba (*Military University of Technology, Poland*); *Radoslaw Checinski* (*Military University of Technology, Poland*); *Jerzy Lopatka* (*Military University of Technology, Poland*);

Session 2P9
Poster Session 4

Monday PM, March 21, 2011
14:00 PM - 17:00 PM
Room K
Chaired by Olivier Meyer

1 Optoelectronic Phase Noise System Designed for X-band Sources Measurements in Metrology Applications
Abdelhamid Hmima (*CNRS, UMR 6174, Laboratoire Associe au Laboratoire National de Metrologie et d'essais (LNE), France*); *Nathalie Cholley* (*CNRS, UMR 6174, Laboratoire Associe au Laboratoire National de Metrologie et d'essais (LNE), France*); *Ekaterina Pavlyuchenko* (*CNRS, UMR 6174, Laboratoire Associe au Laboratoire National de Metrologie et d'essais (LNE), France*); *Mikhail Zarubin* (*CNRS, UMR 6174, Laboratoire Associe au Laboratoire National de Metrologie et d'essais (LNE), France*); *Y. Kouomou Chembo* (*Univ Franche Comte, France*); *Patrice Salzenstein* (*CNRS, UMR 6174, Laboratoire Associe au Laboratoire National de Metrologie et d'essais (LNE), France*);

3 Application of EH4 in the I Forecast Area in Yushiwa Iron Deposit of Hanxing Area, China
Zhaohui Ke (*Central South University, China*); *Songling Chen* (*Central South University, China*); *Tagen Dai* (*Central South University, China*); *Gaofeng Du* (*Central South University, China*);

4 Determination of Thermal Model Parameters for Stator Slot Using Numerical Methods
Mohand Laid Idoughi (*Université Paris-Sud, France*); *Xavier Mininger* (*University Paris-Sud, France*); *Laurent Bernard* (*Laboratoire de Génie Electrique de Paris (LGEP), France*); *Frédéric Bouillault* (*University Paris-Sud, France*);

5 Effect of High-order Modes on Tunneling Characteristics
Hsin-Yu Yao (*National Tsing Hua University, Taiwan*); *Tsun-Hun Chang* (*National Tsing Hua University, Taiwan*);

6 Physical Regularization of Incorrect Electrodynamic Problems
Vjacheslav Alexandrovich Neganov (*Povolzhskiy State University of Telecommunications and Informatics, Russia*); *Dmitry Petrovich Tabakov* (*Povolzhskiy State University of Telecommunications and Informatics, Russia*); *Dmitrij Sergeevich Klujev* (*Povolzhskiy State University of Telecommunications and Informatics, Russia*);

7 The Physical Regularization of Incorrect Electrodynamic Problems
Vjacheslav Alexandrovich Neganov (*Povolzhskiy State University of Telecommunications and Informatics, Russia*); *Dmitry Petrovich Tabakov* (*Povolzhskiy State University of Telecommunications and Informatics, Russia*);

8 Circularly Polarized RFID Reader Antennas for Robotic Application
Sami Hebib (*Centre National de la Recherche Scientifique (CNRS), France*); *Sofiene Bouaziz* (*Centre National de la Recherche Scientifique (CNRS), France*); *Hervé Aubert* (*Centre National de la Recherche Scientifique (CNRS), France*); *Fréderic Lerasle* (*Centre National de la Recherche Scientifique (CNRS), France*);

9 Novel Concept of ENG Metamaterial in Rectangular Microstrip Patch Antenna (Partially Loaded Case) for Dual Band Application
Mahdy Rahman Chowdhury Mahdy (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Rashedul Alam Zuboraj* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Abdullah Al Noman Ovi* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Abdul Matin* (*Bangladesh University of Engineering and Technology (BUET), Bangladesh*);

10 Input Impedance Calculation for Coax-fed Rectangular Microstrip Antenna with and without Airgaps Using Various Algorithms
Karima Chemachema (*Université Mentouri de Constantine, Algeria*); *Abdelmadjid Benghalia* (*Université Mentouri de Constantine, Algeria*);

11 Helically Corrugated Feed Antenna with Far out Sidelobes Reduction
Seyed Hosein Mohseni Armaki (*Iran University of Science and Technology (IUST), Iran*); *Farrokh Hojat Kashani* (*Iran University of Science and Technology (IUST), Iran*); *Jalil A. Rashed-Mohassel* (*University of Tehran, Iran*); *Mohsen Fallah* (*Iran University of Science and Technology (IUST), Iran*);

12 Design and Development of Monopulse Dual Mode Corrugated Horn
Seyed Hosein Mohseni Armaki (*Iran University of Science and Technology (IUST), Iran*); *Farrokh Hojat Kashani* (*Iran University of Science and Technology (IUST), Iran*); *Jalil A. Rashed-Mohassel* (*University of Tehran, Iran*); *Mohsen Fallah* (*Iran University of Science and Technology (IUST), Iran*);

14 Miniaturized Planar UWB Antenna with a Trapezoid Shape Ground
Yangjun Zhang (*Ryukoku University, Japan*); *Yusuke Takeuchi* (*Ryukoku University, Japan*); *Toyokatsu Miyashita* (*Ryukoku University, Japan*);

15 Novel Application of MNG Metamaterial in Rectangular Microstrip Patch Antenna (Partially Loaded Case) for Dual Band Application
Mahdy Rahman Chowdhury Mahdy (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Rashedul Alam Zuboraj* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Abdullah Al Noman Ovi* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Abdul Matin* (*Bangladesh University of Engineering and Technology (BUET), Bangladesh*);

16 Novel Design of Dual Band Rectangular Microstrip Patch Antenna Partially Loaded with MNG Metamaterial for S-band Application
Mahdy Rahman Chowdhury (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Rashedul Alam Zuboraj* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Abdullah Al Noman Ovi* (*Bangladesh University of Engineering & Technology, Bangladesh*); *Md. Abdul Matin* (*Bangladesh University of Engineering and Technology (BUET), Bangladesh*);

17 New Formulation of the Method F.W.C.I.P. for the Modelling of a Planar Circuit Integrating a via-hole
Sameh Toumi (*Engineers' National School of Tunis, Tunisia*); *Fethi Mejri* (*Ecole Nationale d'Ingenieurs de Tunis, Tunisie*); *Taoufik Aguili* (*Ecole Nationale d'ingénieurs de Tunis, Tunisia*);

20 Fine Synchronization with UWB TH-PAM Signals in Ad-Hoc Multi-user Environments
Moez Hizem (*University 7th November at Carthage, Tunisia*); *Ridha Bouallègue* (*University 7th November at Carthage, Tunisia*);

22 Performance Parameter of Hybrid Wireless-optical Broadband-access Network (WOBAN): A Study on the Physical Layer of Optical Backhaul and Wireless Front-end
Redhwan Qasem Shaddad (*Universiti Teknologi Malaysia, Malaysia*); *Abu Bakar Mohammad* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Abdulaziz M. Al-Hetar* (*Universiti Teknologi Malaysia (UTM), Malaysia*);

26 Properties of Spread-F in High and Low Latitude Ionospheres
Jiankui Shi (*Chinese Academy of Sciences, China*); *W. Tao* (*Chinese Academy of Sciences, China*); *G. J. Wang* (*Chinese Academy of Sciences, China*); *G. Zherebotsov* (*Russian Academy of Sciences, Russia*); *O. Pirog* (*Russian Academy of Sciences, Russia*); *A. Stepanov* (*Russian Academy of Sciences, Russia*);

28 Monitoring of Thermal Dome as an Iridescent Sphere above the Atmosphere
Shigehisa Nakamura (*Kyoto University, Japan*);

29 Monitoring of Thermal Dome in the Earth Surface Layer
Shigehisa Nakamura (*Kyoto University, Japan*);

30 Monitoring of Thermal Dome Shock Front Pattern on the Earth
Shigehisa Nakamura (*Kyoto University, Japan*);

31 Circuit Simulation of Varactor Loaded Line Phase Shifter
Mohamed Ould-Elhassen (*Institut Supérieur des Etudes Technologiques en Communications de Tunis, Tunisia*); *Mohamed Mabrouk* (*Institut Supérieur des Etudes Technologiques en Communications de Tunis, Tunisia*); *Adel Ghazel* (*Ecole Super Commun., Tunisia*); *Philippe Benech* (*LAHC, France*);

32 60 GHz Rectangular Patch Antennas on Flexible Substrate: Design and Experiment
Ahmed Ali (*Centre National de la Recherche Scientifique (CNRS), France*); *Mohamed M. Jatlaoui* (*Centre National de la Recherche Scientifique (CNRS), France*); *Sami Hebib* (*Centre National de la Recherche Scientifique (CNRS), France*); *Hervé Aubert* (*Centre National de la Recherche Scientifique (CNRS), France*); *Daniela Dragomirescu* (*Centre National de la Recherche Scientifique (CNRS), France*);

33 Characterization of Ferromagnetic Materials Used in Inkjet Technology
Karim Haj Khlifa (*IMEP-LAHC, France*); *Fabien Ndagijimana* (*IMEP-LAHC, France*); *Tan-Phu Vuong* (*Grenoble INP-Minatec, France*);

34 Design and Optimization of RF Square Spiral Inductors Realized by Inkjet Technology
Léonce Mutwewingabo (*IMEP-LAHC, France*); *Benoit Krafft* (*MICROSPIRE, France*); *Fabien Ndagijimana* (*IMEP-LAHC, France*);

35 Above Threshold Analysis of Photonic Crystal Laser
Marcin Koba (*Warsaw University of Technology, Poland*); *Tomasz Osuch* (*National Institute of Telecommunications, Poland*); *Ryszard Piramidowicz* (*Warsaw University of Technology, Poland*); *Pawel Szczepanski* (*Warsaw University of Technology, Poland*);

36 A Threshold Mode Structure Analysis of Photonic Crystal Laser
Marcin Koba (*Warsaw University of Technology, Poland*); *Tomasz Osuch* (*National Institute of Telecommunications, Poland*); *Ryszard Piramidowicz* (*Warsaw University of Technology, Poland*); *Pawel Szczepanski* (*Warsaw University of Technology, Poland*);

38 Transfer Matrix Method for Threshold Analysis of One-dimensional Photonic Crystal Defect Mode Raman Laser
Tomasz Osuch (*National Institute of Telecommunications, Poland*); *Marcin Koba* (*Warsaw University of Technology, Poland*); *Pawel Szczepanski* (*National Institute of Telecommunications, Poland*); *Tomasz Kossek* (*National Institute of Telecommunications, Poland*);

39 Development of a Double-clad Fiber Laser Simulator for the Design of Laser Cavities with Specific Applications
Driss Mgharaz (*Université de Rouen, France*); *Abdelkader Boulezhar* (*Université Hassan II Ain Chock, Morocco*); *Marc Brunel* (*Université de Rouen, France*);

40 Maize Crop Yield Map Production and Update Using Remote Sensing
Jesus Soria-Ruiz (*National Institute of Research for Forestry, Agriculture and Livestock (INIFAP), Mexico*); *Yolanda Fernandez-Ordonez* (*Colegio de Postgraduados, Mexico*);

Session 3A1
Rogue Waves in Nature and Extreme Events

Tuesday AM, March 22, 2011

Room A

Organized by Majid Taki, Stefania Residori

Chaired by Majid Taki, Stefania Residori

08:20 Rogue Waves in Superfluid ^{4}He
V. B. Efimov (*Institute of Solid State Physics, RAS, Russia*); *A. N. Ganshin* (*Cornell University, USA*); *G. V. Kolmakov* (*Pittsburgh University, USA*); *P. V. E. McClintock* (*Lancaster University, UK*); *L. P. Mezhov-Deglin* (*Institute of Solid State Physics, RAS, Russia*);

08:40 Emergence of Rogue Waves from Optical Wave Turbulence
K. Hammani (*Université de Bourgogne, France*); *Bertrand Kibler* (*Université de Bourgogne, France*); *C. Michel* (*Université de Bourgogne, France*); *Christophe Finot* (*University of Bourgogne, France*); *G Millot* (*Université de Bourgogne, France*); *Antonio Picozzi* (*Université de Bourgogne, France*);

09:00 Rogue Waves in a Multistable Fiber Laser
Alexander N. Pisarchik (*Centro de Invistigaciones en Optica, Mexico*); *Majid Taki* (*Université des Sciences et Technologies de Lille, France*);

09:20 From Supercontinuum to Optical Rogue Waves and Localized Structures
Goery Genty (*Tampere University of Technology, Finland*); *Miro Erkintalo* (*Tampere University of Technology, Finland*); *John M. Dudley* (*University of Franche-Comte, France*);

09:40 Granularity and Nonlocality Are the Joint Generators of Rogue Wave Phenomena
F. Tito Arecchi (*Università di Firenze, Italy*); *U. Bortolozzo* (*Université de Nice Sophia-Antipolis, France*); *A. Montina* (*Perimeter Institute for Theoretical Physics, Canada*); *Stefania Residori* (*Université de Nice Sophia-Antipolis, France*);

10:00 **Coffee Break**

10:20 Energy Concentration in Arrays of Nonlinear Waveguides by Exciting Rogue Waves
Yuliy V. Bludov (*Universiade do Minho, Campus de Gualtar, Portugal*); *Vladimir V. Konotop* (*Universidade de Lisboa, Campo Grande, Portugal*); *Nail Akhmediev* (*The Australian National University, Australia*);

10:40 Rogue Waves in Crossing Seas
Miguel Onorato (*Università di Torino, Italy*);

11:20 Optical Rogue Waves: New Developments
Majid Taki (*Université des Sciences et Technologies de Lille, France*); *Arnaud Mussot* (*Université des Sciences et Technologies de Lille 1, France*); *A. Kudlinski* (*Université des Sciences et Technologies de Lille 1, France*); *Mikhail I. Kolobov* (*Université des Sciences et Technologies de Lille 1, France*); *E. Louvergneaux* (*Université des Sciences et Technologies de Lille 1, France*); *Nail Akhmediev* (*The Australian National University, Australia*);

11:40 Supercontinuum Seeding and Optical Rogue Waves
D. R. Solli (*University of California at Los Angeles, USA*); *Bahram Jalali* (*University of California at Los Angeles, USA*); *Claus Ropers* (*University of Gottingen, Germany*);

Session 3A2
Microwave and Millimeter Wave Circuits and Devices, CAD

Tuesday AM, March 22, 2011

Room B

Organized by Yong Fan

Chaired by Thottam S. Kalkur

08:20 Adaptive RF Power Amplifier Tuned with Ferroelectric BST Varactor
Yulan Zhang (*University of Colorado at Colorado Springs, USA*); *Thottam S. Kalkur* (*University of Colorado at Colorado Springs, USA*);

08:40 Practical Use of the Kramers-Kronig Relation at Microwave Frequencies. Application to Photonic Like Lines and Left Handed Materials
Jérôme Lucas (*ESPCI-Paris Tech, France*); *Emmanuel Géron* (*ESPCI-Paris Tech, France*); *Thierry Ditchi* (*ESPCI-Paris Tech, France*); *Stephane Holé* (*ESPCI-Paris Tech, France*);

09:00 Coaxial Quasi-elliptic Filter Using a Suspended Resonator and Vertically Stacked Coaxial Lines
Aline Jaimes-Vera (*Technical University of Catalonia, Spain*); *Ignacio Llamas-Garro* (*Centre Tecnologic de Telecomunicacions de Catalunya, Spain*); *Alonso Corona-Chavez* (*National Institute of Astrophysics, Optics and Electronics (I.N.A.O.E.), Mexico*);

09:20 Asymmetric Microstrip Right/Left-handed Line Coupler with Variable Coupling Ratio
Emmanuel Géron (*ESPCI-Paris Tech, France*); *Thierry Ditchi* (*ESPCI-Paris Tech, France*); *Jérôme Lucas* (*ESPCI-Paris Tech, France*); *Stephane Holé* (*ESPCI-Paris Tech, France*);

09:40 A Directional Coupler Using Back-to-back Microstrip Lines and Common Defected Ground Window Structures
Jongsik Lim (*Soonchunhyang University, Republic of Korea*); *Jaehoon Lee* (*Soonchunhyang University, Republic of Korea*); *Jun Lee* (*Soonchunhyang University, Republic of Korea*); *Bokyun Kim* (*Soonchunhyang University, Republic of Korea*); *Yongchae Jeong* (*Chonbuk National University, South Korea*); *Sang-Min Han* (*Soonchunhyang University, Korea*); *Dal Ahn* (*Soonchunhyang University, Korea*);

10:00 **Coffee Break**

10:20 Multi-mode Cavities for a High-gradient Two-beam Particle Accelerator Structure
Y. Jiang (*Yale University, USA*); *S. V. Kuzikov* (*Omega-P, Inc., USA*); *S. Yu. Kazakov* (*Omega-P, Inc., USA*); *Jay L. Hirshfield* (*Yale University, USA*);

10:40 A Dual-band Wilkinson Power Divider Utilizing EBG Structure
Hsin-Hao Chen (*National University of Kaohsiung, Taiwan*); *Yi-Hsin Pang* (*National University of Kaohsiung, Taiwan*);

11:00 Large Scale Measurement of Microwave Electric Field Using Infrared Thermography and Electromagnetic Simulation
Daniel Prost (*ONERA — The French Aerospace Lab, France*); *F. Issac* (*ONERA — The French Aerospace Lab, France*); *P. Reulet* (*ONERA — The French Aerospace Lab, France*);

11:20 Numerical Study of a Coplanar Zeroth-order Resonator on YIG Thin Film
Aziza Zermane (*Université de Lyon, France*); *Bruno Sauviac* (*Université de Lyon, France*); *Bernard Bayard* (*Université de Lyon, France*); *Abdelmadjid Benghalia* (*Université Mentouri de Constantine, Algeria*);

Session 3A3
Electromagnetic Wave Propagation in Dissipative Media

Tuesday AM, March 22, 2011

Room C

Organized by Gregory V. Morozov

Chaired by Gregory V. Morozov

08:20 Transfer Matrix Method for Electromagnetic Waves in 1D Inhomogeneous Media with Dissipation
Gregory V. Morozov (*University of the West of Scotland, United Kingdom*); *Frank Placido* (*University of Western Scotland, UK*); *Donald W. L. Sprung* (*McMaster University, Canada*);

08:40 Metallic Absorptivity at Normal Incidence above Far-infrared
Francisco Eugenio Mendonca Da Silveira (*Universidade Federal do ABC, Brazil*);

09:00 Enhanced SBS Instability Growth Rate of Extraordinary Electromagnetic Waves in Strongly Coupled, Magnetized Plasma
Muhammad S. Bawa'aneh (*Khalifa University of Science, Technology and Research, United Arab Emirates*); *Ibrahim Y. Abualhaol* (*Khalifa University of Science, Technology and Research, United Arab Emirates*); *Feras Al-Dweri* (*The Hashemite University, Jordan*);

09:20 Thin Films and Multilayers Grown on Insulating Bulk Substrates as Nanoelectromecanical Resonators
Farkhad G. Aliev (*Universidad Autonoma de Madrid, Spain*); *V. V. Pryadun* (*Moscow State University, Russia*);

10:00 **Coffee Break**

10:20 Strange Solutions of Maxwell Equations: Loop Modes Induced by Thermal Tuning
Didier Albert Camill Stuerga (*Universite de Bourgogne, France*); *Christophe Lohr* (*NAXAGORAS Technology, France*); *Pierre Pribetich* (*University de Bourgogne, France*);

10:40 Loss Effects on the Surface Plasmon Resonance in Kretschmann Configuration
Atef Shalabney (*Ben-Gurion University of the Negev, Israel*); *Ibrahim Abdulhalim* (*Ben-Gurion University of the Negev, Israel*);

11:00 On the Electrodinamics of Counter Propagating Transverse-electric and Transverse-magnetic Waves in the Absorbing Plate in a Waveguide
Eduard A. Gevorkyan (*Moscow State University of Economics, Statistics and Informatics, Russia*);

11:20 Dissipative Homogeneous Stationary Bianisotropic Medium, Time Dilation and Speed of Light in Vacuum Computation for Different Galilean Reference Systems
Namik Yener (*Kocaeli University, Turkey*);

Session 3A4
Electromagnetic Modeling and Imaging of Anisotropic Media

Tuesday AM, March 22, 2011

Room D

Organized by Dominique Lesselier, Xudong Chen

Chaired by Dominique Lesselier

08:00 Tensorial Mathematic Formulation for the Generalization of Effective Dielectric Concept in Electromagnetism: Superlattices of Any Symmetry with One and Two Directions of Periodicity
Bruno Beche (*Université Rennes 1, France*); *E. Gaviot* (*Université Le Mans, France*);

08:20 Harmonic Imaging through Nonlinear Metamaterial Surfaces
Zhiyu Wang (*Zhejiang University, China*); *Yu Luo* (*Zhejiang University, China*); *Tao Jiang* (*Zhejiang University, China*); *Zheng Wang* (*Massachusetts Institute of Technology, USA*); *Jiangtao Huangfu* (*Zhejiang University, China*); *Li-Xin Ran* (*Zhejiang University, China*);

08:40 Generation of Waves by a Neutron Beam in a Quantum Plasma of Nonzero Spin. An Influence of the Spin-orbit Interaction
Pavel Aleksandrovih Andreev (*Moscow State University, Russian Federation*); *L. S. Kuz'menkov* (*Moscow State University, Russian Federation*);

09:00 Reconstruction of Complex Anisotropic Scatterers Using Subspace Based Optimization Method
Krishna Agarwal (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*);

09:20 Joint Magnetotelluric and Controlled-source Electromagnetic Inversion Algorithm for Anisotropic Media
Aria Abubakar (*Schlumberger-Doll Research, USA*); *Maokun Li* (*Schlumberger-Doll Research, USA*); *Guangdong Pan* (*Schlumberger-Doll Research, USA*); *Tarek M. Habashy* (*Schlumberger-Doll Research, USA*);

09:40 Horn Antennas Loaded with Metamaterial for UWB Applications
Mohamed Lashab (*Université de Skikda, Algeria*); *Hmeda I. Hraga* (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *C. Zebiri* (*Skikda University, Algeria*); *Fatiha Benabdelaziz* (*University of Constantine, Algeria*); *S. M. R. Jones* (*University of Bradford, UK*);

10:00 **Coffee Break**

10:20 Anisotropy in Seemingly Isotropic Media
Henrik Kettunen (*Aalto University School of Science and Technology, Finland*); *Jiaran Qi* (*Aalto University School of Science and Technology, Finland*); *Henrik Wallen* (*Aalto University School of Science and Technology, Finland*); *Ari Henrik Sihvola* (*Aalto University School of Science and Technology, Finland*);

10:40 Computation of Electromagnetic Transmission Eigenvalues Using Integral Equations and Far Field Data
Francis Collino (*CERFACS, France*); *Anne Cossonniere* (*CERFACS, France*); *M'Barek Fares* (*CERFACS (Centre Europeen de Recherche et de Formation Avancee en Calcul Scientifique), France*); *Houssem Haddar* (*INRIA, France*);

11:00 Transmission Eigenfrequencies for Dielectrics and Their Use in the Identification Problem
Houssem Haddar (*INRIA, France*); *Fioralba Cakoni* (*University of Delaware, USA*);

11:20 Comprehensive Model of Charge Transport in Alumina Composites Containing Semiconductive Silicon Carbide Whiskers: Effects of Frequency, Temperature, Bias, Percolation, and Anisotropic Microstructure
Brian D. Bertram (*Georgia Institute of Technology, USA*); *Rosario A. Gerhardt* (*Georgia Institute of Technology, USA*); *John W. Schultz* (*Georgia Institute of Technology, USA*);

Session 3A5
Electromagnetics in Remote Sensing

Tuesday AM, March 22, 2011

Room E

Organized by Stephen D. Wall, Giorgio Franceschetti

Chaired by Stephen D. Wall, Giorgio Franceschetti

08:20 Dimensions of Microwave Remote Sensing and of a Radar Designer: A Tribute to Dr. William T. K. Johnson
Stephen D. Wall (*California Institute of Technology, USA*);

08:40 Radar Studies of the Plains of Titan
Ellen R. Stofan (*Proxemy Research, USA*); *Stephen D. Wall* (*Jet Propulsion Laboratory, California Institute of Technology, USA*); *Tom G. Farr* (*Jet Propulsion Laboratory, California Institute of Technology, USA*); *Alex Hayes* (*California Institute of Technology, USA*); *Michael Janssen* (*California Institute of Technology, USA*); *Randolph L. Kirk* (*United States Geological Survey, USA*); *A. Le Gall* (*California Institute of Technology, USA*); *Rosaly M. C. Lopes* (*California Institute of Technology, USA*); *Ralph D. Lorenz* (*Johns Hopkins University, USA*); *Jonathan I. Lunine* (*University of Arizona, USA*); *Karl L. Mitchell* (*California Institute of Technology, USA*); *Jani Radebaugh* (*Brigham Young University, USA*); *L. A. Soderblom* (*USGS Astrogeology Div., USA*); *Charles A. Wood* (*Wheeling Jesuit University, USA*); *The Cassini RADAR Team* (*California Institute of Technology, USA*);

09:00 Interpreting the Geology of Titan Using RADAR Data from Cassini
Rosaly M. C. Lopes (*California Institute of Technology, USA*); *A. Le Gall* (*California Institute of Technology, USA*); *Lauren Wye* (*Stanford University, USA*); *E. R. Stofan* (*Proxemy Research, USA*); *R. Peckyno* (*Oregon State University, USA*); *Jani Radebaugh* (*Brigham Young University, USA*); *Randolph L. Kirk* (*United States Geological Survey, USA*); *Alex Hayes* (*California Institute of Technology, USA*); *O. Aharonson* (*California Institute of Technology, USA*); *Karl L. Mitchell* (*California Institute of Technology, USA*); *Bryan W. Stiles* (*California Institute of Technology, USA*); *Stephen D. Wall* (*Jet Propulsion Laboratory, California Institute of Technology, USA*); *Michael Janssen* (*California Institute of Technology, USA*); *The Cassini RADAR Team* (*California Institute of Technology, USA*);

09:20 Titan's Hydrocarbon Seas: Physical Properties and Measurement Prospects
Ralph D. Lorenz (*Johns Hopkins University, USA*);

09:40 Monostatic Statistical Shadowing Function with Reflection of Random Rough Surfaces
Hongkun Li (*Université de Nantes, France*); *Nicolas Pinel* (*Université de Nantes, France*); *Christophe Bourlier* (*Universite de Nantes, France*);

10:00 **Coffee Break**

10:20 A Combined Active/passive Model for the Radar-bright Terrains on Titan
Michael A. Janssen (*California Institute of Technology, USA*); *Alice Le Gall* (*California Institute of Technology, USA*); *Lauren Wye* (*Stanford University, USA*);

10:40 Use of the Neural Net for Road Extraction from Satellite Images, Application in the City of Laghouat (Algria)
Fatiha Benkouider (*Telidji Laghouat University, Algeria*); *Latifa Hamami* (*National Polytechnic School, Algeria*); *Abdelkader Abdellaoui* (*URF Lettres et sciences humaines, France*);

11:00 Titan Exploration New Research Lines
Giorgio Franceschetti (*University of Naples "Federico II", Italy*); *Antonio Iodice* (*University of Naples "Federico II", Italy*); *Daniele Riccio* (*University of Naples "Federico II", Italy*);

11:20 SAR Monopulse Amplitude Comparison Method applied to Cassini RADAR SAR Imagery of Titan's North Polar Lake District
Karl L. Mitchell (*California Institute of Technology, USA*); *Bryan W. Stiles* (*California Institute of Technology, USA*); *Chandini Veeramachaneni* (*California Institute of Technology, USA*); *Philip S. Callahan* (*California Institute of Technology, USA*); *The Cassini RADAR Team* (*California Institute of Technology, USA*);

11:40 Global Ionospheric Maps Analysis with Radio Tomography, Satellite Altimetry and UV Data
E. S. Andreeva (*M. V. Lomonosov Moscow State University, Russia*); *Svetlana A. Kalashnikova* (*M. V. Lomonosov Moscow State University, Russia*); *Viacheslav E. Kunitsyn* (*M. V. Lomonosov Moscow State University, Russia*); *I. A. Nesterov* (*M. V. Lomonosov Moscow State University, Russia*);

Session 3A6
RFID and RFID-enabled Sensors

Tuesday AM, March 22, 2011

Room F

Organized by Manos M. Tentzeris, Smail Tedjni

Chaired by Manos M. Tentzeris, Etienne Perret

08:20 UHF RFID Chip Impedance Measurement without Vector Network Analyzer
Rainer Kronberger (*Cologne University of Applied Sciences, Germany*); *Volker Wienstroer* (*Cologne University of Applied Sciences, Germany*); *Barbara Friedmann* (*Noretec GmbH & Co., Germany*);

08:40 RFID Chip Impedance Measurement for UHF Tag Design
M. Daiki (*Grenoble-INP/LCIS, France*); *Hamza Chaabane* (*Grenoble-INP/LCIS, France*); *Etienne Perret* (*Grenoble-INP/LCIS, France*); *Smail Tedjni* (*Grenoble-INP/LCIS, France*); *Taoufik Aguili* (*Ecole Nationale d'ingénieurs de Tunis, Tunisia*);

09:00 A 2.45 GHz Rectenna with Optimized RF-to-DC Conversion Efficiency
O. A. Campana Escala (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*); *G. A. Sotelo Bazan* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*); *Apostolos Georgiadis* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*); *Ana Collado* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*);

09:20 Novel Compact RFID Chipless Tag
Arnaud Vena (*Grenoble Institute of Technology, France*); *Etienne Perret* (*Grenoble Institute of Technology, France*); *Smail Tedjni* (*Grenoble Institute of Technology (Grenoble-INP), France*);

09:40 RFID Tag Antenna Design on Metallic Surface by Using Rectangular Micro-strip Feed
Ding-Bing Lin (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chao-Chieh Wang* (*National Taipei University of Technology, Taiwan, R.O.C.*); *I-Tseng Tang* (*National University of Tainan, Taiwan*); *Mau-Phon Houng* (*National Cheng-Kung University, Taiwan*);

10:00 **Coffee Break**

10:20 Simplified Design Approach of Rectangular Spiral Antenna for UHF RFID Tag
Khalil El Khamlichi Drissi (*Blaise Pascal University, France*); *El Mostafa Makroum* (*EST, ENSEM, Morocco*); *Mounir Rifi* (*EST, ENSEM, Morocco*); *Mohamed Latrach* (*Ecole Superieure d'Electronique de l Ouest, France*); *Ali Benbassou* (*University Sidi Mohammed Ben Abdellah, Morocco*);

10:40 Electromagnetic Analysis of the Near Field Coupling between a RFID Tag and Harness for Aeronautic Applications
Alexandru Takacs (*University of Toulouse, France*); *Anthony Coustou* (*University of Toulouse, France*); *Hervé Aubert* (*University of Toulouse, France*); *Manos M. Tentzeris* (*Georgia Institute of Technology, USA*);

11:00 Inkjet-printed Paper/Polymer-based "Green" RFID and Wireless Sensor Nodes: The Final Step to Bridge Cognitive Intelligence, Nanotechnology, Biomonitoring and RF?
Manos M. Tentzeris (*Georgia Institute of Technology, USA*); *Anya N. Traille* (*Georgia Institute of Technology, USA*); *H. Lee* (*Georgia Institute of Technology, USA*); *Rushi Vyas* (*Georgia Institute of Technology, USA*); *Vasileios Lakafosis* (*Georgia Institute of Technology, USA*); *A. Rida* (*Georgia Institute of Technology, USA*);

11:20 Design of Autonomous Sensing Tag Based on Energy Harvesting
Naoya Nakashima (*The University of Tokyo, Japan*); *Hiroshi Nishimoto* (*The University of Tokyo, Japan*); *Yoshihiro Kawahara* (*The University of Tokyo, Japan*); *Tohru Asami* (*The University of Tokyo, Japan*);

11:40 Development of a Localization System by the Passive RFID UHF Technology in the Indoor Environment
Thi Ngoc Hien Doan (*Grenoble INP-Minatec, France*); *Tan-Phu Vuong* (*Grenoble INP-Minatec, France*); *Smail Tedjni* (*Grenoble Institute of Technology (Grenoble-INP), France*); *Thi Ngoc Yen Pham* (*Hanoi University of Science and Technology, Vietnam*);

Session 3A7
Validation of Computational Electromagnetics and Quantitative Comparisons

Tuesday AM, March 22, 2011

Room G

Organized by Alistair P. Duffy

Chaired by Alistair P. Duffy

08:20 Experimental Verification of Snell's Law at Sub-optical Frequencies
Jason Ramage (*University of South Carolina, USA*); *Paul G. Huray* (*University of South Carolina, USA*); *Kevin Slattery* (*Intel Corporation, USA*); *Xiaopeng Dong* (*Intel Corporation, USA*); *Mike Resso* (*Agilent Technologies, Inc., USA*);

08:40 Backward Wave Modes of Partially Plasma Column Loaded Cylindrical Waveguide
Ersoy Kelebekler (*Kocaeli University, Turkey*); *Namik Yener* (*Kocaeli University, Turkey*);

09:00 Scattering Analysis of a Submerged Conducting Object in Lossy Media via Low Frequency EM
Amna Ajaz (*Northwestern Polytechnical University, China*); *Jia-Dong Xu* (*Northwestern Polytechnical University, China*); *Wei Yan* (*Northwestern Polytechnical University, China*);

09:20 The Feature Selective Validation (FSV) as a Means of Formal Validation of Electromagnetic Data
Alistair P. Duffy (*De Montfort University, UK*); *Hugh G. Sasse* (*De Montfort University, UK*);

09:40 Comparing EMC-signatures by FSV as a Quality Assessment Tool
Jos Knockaert (*Ghent University, Belgium*); *Davy Pissoort* (*Catholic University Leuven, ESAT-MICAS, Belgium*); *Filip Vanhee* (*Catholic University Leuven, ESAT-MICAS, Belgium*);

10:00 **Coffee Break**

10:20 On the Psychological Processes of Decision Making in Displays of Electromagnetic Data
Mark Scase (*De Montfort University, UK*); *Mohammed Shafiullah* (*De Montfort University, UK*); *Alistair P. Duffy* (*De Montfort University, UK*);

10:40 Numerical Noise Reduction in the Fourier Transform Component of Feature Selective Validation
Hugh Sasse (*De Montfort University, UK*); *Alistair Duffy P.* (*De Montfort University, UK*);

11:00 Study of Transient Phenomena with Feature Selective Validation Method
Ricardo Jauregui (*Universitat Politècnica de Catalunya, Spain*); *J. Rojas-Mora* (*University of Barcelona, Spain*); *F. Silva* (*Universitat Politècnica de Catalunya, Spain*);

11:20 Performance Improvement of FSV in a Special Situation
Gang Zhang (*Harbin Institute of Technology, China*); *Lixin Wang* (*Harbin Institute of Technology, China*); *Alistair P. Duffy* (*De Montfort University, UK*);

11:40 Antenna Siting Sensitivity Analysis Using the Feature Selective Validation
Andrew L. Drozd (*ANDRO Computational Solutions, LLC, USA*); *Irina Kasperovich* (*ANDRO Computational Solutions, LLC, USA*); *Clifford E. Carroll, Jr.* (*ANDRO Computational Solutions, LLC, USA*); *Adrienne A. Croneiser* (*ANDRO Computational Solutions, LLC, USA*);

Session 3A8
Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology

Tuesday AM, March 22, 2011

Room H

Organized by Eva Gescheidtová

Chaired by Pavel Fiala

08:20 Supplement on the Non-constancy of Speed of Light in Vacuum for Different Galilean Reference Systems
Namik Yener (*Kocaeli University, Turkey*);

08:40 Permittivity of Vacuum and Speed of Light in Vacuum which Vary with Relative Speeds of Media in Uniform Rectilinear Motion with Respect to Each Other
Namik Yener (*Kocaeli University, Turkey*);

09:00 Reconstruction of Tumors in Human Livers by Magnetic Resonance Imaging
Jan Mikulka (*Brno University of Technology, Czech Republic*); *Eva Gescheidtová* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

09:20 C-ring Metamaterial in Close Field
Radek Kubasek (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

09:40 Sensors and Experimental Model Development for PD Localization in HV Transformers
Petr Drexler (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*); *Petr Marcon* (*Brno University of Technology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Zoltán Szabó* (*Brno University of Technology, Czech Republic*);

10:00 **Coffee Break**

10:20 Comparison of Different Methods for Measurement of Shielding Fabrics Properties
Zoltán Szabó (*Brno University of Technology, Czech Republic*);

10:40 Propagation of Electromagnetic Wave in Layered Heterogeneous Medium
Radim Kadlec (*Brno University of Technology, Czech Republic*); *Eva Kroutilova* (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

11:00 Measurement of Concentration and Water Flow
Martin Friedl (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Petr Marcon* (*Brno University of Technology, Czech Republic*); *Radek Kubasek* (*Brno University of Technology, Czech Republic*);

11:20 Using Metamaterials as Electromagnetic Lens for MR Tomograph
Dusan Nespor (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Karel Bartusek* (*Brno University of Technology, Czech Republic*);

11:40 The Design of High-impedance and High-voltage Input Amplifier for Measurement of Electropotentials on Solid-liquid Phase Boundary
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Zoltán Szabó* (*Brno University of Technology, Czech Republic*); *Miloslav Steinbauer* (*Brno University of Technology, Czech Republic*); *Dominik Heger* (*Masaryk University, Czech Republic*); *Radek Kubasek* (*Brno University of Technology, Czech Republic*);

Session 3A9
Poster Session 5

Tuesday AM, March 22, 2011
9:00 AM - 12:00 AM
Room K
Chaired by Hakeim Talleb

1 Analytical Expressions of Diffraction' Free Beams Obtained by Diffraction on an Opaque Disk
Qiulin Huang (*Xidian University, China*); *Sebastien Coetmellec* (*Université de Rouen, France*); *Anne Louis* (*ESIGELEC, France*); *Fabrice Duval* (*IRSEEM, France*); *Herve Leblond* (*Université d'Angers, France*); *Marc Brunel* (*Université de Rouen, France*);

2 Magnetic Photonic Crystal against Optimized Magneto-optical Multilayer — What Is the Best Choice for Visible Spectral Region
Viacheslav Kotov (*V.A. Kotelnikov Institute of Radio Engineering and Electronics, RAS, Russia*); *Mikhail Vasiliev* (*Edith Cowan University, Australia*); *Kamal E. Alameh* (*Edith Cowan University, Australia*); *V. I. Burkov* (*Moscow Institute of Physics and Technology, Russia*); *V. G. Shavrov* (*V.A. Kotelnikov Institute of Radio Engineering and Electronics, RAS, Russia*);

3 Linear and Non Linear Dielectric Properties of a Short Pitch Ferroelectric Liquid Crystal Stabilized by an Anisotropic Polymer Network
J. Hemine (*Université Hassan II Mohammedia-Casablanca, Morocco*); *Y. Cherfi* (*Université des Sciences et de la Technologie Houari Boumediene, Algérie*); *R. Douali* (*Université Lille Nord de France, France*); *J. M. Leblond* (*Université Lille Nord de France, France*); *N. Beldjoudi* (*Université des Sciences et de la Technologie Houari Boumediene, Algérie*); *Abdelylah Daoudi* (*Université Lille Nord de France, France*);

4 Electroclinic Effect of Ferroelectric Liquid Crystals Near to N*-SmA-SmC* Multicritical Point by Electro-Optical and Dielectric Spectroscopy
J. Hemine (*Université Hassan II Mohammedia-Casablanca, Morocco*); *Abdelylah Daoudi* (*Université Lille Nord de France, France*); *C. Legrand* (*Université Lille Nord de France, France*); *A. El Kaaouachi* (*Laboratoire de Physique de la Matière Condensée, Morocco*); *A. Nafidi* (*Laboratoire de Physique de la Matière Condensée, Morocco*); *H. T. Nguyen* (*Université de Bordeaux 1, France*);

5 Rescaled Range Analysis of ELF Natural Electromagnetic Noise from Antarctica
Alfonso Salinas (*University of Granada, Spain*); *Sergio Toledo-Redondo* (*Universidad de Granada, Spain*); *Juan Antonio Morente* (*University of Granada, Spain*); *Jorge Andres Porti* (*University of Granada, Spain*); *E. A. Navarro* (*Universidad de Valencia, Spain*); *A. Méndez* (*Universidad de Granada, Spain*); *J. F. Fornieles* (*Universidad de Granada, Spain*); *M. Rodríguez-Sola* (*Universidad de Granada, Spain*); *N. Novas* (*Universidad de Almería, Spain*); *J. A. Gázquez* (*Universidad de Almería, Spain*); *R. García-Salvador* (*Universidad de Almería, Spain*);

6 Study of Plasma Breakdown Located in Apertures to Shield Electronic Components inside Cavities
Rudy Klein (*ONERA, France*); *A. Hamiaz* (*LAPLACE, France*); *Xavier Ferrieres* (*Office National d'Etudes et de Recherches Aerospatiales (ONERA), France*); *O. Pascal* (*LAPLACE, France*); *J. P. Boeuf* (*LAPLACE, France*);

7 Modelling of the Micro Plasma Discharges to Control the Electromagnetic Wave Propagation in Printed Microwaves Circuits
Mohamad Almustafa (*Université de Toulouse, France*); *Jacques David* (*University of Toulouse, France*); *Tan Hoa Vuong* (*University of Toulouse, France*);

8 Band Structure in One-dimensional Aperiodic Structures with Left-handed Materials
Xóchitl Inés Saldaña Saldaña (*Benemérita Universidad Autónoma de Puebla, México*);

9 Hybrid Method to Compute the Magnetic Field in Bird Cage Coil for a Magnetic Resonance Imaging System
Naima Benyahia (*University of Biskra, Algeria*); *Mmohamed E. Latreche* (*University of Constantine, Algeria*);

10 Performances of Textile Patch Antennas
Mohamad Mantash (*University of Rennes 1, France*); *Anne-Claude Tarot* (*Université de Rennes 1, France*); *Sylvain Collardey* (*University of Rennes 1, France*); *Kouroch Mahdjoubi* (*Université Européenne de Bretagne (UEB), France*);

11 Polar Decomposition of the Mueller Matrix Applied to Nanoparticle Sizing
Juan Marcos Sanz (*Universidad de Cantabria, Spain*); *Pablo Albella* (*Universidad de Cantabria, Spain*); *José María Saiz* (*Universidad de Cantabria, Spain*); *Rodrigo Alcaraz* (*Universidad de Cantabria, Spain*); *Fernando Moreno* (*Universidad de Cantabria, Spain*); *Francisco González* (*Universidad de Cantabria, Spain*);

12 Coils and Magnets: 3D Analytical Models
Romain Ravaud (*Universite du Maine, France*); *Guy Lemarquand* (*Universite du Maine, France*); *Valerie Lemarquand* (*Universite du Maine, France*);

13 Discussion on the Magnetic Pole Volume Density in Analytical Models of Permanent Magnets
Romain Ravaud (*Universite du Maine, France*); *Guy Lemarquand* (*Universite du Maine, France*); *Valerie Lemarquand* (*Universite du Maine, France*);

14 A Coupled Simulation of Microwave Heating Effect Accouting for the Radiation Cooling of the Sample
Pawel Kopyt (*Warsaw University of Technology, Poland*);

15 Resonators with Nonreciprocal Media and Three- and Four-port Integrated Optical Circulators Based on 2D Photonic Crystals
Victor A. Dmitriev (*Federal University of Para, Brazil*); *F. J. M. de Souza* (*Federal University of Para, Brazil*); *Guilherme Motta de Moraes* (*Federal University of Para, Brazil*);

16 Detection of Micro-cracks on Metal Surfaces Using Near-field Microwave Dual-behaviour Resonators Filters
Julien Kerouedan (*Université Européenne de Bretagne, France*); *Philippe Talbot* (*Universite de Bretagne Occidentale, France*); *Patrick Queffelec* (*Université Européenne de Bretagne, France*); *Cedric Quendo* (*University of Bretagne Occidentale, France*); *Alain Le Brun* (*STEP, France*);

17 A Peak to Average Power Ratio Reduction of Multi-carrier CDMA System Using Error Control Selective Mapping
Sajjad A. Memon (*Mehran University of Engineering & Technology, Pakistan*); *A. Waheed Umrani* (*Mehran University of Engineering & Technology, Pakistan*); *Fahim A. Umrani* (*Mehran University of Engineering & Technology, Pakistan*); *A. K. Baloch* (*Mehran University of Engineering & Technology, Pakistan*);

18 Detection of Singularities by Wavelet Technique for Extracting Leaky Waves in Piezoelectric Material
Djamel Benatia (*Université de Batna, Algeria*); *Tarek Fortaki* (*Université de Batna, Algeria*); *Malek Benslama* (*University of Constantine, Algeria*);

19 Magneto-optical Spectroscopic Scatterometry of 1D Gratings
Martin Veis (*Charles University, Czech Republic*); *Roman Antos* (*Charles University, Czech Republic*); *Stefan Visnovsky* (*Charles University, Czech Republic*);

20 Adjustable Group Delay Circuits Capable of Switching between Negative and Positive Group Delays
Chia-Chi Lin (*National Sun Yat-Sen University, Taiwan*); *Ken-Huang Lin* (*National Sun Yat-Sen University, Taiwan*); *Hsin-Lung Su* (*National Pingtung Institute of Commerce, Taiwan*);

21 Analysis of AOA-TOA Signal Distribution in Indoor RF Environments
Laialy Ali (*Ben-Gurion University of the Negev, Israel*); *Yehuda Ben-Shimol* (*Ben-Gurion University of the Negev, Israel*); *Nathan Blaunstein* (*Ben-Gurion University of the Negev, Israel*);

22 Electromagnetic Study of Planar Periodic Structures Using a Multi-scale Approach
Sonia Mili (*National Engineering School of Tunis, Tunisia*); *Taoufik Aguili* (*Ecole Nationale d'ingénieurs de Tunis, Tunisia*);

23 Study of Edge Effect of 4340 Steel Specimen Heated by Induction Process Using Axi-symmetric Simulation
Noureddine Barka (*Université du Québec à Rimouski, Canada*); *A. Chebak* (*Université du Québec à Rimouski, Canada*); *Jean Brousseau* (*Université du Québec à Rimouski, Canada*);

24 Optimization of Hardness Profile of Bearing Seating Heated by Induction Process Using Axisymmetric Simulation
Noureddine Barka (*Université du Québec à Rimouski, Canada*); *A. Chebak* (*Université du Québec à Rimouski, Canada*); *Jean Brousseau* (*Université du Québec à Rimouski, Canada*);

25 A Time Domain Hybrid Approach to Study Buildings Connected by Cables
Nathanael Muot (*AxesSim, France*); *E. Bachelier* (*ONERA, France*); *Xavier Ferrieres* (*Office National d'Etudes et de Recherches Aerospatiales (ONERA), France*); *C. Girard* (*AxesSim, France*);

26 The Effect of Metamaterial Patterning to Improve the Septum GTEM Chamber Performance
Humberto Xavier De Araújo (*University of Campinas, Brazil*); *Luiz Carlos Kretly* (*University of Campinas, Brazil*);

27 The Integration of the Multihoming Concept in Ad Hoc MANET Mobile Networks
Abderraouf Messai (*Université de Constantine, Algeria*); *S. Sadouni* (*Université de Constantine, Algeria*); *Skander Aris* (*Mentouri, Algeria*); *H. Mokhtari* (*University of Constantine, Algeria*); *Malek Benslama* (*University of Constantine, Algeria*);

29 Electromagnetic Compatibility of CMOS Circuits along the Lifetime
Raul Fernández-García (*Universitat Politècnica de Catalunya, Spain*); *J. M. Ruiz* (*Escuela Universitaria Salesiana de Sarriá, Spain*); *Ignacio Gil* (*Universitat Politècnica de Catalunya, Spain*); *M. Morata* (*Escuela Universitaria Salesiana de Sarriá, Spain*);

30 The Ratio of Models for Fuel and Building Power Plants in Thailand in 2564
Vallop Phupha (*Rajamangala University of Technology Phra Nakhon (RMUTP), Thailand*);

31 Characterization and Modeling of the Electromagnetic Emission of an ADC Converter
Néstor Berbel (*Universitat Politècnica de Catalunya, Spain*); *Raul Fernández-García* (*Universitat Politècnica de Catalunya, Spain*); *Ignacio Gil* (*Universitat Politècnica de Catalunya, Spain*);

32 Reconfigurable RF-MEMS Metamaterials Filters
Ignacio Gil (*Universitat Politècnica de Catalunya, Spain*); *M. Morata* (*Escuela Universitaria Salesiana de Sarriá, Spain*); *Raul Fernández-García* (*Universitat Politècnica de Catalunya, Spain*); *Xavier Rottenberg* (*IMEC, Belgium*); *Walter De Raedt* (*Interuniversity Microelectronics Centre (IMEC), Belgium*);

33 Critical Behavior and Magnetocaloric Effect Near the Paramagnetic to Ferromagnetic Phase Transition Temperature in $La_{0.7}Pb_{0.05}Na_{0.25}MnO_3$
A. Tozri (*Université de Sfax, Tunisie*); *Essebti Dhahri* (*Université de Sfax, Tunisia*); *El Kébir Hlil* (*Institut Néel et CRETA, CNRS, France*); *Mohammed Sajieddine* (*Université Sultan Moulay Sliman, Maroc*); *Manuel Almeida Valente* (*University of Aveiro, Portugal*);

34 Magneto-impedance Hysteresis in Thin Amorphous Microwires
Mihail Ipatov (*Universidad del Pais Vasco, Spain*); *V. Zhukova* (*Universidad del Pais Vasco, Spain*); *J. Gonzalez* (*Universidad del Pais Vasco, Spain*); *Arcady P. Zhukov* (*Universidad del Pais Vasco, Spain*);

35 Femtosecond Laser Focus Determination through Its Perturbation of an Electric Field
Mayo Villagran-Muniz (*Universidad Nacional Autónoma de México (UNAM), Mexico*); *Citlali Sanchez-Aké* (*Universidad Nacional Autónoma de México (UNAM), Mexico*); *Fausto O. Bredice* (*Centro de Investigaciones Opticas, Argentina*);

36 A Novel Bandwidth Enhancement Technique for a Compact Right/Left-handed (CRLH) Transmission Line (TL) Based Antenna
Mimi Aminah Wan Nordin (*International Islamic University Malaysia (IIUM), Malaysia*); *Hany Essam Abd-El-Raouf* (*International Islamic University Malaysia (IIUM), Malaysia*); *A. H. M. Zahirul Alam* (*International Islamic University Malaysia (IIUM), Malaysia*);

38 Performance of GMI Sensors for the Detection of Magnetic Nano-particules and Imaging
Alain Fessant (*Université de Bretagne Occidentale, France*); *Philippe Talbot* (*Universite de Bretagne Occidentale, France*); *Jacek Gieraltowski* (*Université de Bretagne Occidentale, France*); *Emeline Poitevin* (*Université de Bretagne Occidentale, France*);

39 Effect of Ga-doping on the Magnetic and Magnetocaloric Properties of $(LaCaSr)(MnGa)O_3$ Compound
A. Omri (*Université de Sfax, Tunisie*); *Moez Bejar* (*Université de Sfax, Tunisie*); *Mohammed Sajieddine* (*Université Sultan Moulay Sliman, Maroc*); *Essebti Dhahri* (*Université de Sfax, Tunisia*); *El Kébir Hlil* (*Institut Néel et CRETA, CNRS, France*); *Manuel Almeida Valente* (*University of Aveiro, Portugal*);

Session 3P1
Anisotropic Media and Liquid Crystals Optics

Tuesday PM, March 22, 2011

Room A

Organized by Ibrahim Abdulhalim

Chaired by Mohammed Ibn-Elhaj, Ibrahim Abdulhalim

13:20 Industrial Trends in Photo-aligned Liquid Crystals
Mohammed Ibn-Elhaj (*Rolic Technologies Ltd., Switzerland*);

13:40 Optical Modeling of Liquid Crystal Biosensors
Dae Kun Hwang (*University of Saskatchewan, Canada*); *Alejandro D. Rey* (*McGill University, Canada*);

14:00 Liquid-crystalline Hybrid Nanomaterials with Magnetic Properties
Daniel Guillon (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*); *B. Donnio* (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*); *S. Bégin* (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*); *J. L. Gallani* (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*); *E. Terazzi* (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*); *A. Demortière* (*Institut de Physique et Chimie des Matériaux de Strasbourg, France*);

14:20 Optimization of Coherence Multiplexed Coding for High Density Signal Processing
Sonia Elwardi (*University of Carthage, Tunisia*); *Mourad Zghal* (*University of Carthage, Tunisia*); *Badr-Eddine Benkelfat* (*Institut Télécom, Télécom SudParis SAMOVAR UMR INT-CNRS 5157, France*);

14:40 Direct Excitation of Surface Plasmons with TE and TM Waves at Anisotropic Film-metal Interface
Ibrahim Abdulhalim (*Ben-Gurion University of the Negev, Israel*);

15:00 **Coffee Break**

15:20 Highly Birefringent Photonic Crystal Fiber for Coherent Infrared Supercontinuum Generation
Amine Ben Salem (*University of Carthage, Tunisia*); *R. Cherif* (*University of Carthage, Tunisia*); *Mourad Zghal* (*University of Carthage, Tunisia*); *J. Burger* (*National Metrology Institute of South Africa (NMISA), South Africa*);

15:40 Semiclassical Coupled Wave Theory for Bandgap Calculations in Periodically Stratified Dielectric Media
Gregory V. Morozov (*University of the West of Scotland, United Kingdom*); *Frank Placido* (*University of Western Scotland, UK*); *Donald W. L. Sprung* (*McMaster University, Canada*); *Joan Martorell* (*University of Barcelona, Spain*);

16:00 On the Role of Maxwell Fields in the Resonant Transfer of Energy
Akbar Salam (*Wake Forest University, USA*);

16:20 Raman Response of a Highly Nonlinear As_2Se_3-based Chalcogenide Photonic Crystal Fiber
Amine Ben Salem (*University of Carthage, Tunisia*); *R. Cherif* (*University of Carthage, Tunisia*); *Mourad Zghal* (*University of Carthage, Tunisia*);

Session 3P2
Terahertz Radiation Detection and Emission by Field Effect Transistors

Tuesday PM, March 22, 2011

Room B

Organized by Wojciech Knap, Michel I. Dyakonov

Chaired by Wojciech Knap, Michel I. Dyakonov

13:00 Generation and Detection of Terahertz Radiation by Field Effect Transistors
Michel I. Dyakonov (*Université Montpellier II, France*);

13:20 300-GHz Band Wireless Communications Based on Diode Technologies
Tadao Nagatsuma (*Osaka University, Japan*); *Takuma Takada* (*Osaka University, Japan*); *Masashi Kawamura* (*Osaka University, Japan*); *Daisuke Asa* (*Osaka University, Japan*);

13:40 Possible Applications of Terahertz FET Devices
Chiko Otani (*RIKEN Advanced Science Institute (ASI), Japan*);

14:00 Current Driven Terahertz Detection by Plasma Waves in Nano-transistors
Frederic Teppe (*University Montpellier II, France*); *S. Boubanga-Tombet* (*Université Montpellier 2, France*); *Jeremi Torres* (*University Montpellier II, France*); *O. Klimenko* (*University Montpellier II, France*); *H. Videlier* (*University Montpellier II, France*); *S. Nadar* (*University Montpellier II, France*); *N. Dyakonova* (*University Montpellier II, France*); *D. Coquillat* (*Université Montpellier 2, France*); *A. El Fatimy* (*Cardiff University, UK*); *C. Consejo* (*University Montpellier II, France*); *B. Chenaud* (*University Montpellier II, France*); *C. Chaubet* (*University Montpellier II, France*); *Wojciech Knap* (*Université Montpellier 2, France*);

14:20 Detection of Terahertz Radiation from Strained Silicon Modulation Field Effect Transistor
Yahya Moubarak Meziani (*Salamanca University, Spain*); *E. Velazquez* (*Salamanca University, Spain*); *E. Diez* (*Salamanca University, Spain*); *N. Dyakonova* (*University Montpellier II, France*); *Wojciech Knap* (*Université Montpellier 2, France*); *Amine El Moutaouakil* (*Tohoku University, Japan*); *Kristel Fobelets* (*Imperial College London, UK*); *Taiichi Otsuji* (*Tohoku University, Japan*);

14:40 Sub-terahertz Imaging with AlGaN/GaN Based MISFETs and FETs Using Field-plate Technology
Frederic Teppe (*University Montpellier II, France*); *Dominique Coquillat* (*Université Montpellier 2, France*); *N. Dyakonova* (*University Montpellier II, France*); *S. Nadar* (*University Montpellier II, France*); *O. Klimenko* (*University Montpellier II, France*); *H. Videlier* (*University Montpellier II, France*); *K. Madjour* (*UMR 8520, France*); *G. Ducournau* (*University Sci. & Tech. Lille Flandres Artois, France*); *C. Gaquière* (*UMR 8520, France*); *M. A. Poisson* (*Thales Research and Technology, France*); *S. Delage* (*Thales Research and Technology, France*); *A. Dobroiu* (*RIKEN, Japan*); *Wojciech Knap* (*Université Montpellier 2, France*);

15:00 **Coffee Break**

15:20 Terahertz and Infrared Detectors Based on Multiple-graphene Layers with p-i-n Junctions: Device Model and Characteristics
Maxim Ryzhii (*The University of Aizu, Japan*); *Victor Ryzhii* (*The University of Aizu, Japan*); *Taiichi Otsuji* (*Tohoku University, Japan*); *Vladimir Mitin* (*University at Buffalo, The State University of New York, USA*);

15:40 Photon Helicity Driven Currents in Graphene
Sergey D. Ganichev (*University of Regensburg, Germany*);

16:00 Terahertz Emission, Detection and Modulation Using Two-dimensional Plasmons in High-electron-mobility Transistors Featured by a Dual-grating-gate Structure
Taiichi Otsuji (*Tohoku University, Japan*);

16:20 Gate Fingers and Device Loading Effect on Terhartz Detection from Dual Grating Gate Plasmon-resonant Structure Using InGaP/InGaAs/GaAs Material Systems
Amine El Moutaouakil (*Tohoku University, Japan*); *Dominique Coquillat* (*Montpellier II University, France*); *Wojciech Knap* (*Université Montpellier 2, France*); *Tetsuya Suemitsu* (*Tohoku University, Japan*); *Taiichi Otsuji* (*Tohoku University, Japan*);

16:40 Optical Excitations of Plasma Instability in HEMTS — Possibility of Mode Locking for THZ Emission
P. Nouvel (*University Montpellier II, France*); *Jeremi Torres* (*University Montpellier II, France*); *H. Marinchio* (*University Montpellier II, France*); *T. Laurent* (*University Montpellier II, France*); *C. Palermo* (*University Montpellier II, France*); *L. Varani* (*University Montpellier II, France*); *F. Teppe* (*University Montpellier II, France*); *E. Starikov* (*Semiconductor Physics Institute, Lithuania*); *P. Shiktorov* (*Semiconductor Physics Institute, Lithuania*); *V. Gruzinskis* (*Semiconductor Physics Institute, Lithuania*);

17:00 Subharmonic Mixing in Field-effect Transistors Operating above the Threshold Frequency f_T
Alvydas Lisauskas (*Johann Wolfgang Goethe-Universität Frankfurt, Germany*); *S. Boppel* (*Johann Wolfgang Goethe-Universität Frankfurt, Germany*); *H. G. Roskos* (*Johann Wolfgang Goethe-Universität Frankfurt, Germany*);

17:20 Room Temperature Terahertz Detection: Direct Comparison between Field Effect Transistor and Hot Electron Bolometer Based on AlGaAs/GaAs 2DEG
Abdelouahad El Fatimy (*Cardiff University, UK*); *Philip D. Mauskopf* (*Cardiff University, UK*); *Dmitry Morozov* (*Cardiff University, UK*); *K. Wood* (*Cardiff University, UK*);

17:40 Spin Related Effect in Terahertz Photovoltaic Response of Si-MOSFETs
H. Videlier (*University Montpellier II, France*); *Nina Dyakonova* (*University Montpellier II, France*); *Frederic Teppe* (*University Montpellier II, France*); *C. Consejo* (*University Montpellier II, France*); *Wojciech Knap* (*Université Montpellier 2, France*); *J. Lusakowski* (*Warsaw University, Poland*); *D. Tomaszewski* (*Institute of Electron Technology, Poland*); *J. Marczewski* (*Institute of Electron Technology, Poland*); *P. Grabiec* (*Institute of Electron Technology, Poland*);

Session 3P3a
Reduction of the Mutual Coupling and/or Metamaterial Absorbers

Tuesday PM, March 22, 2011

Room C

Organized by Habiba Hafdallah-Ouslimani, Abdelwaheb Ourir
Chaired by Habiba Hafdallah-Ouslimani, Abdelwaheb Ourir

13:00 Design of 2 x 2 U-shape MIMO slot antennas with EBG material for mobile handset applications
Z. B. Zainal-Abdin (*University of Bradford, UK*); *Y. Ma* (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *K. N. Ramli* (*University of Bradford, UK*); *Dawei Zhou* (*University of Surrey, UK*); *Mohammad S. Bin-Melha* (*University of Bradford, UK*); *J. M. Noras* (*University of Bradford, UK*); *R. Halliwell* (*University of Bradford, UK*);

13:20 Directive Antennas Using Metamaterials
Abdelwaheb Ourir (*ESPCI Paris Tech., France*); *Julien de Rosny* (*ESPCI Paris Tech., France*);

13:40 New Directive Planar Antenna for the Next Generation of Point-to-point Communication in E-band Range (71–86 GHz)
Mamadou Bamba Gueye (*Radio Frequency Systems, France*); *Y. Letestu* (*Radio Frequency Systems, France*); *A. Le Bayon* (*Radio Frequency Systems, France*); *H. Housilmani* (*Université Paris Ouest Nanterre La Défense, France*); *N. Burokur* (*Université Paris Ouest Nanterre La Défense, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*);

14:00 Study on the Precision of Equivalent Electric Models for Planar Distributed Periodic Structures
Z. Djeffal (*UPMC University Paris 06, France*); *Hakeim Talleb* (*UPMC University Paris 06, France*); *David Lautru* (*UPMC University Paris 06, France*); *Victor Fouad-Hanna* (*UPMC University Paris 06, France*);

14:20 Low Profile Antenna Arrays and Mutual Coupling Reduction
X. Han (*University of Paris Ouest Nanterre la Défense, France*); *Habiba Hafdallah-Ouslimani* (*University of Paris West Nanterre la Défense, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*); *Gérard Collignon* (*INEO Defense, France*); *Aurélien Marteau* (*INEO Defense, France*);

14:40 A Wideband 60 GHz CMOS Antenna with UC-PBG and AMC Structure
Ying Peng (*University of Manchester, UK*); *Zhirun Hu* (*University of Manchester, UK*); *Habiba Hafdallah-Ouslimani* (*University of Paris West Nanterre la Défense, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*); *Haiying Zhang* (*Institute of Microelectronics, Chinese Academy Science, China*);

15:00 **Coffee Break**

Session 3P3b
Electromagnetic Research in Photonic Metamaterials

Tuesday PM, March 22, 2011

Room C

Organized by David A. Cardimona

Chaired by David A. Cardimona

15:20 New Concepts in Nanoplasmonics and Plasmonic Metamaterials. Part I: Broadband THz Plasmonic Metamaterials
Stefan A. Maier (*Imperial College London, UK*);

15:40 New Concepts in Nanoplasmonics and Plasmonic Metamaterials. Part II: Dark Modes and Fano Resonances in Nanoplasmonics
Stefan A. Maier (*Imperial College London, UK*);

16:00 Synthesis, Fabrication, and Characterization of Optical Metallo-dielectric and All-dielectric Metamaterials
Jeremy A. Bossard (*The Pennsylvania State University, USA*); *Zhi Hao Ziang* (*The Pennsylvania State University, USA*); *Frank A. Namin* (*The Pennsylvania State University, USA*); *Seokho Yun* (*The Pennsylvania State University, USA*); *Douglas H. Werner* (*The Pennsylvania State University, USA*); *Theresa S. Mayer* (*The Pennsylvania State University, USA*);

16:20 Optimizing Left-handed Metamaterials for the Optical Regime
Maria Kafesaki (*Institute of Electronic Structure and Laser (IESL), Greece*); *R. Penciu* (*Institute of Electronic Structure and Laser (IESL), Greece*); *Th. Koschny* (*Institute of Electronic Structure and Laser (IESL), Greece*); *N. H. Shen* (*Institute of Electronic Structure and Laser (IESL), Greece*); *E. N. Economou* (*Institute of Electronic Structure and Laser (IESL), Greece*); *C. M. Soukoulis* (*Institute of Electronic Structure and Laser (IESL), Greece*);

16:40 Recent Progress in Fishnet Metamaterials at the University of New Mexico
Steven R. J. Brueck (*The University of New Mexico, USA*); *Zahyun Ku* (*The University of New Mexico, USA*); *Svyatoslav Smolev* (*The University of New Mexico, USA*);

17:00 Imaging Interferometric Microscopy
Steven R. J. Brueck (*The University of New Mexico, USA*); *Alexander Neumann* (*University of New Mexico, USA*); *Yuliya Kuznetsova* (*The University of New Mexico, USA*);

17:20 The Magical World of Metamaterials
Ekmel Ozbay (*Bilkent University, Turkey*);

Session 3P4a
Advances in Image Processing

Tuesday PM, March 22, 2011

Room D

Organized by Ioannis Kypraios

Chaired by Ioannis Kypraios

13:00 Silhouette Coverage Analysis for Multi-modal Video Surveillance
Steven Verstockt (*Ghent University, Belgium*); *C. Poppe* (*Ghent University, Belgium*); *P. De Potter* (*Ghent University, Belgium*); *C. Hollemeersch* (*Ghent University, Belgium*); *S. Van Hoecke* (*University College West Flanders, Belgium*); *P. Lambert* (*Ghent University, Belgium*); *Rik Van de Walle* (*Ghent University, Belgium*);

13:20 Recent Advances in the Design of Hybrid Optical Neural Network-type Filters
Ioannis Kypraios (*University of Sussex, UK*);

13:40 Structural Entropy Based Localization Study of Wavelet Transformed AFM Images for Detecting Background Patterns
Szilvia Nagy (*Széchenyi István University, Hungary*); *András Fehér* (*Széchenyi István University, Hungary*); *L. M. Molnar* (*Budapest University of Technology and Economics, Hungary*);

14:00 Integrating Invariant Object Recognition Tools into a Content-based Internet Search Engine
Ioannis Kypraios (*University of Sussex, UK*); *Pouwan Lei* (*University of Bradford, UK*);

14:20 A New Spatio-temporal ICA for Multi-temporal Endmembers Extraction and Change Trajectory Analysis
Selim Hemissi (*ENSI, Tunisia*); *Karim Saheb Ettabaa* (*ENSI, Tunisie*); *Imed Riadh Farah* (*ENSI, Tunisia*); *B. Soulaiman* (*Télécom Bretagne, France*);

14:40 Available Seat Counting in Public Rail Transport
Pieterjan De Potter (*Ghent University, Belgium*); *C. Billiet* (*Ghent University, Belgium*); *C. Poppe* (*Ghent University, Belgium*); *B. Stubbe* (*Televic Group NV, Belgium*); *Steven Verstockt* (*Ghent University, Belgium*); *P. Lambert* (*Ghent University, Belgium*); *Rik Van de Walle* (*Ghent University, Belgium*);

15:00 **Coffee Break**

15:20 Real-time Insect Detection and Classification in Video Sequences Using Wavelets
M. H. Khan (*COMSATS Institute of Information Technology, Pakistan*); *Ioannis Kypraios* (*University of Sussex, UK*); *N. T. Kypraios* (*Technical University of Crete, Greece*);

15:40 Image Processing Methods for Evaluating Infrared Thermographic Image of Electrical Equipments
Mohd Shawal Jadin (*Universiti Sains Malaysia, Malaysia*); *Soib Taib* (*Universiti Sains Malaysia, Malaysia*); *Shahid Kabir* (*Universiti Sains Malaysia (USM), Malaysia*); *Mohd Ansor Bin Yusof* (*Universiti Sains Malaysia, Engineering Campus, Malaysia*);

Session 3P4b
Electromagnetic Scattering over Arid Surfaces: Subsurface and Salt Issues

Tuesday PM, March 22, 2011

Room D

Organized by Philippe Paillou

Chaired by Philippe Paillou

16:00 Radar Remote Sensing of the Ancient Rivers of the Sahara
Tom G. Farr (*Jet Propulsion Laboratory, California Institute of Technology, USA*); *Philippe Paillou* (*University of Bordeaux, France*);

16:20 Use of Multi-temporal C-band Radar Data for the Monitoring of Evaporitic Soils
Pierre-Louis Frison (*University Paris-Est, France*); *Philippe Paillou* (*University of Bordeaux, France*); *Eric R. Pottier* (*University of Rennes, France*);

16:40 The TUNISAR Experiment: Flying an Airborne P-band SAR over Southern Tunisia to Map Subsurface Geology and Soil Salinity
Philippe Paillou (*University of Bordeaux, France*); *O. Ruault Du Plessis* (*ONERA, France*); *Colette Coulombeix* (*ONERA, France*); *Pascale Dubois-Fernandez* (*ONERA, France*); *S. Bacha* (*CNCT, Tunisia*); *N. Sayah* (*CNCT, Tunisia*); *A. Ezzine* (*CNCT, Tunisia*);

17:00 Vector Electromagnetic Scattering from Discrete Random Media Embedded in Layered Arbitrary Rough Interfaces for Subsurface Sensing
Xueyang Duan (*University of Michigan, USA*); *Mahta Moghaddam* (*University of Michigan, USA*);

Session 3P5a
Lightning Effects to Tall Structures and Wind Turbines

Tuesday PM, March 22, 2011

Room E

Organized by Marcos Rubinstein, Farhad Rachidi

Chaired by Marcos Rubinstein, Gerhard Diendorfer

13:00 Fair-weather Atmospheric Electric Field Measurements at the Gaisberg Mountain in Austria
Helin Zhou (*Royal Institute of Technology (KTH), Sweden*); *Gerhard Diendorfer* (*Austrian Electrotechnical Association (OVE), Austria*); *Rajeev Thottappillil* (*Royal Institute of Technology (KTH), Sweden*); *Hannes Pichler* (*Austrian Electrotechnical Association (OVE), Austria*);

13:20 New Measurements of Distant Lightning Electric Fields in Florida
Michael A. Haddad (*University of Florida, USA*); *Vladimir A. Rakov* (*University of Florida, USA*);

13:40 First Direct Lightning Current Measurements on the Newly Instrumented Säntis Telecommunication Tower in Switzerland
Carlos Romero (*Swiss Federal Institute of Technology (EPFL), Switzerland*); *Abraham Rubinstein* (*University of Applied Sciences of Western Switzerland, Switzerland*); *Mario Paolone* (*University of Bologna, Italy*); *Farhad Rachidi* (*Swiss Federal Institute of Technology Lausanne, Switzerland*); *Marcos Rubinstein* (*University of Applied Sciences of Western Switzerland, Switzerland*); *Pierre Zweiacker* (*Swiss Federal Institute of Technology (EPFL), Switzerland*); *Bertrand Daout* (*Montena EMC, Switzerland*); *Tony Heim* (*Swisscom Broadcast, Switzerland*);

14:00 Influence of Ground's Characteristics on the Electromagnetic Fields Radiated by Lightning Strokes to CN Tower
Mojtaba Khosravi (*Amirkabir University of Technology (AUT), Iran*); *Rouzbeh Moini* (*Amirkabir University of Technology, Iran*); *Seyed H. Hesam Sadeghi* (*Amirkabir University of Technology, Iran*); *W. Janischewskyj* (*University of Toronto, Canada*); *R. Iravani* (*University of Toronto, Canada*); *Farhad Rachidi* (*Swiss Federal Institute of Technology Lausanne, Switzerland*);

14:20 Earth Termination Effects in Tall Metallic Towers: Comparison of Image and Exact Models for Homogeneous and Layered Earth
Vesna Arnautovski-Toseva (*Ss. Cyril and Methodius University, Macedonia*); *Leonid Grcev* (*Ss. Cyril and Methodius University, Macedonia*);

14:40 An Engineering Approach in Modeling Lightning Effects on Megawatt-class Onshore Wind Turbines Using EMTP and Models
Yarú Méndez Hernández (*GE Global Research Europe, Germany*); *Goran Drobnjak* (*GE Global Research Europe, Germany*); *Albert Claudi* (*University of Kassel, Germany*); *Mustafa Kizilcay* (*University of Siegen, Germany*);

15:00 **Coffee Break**

Session 3P5b
Circuits and Devices, CAD

Tuesday PM, March 22, 2011

Room E

Chaired by Mariana Nikolova Georgieva-Grosse, Mousa I. Hussein

15:20 Consideration on Artificial Neural Network Architecture in Application for Microwave Filter Tuning
Jerzy Julian Michalski (*Telemobile Electronics Ltd., Poland*); *Tomasz Kacmajor* (*Telemobile Electronics Ltd., Poland*); *Jacek Gulgowski* (*Telemobile Electronics Ltd., Poland*); *Mateusz Mazur* (*Telecommunication Research Institute, Poland*);

15:40 Comparison of the Inverter-based LNA between 180-nm, 90-nm and 65-nm CMOS Process
Mototada Oturu (*Tokyo Institute of Technology, Japan*); *Shuhei Amakawa* (*Tokyo Institute of Technology, Japan*); *Satoru Tanoi* (*Tokyo Institute of Technology, Japan*); *Noboru Ishihara* (*Tokyo Institute of Technology, Japan*); *Masu Kazuya* (*Tokyo Institute of Technology, Japan*);

16:00 Area of Phase Shifter Operation of the Azimuthally Magnetized Coaxial Ferrite Waveguide
Mariana Nikolova Georgieva-Grosse (*Meterstrasse 4, Germany*); *Georgi Nikolov Georgiev* (*University of Veliko Tirnovo "St. St. Cyril and Methodius", Bulgaria*);

16:20 Inspection of Passengers Using a Fast Millimetre Wave FMCW Radar
Sebastian Hantscher (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Stefan Lang* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Manfred Hägelen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Helmut Essen* (*Fraunhofer FHR, Germany*); *Axel Tessmann* (*Fraunhofer Institute for Applied Solid State Physics, Germany*);

16:40 A Dual Linear Polarization Feed Antenna System for Satellite Communications
Abdelwahed Tribak (*University of Cantabria, Spain*); *Ángel Mediavilla Sanchez* (*University of Cantabria, Spain*); *Alicia Casanueva Lopez* (*Universidad de Cantabria, Spain*); *Karen Cepero* (*Instituto Superior Politécnico José Antonio Echeverría, Cuba*);

17:00 Non-integral Sub/superharmonic Injection Locking Technique in Designing CMOS VCO
Sang-Yeop Lee (*Tokyo Institute of Technology, Japan*); *Shuhei Amakawa* (*Tokyo Institute of Technology, Japan*); *Satoru Tanoi* (*Tokyo Institute of Technology, Japan*); *Noboru Ishihara* (*Tokyo Institute of Technology, Japan*); *Masu Kazuya* (*Tokyo Institute of Technology, Japan*);

17:20 Study of a Coplanar Circulator Based on a Barium Hexaferrite Nanocomposite
Taline Boyajian (*Jean-Monnet University, France*); *Didier Vincent* (*Saint-Etienne University, France*); *Martine Le Berre* (*Université de Lyon, France*); *Sophie Neveu* (*PECSA-CNRS/UPMC/ESPCI Laboratory, France*);

Session 3P6a
Material, Design and Drive of Functional Devices

Tuesday PM, March 22, 2011

Room F

Organized by Junhui Hu

Chaired by Junhui Hu, Valerie Vigneras

13:00 New Solutions for Active Radomes Made with Tunable Thin Films Materials
Valérie Vignéras (*University of Bordeaux, France*); *Guillaume Lunet* (*University of Bordeaux, France*); *Hussein Kassem* (*University of Bordeaux, France*); *Laurent Oyhenart* (*University of Bordeaux, France*);

13:20 A Linear Ultrasonic Motor Using a Quadrate Plate Transducer
Jiamei Jin (*Nanjing University of Aeronautics and Astronautics, China*); *Chunsheng Zhao* (*Nanjing University of Aeronautics and Astronautics, China*);

13:40 A Novel LLCC Resonant Network for Ultrasonic Motor
Hua-Feng Li (*Nanjing University of Aeronautics and Astronautics, China*); *Wei-Qing Huang* (*Nanjing University of Aeronautics and Astronautics, China*);

14:00 Theory and Experiment of the Valveless Piezoelectric Pump with Rotatable Unsymmetrical Slopes
Jianhui Zhang (*Nanjing University of Aeronautics and Astronautics, China*); *Qixiao Xia* (*Beijing Union University, China*); *Chunsheng Zhao* (*Nanjing University of Aeronautics and Astronautics, China*); *Jiamei Jin* (*Nanjing University of Aeronautics and Astronautics, China*);

14:20 Microstructure and Electrical Properties of High Power Piezoelectric Ceramics $Pb(Mg_{1/3}Ta_{2/3})O_3$-$Pb(Mn_{1/3}Sb_{2/3})O_3$-$Pb(Zr_{0.52}Ti_{0.48})O_3$
Ying Yang (*Nanjing University of Aeronautics and Astronautics, China*); *Qian Li* (*Nanjing University of Aeronautics and Astronautics, China*); *Dandan Wan* (*Nanjing University of Aeronautics and Astronautics, China*); *Yu Cheng* (*Nanjing University of Aeronautics and Astronautics, China*); *Meng Zha* (*Nanjing University of Aeronautics and Astronautics, China*); *Yiping Wang* (*Nanjing University of Aeronautics and Astronautics, China*);

14:40 EM Wave Based Wireless Drive of Small Piezoelectric Plate and Its Application
Junhui Hu (*Nanjing University of Aeronautics and Astronautics, China*); *Satyanarayan Bhuyan* (*Nanyang Technological University, Singapore*);

15:00 **Coffee Break**

Session 3P6b
Smart Materials

Tuesday PM, March 22, 2011

Room F

Organized by Yves Bernard, Laurent Daniel

Chaired by Yves Bernard, Laurent Daniel

15:20 Design of a Multilayer Composite-Antenna-Structure by Spiral Type
Dongseob Kim (*Pohang University of Science and Technology, Republic of Korea*); *Jinyul Kim* (*Pohang University of Science and Technology, Republic of Korea*); *Jaehee Kim* (*Mobile Comm. Samsung Electronics Co., Ltd., Republic of Korea*); *Wee Sang Park* (*Pohang University of Science and Technology, Korea*); *Woonbong Hwang* (*Pohang University of Science and Technology, South Korea*);

15:40 Impact Behavior of Composite-Surface-Antenna Having Dual Band
Jinyul Kim (*Pohang University of Science and Technology, Republic of Korea*); *Dongseob Kim* (*Pohang University of Science and Technology, Republic of Korea*); *Dongsik Shin* (*POSTECH, Republic of Korea*); *Wee Sang Park* (*Pohang University of Science and Technology, Korea*); *Woonbong Hwang* (*Pohang University of Science and Technology, South Korea*);

16:00 From Piezoelectric Actuator to Piezomotor
Yves Bernard (*University Paris Sud 11, France*); *Jean Loup Christen* (*University Paris Sud 11, France*); *Camilo Hernandez* (*University Paris Sud 11, France*); *Adel Razek* (*Université Paris VI, France*);

16:20 FFT Homogenization Method Applied to Electromagneto-thermo-elastic Composite Materials
Renald Brenner (*Université Paris Nord, France*);

16:40 Mean Field Homogenization Methods for Piezoelectric Composites
Romain Corcolle (*University Paris-Sud, France*); *Laurent Daniel* (*University Paris Sud, France*);

17:00 Finite Element Modeling of Magnetoelectric Sensors
Thu Trang Nguyen (*University Paris-Sud, France*); *Laurent Daniel* (*University Paris Sud 11, France*); *Xavier Mininger* (*University Paris-Sud, France*); *Frédéric Bouillault* (*University Paris-Sud, France*);

17:20 Multiband and Ultrawideband Properties of 2-D Electrochemically-deposited Random Fractal Monopole Antennas
Christophe Dumond (*Orleans University, France*); *Mokhtar Khelloufi* (*Orleans University, France*); *Lévi Allam* (*Orleans University, France*);

Session 3P7
RF and Wireless Communication, Multipath

Tuesday PM, March 22, 2011

Room G

Chaired by Takehiko Kobayashi, Basile L. Agba

13:00 A Comparison on the Radioelectric Propagation along Grasslands and Scrublands at Wireless Frequency Bands
Jose Antonio Gay-Fernandez (*University of Vigo, Spain*); *Inigo Cuinas* (*University of Vigo, Spain*); *Paula Gómez* (*University of Vigo, Spain*);

13:20 Design and Development of an Electronic Cowbell Based on ZigBee Technology
Jose Antonio Gay-Fernandez (*University of Vigo, Spain*); *Inigo Cuinas* (*University of Vigo, Spain*); *Manuel Garcia Sanchez* (*University of Vigo, Spain*);

13:40 RFID from Farm to Fork: Traceability along the Complete Food Chain
Inigo Cuinas (*University of Vigo, Spain*); *Luca Catarinucci* (*University of Salento, Italy*); *Mira Trebar* (*University of Ljubljana, Slovenia*);

14:00 Recent Evolution of ITU Method for Prediction of Multipath Fading on Terrestrial Microwave Links
Basile L. Agba (*Institut de Recherche d'Hydro-Québec, Canada*); *Olfa Ben-Sik-Ali* (*Institut de Recherche d'Hydro-Québec, Canada*); *Robert Morin* (*Institut de Recherche d'Hydro-Québec, Canada*); *Germain Bergeron* (*Institut de Recherche d'Hydro-Québec, Canada*);

14:20 An Innovative and Reliable Tool for the Electromagnetic Prediction in UMTS Scenarios
Luca Manica (*University of Trento, Italy*); *Giacomo Oliveri* (*University of Trento, Italy*); *Giovanna Ruscitti* (*Vodafone Omnitel NV, Italy*); *Lorenzo Gandini* (*Vodafone Omnitel NV, Italy*); *Andrea Massa* (*University of Trento, Italy*);

14:40 Ultra-wideband Spatio-temporal Channel Sounding with Use of an OFDM Signal in an Indoor Environment
Daisuke Sugizaki (*Tokyo Denki University, Japan*); *Naohiko Iwakiri* (*Tokyo Denki University, Japan*); *Takehiko Kobayashi* (*Tokyo Denki University, Japan*);

15:00 **Coffee Break**

15:20 Densitometry of Electromagnetic Field Exposure Due to Wi-Fi Frequency
Aliyu Danjuma Usman (*Universiti Putra Malaysia, Malaysia*); *Wan Fatinhamamah Wan Ahmad* (*Universiti Putra Malaysia, Malaysia*); *Mohd Zainal Abidin Ab Kadir* (*Universiti Putra Malaysia, Malaysia*); *Makhfudzah Mokhtar* (*Universiti Putra Malaysia, Malaysia*); *Mohd Asyraf Zainal Abidin* (*Universiti Putra Malaysia, Malaysia*);

15:40 Implementation of Channel Estimation and Multi-user Detection Based on Genetic Algorithms
Mohamed Elnamaky (*King Saud University, Saudi Arabia*); *Ibrahim Elshafiey* (*King Saud University, Saudi Arabia*); *M. Alansi* (*King Saud University, Saudi Arabia*); *A. Alsanie* (*King Saud University, Saudi Arabia*); *Abdel-Fattah Sheta* (*King Saud University, Saudi Arabia*); *A. Sulyman* (*King Saud University, Saudi Arabia*); *A. Alsuwailem* (*King Saud University, Saudi Arabia*); *H. Alsharari* (*King Saud University, Saudi Arabia*);

16:00 High Efficiency Power Combining Technique Based on Distributed Amplifier Topology
Steve Wai Yin Mung (*City University of Hong Kong, China*); *Wing Shing Chan* (*City University of Hong Kong, China*);

16:20 Generalized Two-dimensional Anisotropic Scattering-Doppler Spread and Time Variations in Mobile Wireless Channels
Petros Karadimas (*University of Bedfordshire, UK*); *Jie Zhang* (*University of Bedfordshire, UK*);

16:40 Channel Characterization Techniques for Wireless Automotive Embedded Systems
Mohamed Cheikh (*Continental Automotive Systems, France*); *Jacques David* (*ENSEEIHT, France*); *Jean Guy Tartarin* (*Université de Toulouse — LAAS, France*); *Sébastien Kessler* (*Continental Automotive Systems, France*); *Alexis Morin* (*Continental Automotive Systems, France*);

17:00 Performance Comparison of OFDM, MC-CDMA and OFCDM for 4G Wireless Broadband Access and Beyond
Syed M. Zafi S. Shah (*Mehran University of Engineering and Technology, Pakistan*); *Abdul Waheed Umrani* (*Mehran University of Engineering and Technology, Pakistan*); *Aftab A. Memon* (*Mehran University of Engineering and Technology, Pakistan*);

Session 3P8
Power Electronics

Tuesday PM, March 22, 2011

Room H

Organized by Jiri Lettl, Reinhard Doebbelin

Chaired by Jiri Lettl, Reinhard Doebbelin

13:00 Influence of the Design of Resistance Welding Equipment on the Evaluation of Magnetic Field Exposure of Operators
Reinhard Doebbelin (*Otto-von-Guericke University of Magdeburg, Germany*); *Thoralf Winkler* (*Fraunhofer Institute of Factory Operation and Automation IFF, Germany*); *Andreas Lindemann* (*Otto-von-Guericke University of Magdeburg , Germany*);

13:20 Matrix Converter Commutation Time Reduction
Jiri Lettl (*Czech Technical University in Prague, Czech Republic*); *Libor Linhart* (*Czech Technical University in Prague, Czech Republic*); *Jan Bauer* (*Czech Technical University in Prague, Czech Republic*);

13:40 The Use of Prediction to Improve Direct Torque Control
Dragan Kuzmanovic (*Czech Technical University in Prague, Czech Republic*); *Jiri Lettl* (*Czech Technical University in Prague, Czech Republic*);

14:00 Measurement and Signal Processing for Electric Drive Control System
Pavel Brandstetter (*VSB-Technical University of Ostrava, Czech Republic*); *Pavel Bilek* (*VSB-Technical University of Ostrava, Czech Republic*); *Josef Szotkowski* (*VSB-Technical University of Ostrava, Czech Republic*); *Petr Vaculik* (*VSB-Technical University of Ostrava, Czech Republic*);

14:20 Sensorless Control of Asynchronous Motor Using Voltage Signal Injection
Pavel Brandstetter (*VSB-Technical University of Ostrava, Czech Republic*); *Pavel Bilek* (*VSB-Technical University of Ostrava, Czech Republic*); *Josef Szotkowski* (*VSB-Technical University of Ostrava, Czech Republic*); *Petr Vaculik* (*VSB-Technical University of Ostrava, Czech Republic*);

14:40 Comparison of Different Filter Types for Grid Connected Inverter
Jiri Lettl (*Czech Technical University in Prague, Czech Republic*); *Jan Bauer* (*Czech Technical University in Prague, Czech Republic*); *Libor Linhart* (*Czech Technical University in Prague, Czech Republic*);

15:00 **Coffee Break**

15:20 Soft-switched Converter for Ultracapacitors
Petr Chlebis (*VSB — Technical University of Ostrava, Czech Republic*); *Zdenek Pfof* (*VSB — Technical University of Ostrava, Czech Republic*); *Ales Havel* (*VSB — Technical University of Ostrava, Czech Republic*); *Petr Vaculik* (*VSB — Technical University of Ostrava, Czech Republic*);

15:40 Applications of Resonant and Soft Switching Converters
Vaclav Sladecek (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Palacký* (*VŠB — Technical University of Ostrava, Czech Republic*); *Tomáš Pavelek* (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Hudeček* (*VŠB — Technical University of Ostrava, Czech Republic*);

16:00 Space Vector Control for Quasi-resonant DC Link Inverter
Tomáš Pavelek (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Palacký* (*VŠB — Technical University of Ostrava, Czech Republic*); *Vaclav Sladecek* (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Hudeček* (*VŠB — Technical University of Ostrava, Czech Republic*);

16:20 Strategy of the Depollution in the Low Voltage Electric Installations Using Artificial Neuron Network
Hosni Bedoui (*University of Monastir, Tunisia*);

16:40 Optimized Dual Randomized PWM Technique for Full Bridge DC-DC Converter
A. Boudouda (*University M. S. Ben Yahia Jijel, Algeria*); *Nasserdine Boudjerda* (*University M. S. Ben Yahia Jijel, Algeria*); *B. Nekhoul* (*University M. S. Ben Yahia Jijel, Algeria*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*); *Kamal Kerroum* (*Blaise Pascal University, France*);

17:00 Skin Effect in Squirrel Cage Rotor Bars and Its Consideration in Simulation of Non-steady-state Operation of Induction Machines
Marcel Benecke (*Otto-von-Guericke University of Magdeburg, Germany*); *Reinhard Doebbelin* (*Otto-von-Guericke University of Magdeburg, Germany*); *Gerd Griepentrog* (*Corporate Technology CT T DE, Germany*); *Andreas Lindemann* (*Otto-von-Guericke University of Magdeburg, Germany*);

17:20 Economical Feasibility Study of Large-scale Superconducting Wind Power Generator
Osami Tsukamoto (*Yokohama National University, Japan*); *Satoshi Fukui* (*Niigata University, Japan*);

17:40 Direct Electromagnetic Torque Control of Induction Motors Powered by High Power PWM Inverters for Two Levels or Three Levels
Moulay Rachid Douiri (*Mohammadia School of Engineers, Morocco*); *M. Cherkaoui* (*Mohammadia School of Engineers, Morocco*); *T. Nasser* (*National School of Computer Science and System Analysis (ENSIAS), Morocco*); *A. Essadki* (*Superior School of Technical Education, Morocco*);

Session 3P9
Poster Session 6

Tuesday PM, March 22, 2011
14:00 PM - 17:00 PM
Room K
Chaired by El Ghzaoui Mohammed

1 Broad Antireflection Grating by Apodization of One Dimensional Photonic Crystal
Abir Mouldi (*Ecole Nationale d'Ingenieurs de Tunis, Tunisie*); *M. Kanzari* (*Ecole Nationale d'Ingenieurs de Tunis, Tunisie*); *B. Rezig* (*Ecole Nationale d'Ingenieurs de Tunis, Tunisie*);

2 Combining Multi-frequency GPR Images and New Algorithm to Determine the Location of Non-linear Objects with Civil Engineering Applications
Mahmoud Bashir Alhasanat (*University Science Malaysia (USM), Malaysia*); *W. M. A. Wan Hussin* (*University Science Malaysia (USM), Malaysia*); *Ahmad B. A. Hassanat* (*Mu'tah University, Jordan*);

3 A New Algorithm to Estimate the Size of an Underground Utility via Specific Antenna
Mahmoud Bashir Alhasanat (*University Science Malaysia (USM), Malaysia*); *W. M. A. Wan Hussin* (*University Science Malaysia (USM), Malaysia*);

6 The Design of a GPR Test Site for Underground Utilities
W. M. A. Wan Hussin (*University Science Malaysia (USM), Malaysia*); *Mahmoud Bashir Alhasanat* (*University Science Malaysia (USM), Malaysia*);

8 High Frequency Back Scattering from a Real-scale Aircraft Using SBR and PTD-EEC Method
Nilgün Altin (*Turkish Aerospace Industries, Inc., Turkey*); *Erdem Yazgan* (*Hacettepe University, Turkey*);

12 Different Scenarios of Uni-layer CPW Bandstop Filters
Ibraheem A. I. Al-Naib (*Philipps-Universität Marburg, Germany*); *Otman El Mrabet* (*Abdelmalek Essaadi University, Morocco*);

13 Thin Wires Structure for Decoupling of Multiple-antenna Terminals
Ivan Bonev Bonev (*Aalborg University, Denmark*); *Ondrej Franek* (*Aalborg University, Denmark*); *Gert F. Pedersen* (*Aalborg University, Denmark*);

15 Parametric Study of Antenna with Parasitic Element for Improving the Hearing Aids Compatibility of Mobile Phones and the Specific Absorption Rate in the Head
Ivan Bonev Bonev (*Aalborg University, Denmark*); *Ondrej Franek* (*Aalborg University, Denmark*); *Gert F. Pedersen* (*Aalborg University, Denmark*);

16 Impact of the Size of the Hearing Aid on the Mobile Phone Near Fields
Ivan Bonev Bonev (*Aalborg University, Denmark*); *Ondrej Franek* (*Aalborg University, Denmark*); *Gert F. Pedersen* (*Aalborg University, Denmark*);

18 Localized EBG Structure with DeCaps for Ultra-wide Suppression of Power Plane Noise
Jong-Hwa Kwon (*Electronics & Telecommunications Research Institute, South Korea*); *Sang Il Kwak* (*Electronics and Telecommunications Research Institute (ETRI), South Korea*); *Dong-Uk Sim* (*Electronics and Telecommunications Research Institute, Korea*);

28 Electro-optic and Dielectric Properties of Polymer Stabilized Short Pitch Ferroelectric Liquid Crystal (PSFLC)
Abdelylah Daoudi (*Université Lille Nord de France, France*); *J. Hemine* (*Université Hassan II Mohammedia-Casablanca, Morocco*); *R. Douali* (*Université Lille Nord de France, France*); *M. Petit* (*Université Lille Nord de France, France*); *M. Ismaili* (*Université Lille Nord de France, France*);

31 Electromagnetic Field Interaction between Overhead High Voltage Power Transmission Line and Buried Utility Pipeline
K. N. Ramli (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *H. I. Hraga* (*University of Bradford, UK*); *Darwin T. W. Liang* (*University of Bradford, UK*); *Peter S. Excell* (*Glyndwr University, UK*);

32 Optical Investigations by Optical Transmittance and Photoluminescence Measurements of $Cd_{1-x}Zn_xTe$ Thin Films Prepared by Hot Wall Evaporation and RF Sputtering Techniques
G. El Hallani (*Université Mohammed V-Agdal, Morocco*); *A. Riyah* (*Université Mohammed V-Agdal, Morocco*); *N. Achargui* (*Université Cadi Ayyad, Morocco*); *A. Outzourhit* (*Université Cadi Ayyad, Morocco*); *N. Hassanaine* (*Université Mohammed V-Agdal, Morocco*); *M. Loghmarti* (*Université Mohammed V-Agdal, Morocco*); *A. Mzerd* (*Université Mohammed V-Agdal, Morocco*); *A. Arbaoui* (*Université Mohammed V-Agdal, Morocco*); *El Kébir Hlil* (*Institut Néel et CRETA, CNRS, France*);

Session 4A1
Universal Soliton Traits across Different Physical Systems: The Case of Conservative and Dissipative Mechanisms

Wednesday AM, March 23, 2011

Room A

Organized by Giovanna Tissoni, Eugenio DelRe

Chaired by Giovanna Tissoni, Eugenio DelRe

08:00 Synchronization of Weakly Interacting Optical Oscillons
Andrei G. Vladimirov (*Weierstrass Institute for Applied Analysis and Stochastics, Germany*); *Dmitry Turaev* (*Imperial College, UK*); *Sergey Zelik* (*University of Surrey, UK*);

08:20 Lightwave Neuromorphic Based Terahertz Pulse Processor
Paul R. Prucnal (*Princeton University, USA*); *Mable P. Fok* (*Princeton University, USA*); *David Rosenbluth* (*Lockheed Martin Advanced Technologies Laboratory, USA*); *Konstantin Kravtsov* (*Princeton University, USA*);

08:40 Reconstruction of Diffused Images via Seeded Instability
Dmitry V. Dylov (*General Electric Global Research Center, USA*); *Laura Waller* (*Princeton University, USA*); *Jason W. Fleischer* (*Princeton University, USA*);

09:00 Cavity Solitons in a Monolithic Vertical-cavity Laser with Saturable Absorber
Sylvain Barbay (*Laboratoire de Photonique et de Nanostructures, France*); *T. Elsass* (*Laboratoire de Photonique et de Nanostructures, France*); *K. Gauthron* (*Laboratoire de Photonique et de Nanostructures, France*); *G. Beaudoin* (*Laboratoire de Photonique et de Nanostructures, France*); *I. Sagnes* (*Laboratoire de Photonique et de Nanostructures, France*); *Robert Kuszelewicz* (*Laboratoire de Photonique et de Nanostructures, France*);

09:20 Multistability Properties of Localized States in Semiconductor Systems: The Role of Phase Symmetry
Stephane Barland (*Universite de Nice Sophia Antipolis, France*); *P. Genevet* (*Universite de Nice Sophia Antipolis, France*); *Massimo Giudici* (*Universite de Nice Sophia Antipolis, France*); *Jorge R. Tredicce* (*Universite de Nice Sophia Antipolis, France*);

09:40 Electromorphing: A Method to Achieve Fast Electro-optical Control of Light Beams through Volume Index of Refraction Patterns
Eugenio DelRe (*University dell'Aquila, Italy*); *Jacopo Parravicini* (*Universite de Franche-Comte, France*); *Aharon J. Agranat* (*Hebrew University of Jerusalem, Israel*);

10:00 **Coffee Break**

10:20 From Kerr-cavity to Townes Solitons
Damia Gomila (*Campus Universitat Illes Balears, Spain*); *Adrian Jacobo* (*Campus Universitat Illes Balears, Spain*); *M. A. Garcia-March* (*Colorado School of Mines, USA*); *Manuel A. Matias* (*Campus Universitat Illes Balears, Spain*); *Pere Colet* (*Campus Universitat Illes Balears, Spain*);

10:40 Self-lensing and Laser Cavity Solitons
Thorsten Ackemann (*University of Strathclyde, UK*);

11:00 Pyrolitons as a Tool to Induce Waveguides Inside $LiNbO_3$
Jassem Safioui (*Universite de Franche-Comte, France*); *Jacopo Parravicini* (*Universite de Franche-Comte, France*); *Kien Phan Huy* (*Universite de Franche-Comte, France*); *Herve Maillotte* (*Université de Franche-Comté, France*); *Fabrice Devaux* (*Universite de Franche-Comte, France*); *Mathieu Chauvet* (*Universite de Franche-Comte, France*);

11:20 Spontaneous Motion of Cavity Solitons in Vertical-cavity Lasers with Saturable Absorbers and Their Applications
Franco Prati (*Università dell'Insubria, Italy*); *Giovanna Tissoni* (*Universita dell'Insubria, Italy*); *Massimo Brambilla* (*Politecnico di Bari, Italy*); *Keivan Mahmoud Aghdami* (*Payame Noor University, Iran*);

11:40 Control of Semiconductor Lasers by Optically Induced Photonic Structures in Photorefractives
Thorsten Ackemann (*University of Strathclyde, UK*); *Bernd Terhalle* (*Westfälische Wilhelms-Universität Münster, Germany*); *N. Radwell* (*University of Strathclyde, UK*); *P. Rose* (*Westfälische Wilhelms-Universität Münster, Germany*); *C. Denz* (*Westfälische Wilhelms-Universität Münster, Germany*);

Session 4A2
Optics, Photonic, Nanophotonic and Plasmonics

Wednesday AM, March 23, 2011

Room B

Chaired by Francisco J. Falcone, Baile Zhang

08:20 Multimode Asymmetrical Optical Power Splitter Utilizing Hollow Structured-waveguide
Mohd Kamil Abd-Rahman (*Universiti Teknologi MARA, Malaysia*); *N. Syafiqah Mohamed-Kassim* (*Universiti Teknologi MARA, Malaysia*); *Abang Annuar Ehsan* (*Universiti Kebangsaan Malaysia, Malaysia*); *M. H. M. Yusoff* (*Universiti Teknologi MARA, Malaysia*);

08:40 Localized Optical Modes and Enhancement of Some Optical Phenomena in Spiral Media
V. A. Belyakov (*L. D. Landau Institute for Theoretical Physics, Russia*);

09:00 Photonic Crystal Based on CdSe Nanoparticles Embedded in a Glass Matrix
Amel Labbani (*University Mentouri Constantine, Algeria*); *Abdelmadjid Benghalia* (*University of Constantine, Algeria*);

09:20 Kinetic Trapping of a Single Particle, Multiple Particles and Particle Aggregations in an Optical Vortex
Baile Zhang (*Massachusetts Institute of Technology, USA*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*);

09:40 Evaluating RF Signal Transmission over Radio-on FSO Links Using Aperture Averaging
Chedlia Ben Naila (*Waseda University, Japan*); *Abdelmoula Bekkali* (*Waseda University, Japan*); *Kazuhiko Wakamori* (*Waseda University, Japan*); *Mitsuji Matsumoto* (*Waseda University, Japan*);

10:00 **Coffee Break**

10:20 Surface Phonon Polariton Wave Excitation in the Polar Crystal: Boundary Conditions
Dmitry Kazantsev (*Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany*); *Elena Kazantseva* (*Moscow State University of Instrument Engineering and Computer Sciences, Russia*);

10:40 Numerical Analysis of Novel Asymmetric SNOM Tips
Valeria Lotito (*EMPA, Switzerland*); *Urs Sennhauser* (*EMPA, Switzerland*); *Christian Valentin Hafner* (*ETH Zurich, Switzerland*);

11:00 Electromagnetic Design of Solar Collectors
Anthony Centeno (*Imperial College London, UK*); *Fang Xie* (*Imperial College London, UK*); *Jonathan D. Breeze* (*Imperial College London, UK*); *Neil Alford* (*Imperial College London, UK*);

11:20 Optimizing Geometrically-induced Plasmon-like Waves by Equivalent Circuits
Miguel Navarro-Cia (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Francisco J. Falcone* (*Universidad Pública de Navarra, Spain*); *Mario Sorolla* (*Universidad Publica de Navarra, Spain*); *Stefan A. Maier* (*Imperial College London, UK*);

11:40 Optical Soliton Perturbation with Time-dependent Coefficients in a Log Law Media
Anjan Biswas (*Delaware State University, USA*);

Session 4A3
Advanced Electromagnetics for Communications in Dissipative Media and Difficult Environments

Wednesday AM, March 23, 2011

Room C

Organized by N. Ayuso Escuer, Daniele Trinchero

Chaired by N. Ayuso Escuer, Riccardo Stefanelli

08:20 Channel Estimation in Through-The-Earth Communications with Electrodes
Vanessa Bataller Cervero (*University of Zaragoza, Spain*); *Antonio Muñoz Fumanal* (*University of Zaragoza, Spain*); *N. Ayuso* (*University of Zaragoza, Spain*); *Jose Luis Villarroel* (*University of Zaragoza, Spain*);

08:40 Noise Characterization in Through-The-Earth Communications with Electrodes
Antonio Muñoz Fumanal (*University of Zaragoza, Spain*); *Vanessa Bataller Cervero* (*University of Zaragoza, Spain*); *N. Ayuso* (*University of Zaragoza, Spain*); *P. Molina Gaudó* (*University of Zaragoza, Spain*); *Arturo Mediano* (*University of Zaragoza, Spain*); *Jose Antonio Cuchi* (*University of Zaragoza, Spain*); *Jose Luis Villarroel* (*University of Zaragoza, Spain*);

09:00 Detection of Movement and Impedance Changes behind Surfaces Using Ground Penetrating Radar
Sevket Demirci (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*); *Caner Ozdemir* (*Information Technologies Institute (ITI), Turkey*);

09:20 Propagation of Random Electromagnetic Beams in Non-Kolmogorov Atmospheric Turbulence
Olga Korotkova (*University of Miami, USA*); *Elena Shchepakina* (*Samara State Aerospace University, Russia*);

09:40 Design and Realization of Mobile Wireless Sensors in Running Water
Daniele Trinchero (*Politecnico di Torino, Italy*); *Riccardo Stefanelli* (*Politecnico di Torino, Italy*); *Luca Cisoni* (*Politecnico di Torino, Italy*); *Mazen Omar Hasna* (*Qatar University, Qatar*); *Tamer Mohamed Samir M. Khattab* (*Qatar University, Qatar*); *Adnan Abu-Dayya* (*Qatar University Wireless and Innovation Center, Qatar*); *Abdullah Kadri* (*Qatar University Wireless and Innovation Center, Qatar*);

10:00 **Coffee Break**

10:20 Design and Optimization of Micro-magnetic Antennas for in-Media Transmissions
Luca Cisoni (*Politecnico di Torino, Italy*); *Riccardo Stefanelli* (*Politecnico di Torino, Italy*); *Daniele Trinchero* (*Politecnico di Torino, Italy*);

10:40 NLOS UWB Undermining Experimental Characterization & Performance Evaluation Using MB-OFDM
Mohamad Ghaddar (*University of Quebec in Outaouais, Canada*); *L. Talbi* (*University of Quebec in Outaouais, Canada*);

11:00 The Effects of Defects on Magneto-inductive Waveguide
Ye Chen (*The University of Texas at Austin, USA*); *Praveen Pasupathy* (*The University of Texas at Austin, USA*); *Dean P. Neikirk* (*The University of Texas at Austin, USA*);

11:20 Characterization of the Snow Cover Wireless Channel
N. Ayuso (*University of Zaragoza, Spain*); *Antonio Muñoz Fumanal* (*University of Zaragoza, Spain*); *Vanessa Bataller Cervero* (*University of Zaragoza, Spain*); *Jose Antonio Cuchi* (*University of Zaragoza, Spain*); *Francisco Lera* (*University of Zaragoza, Spain*); *Jose Luis Villarroel* (*University of Zaragoza, Spain*);

11:40 Peak to Average Power Ration Reduction in OFDM System Using Constant Envelope for Transmission via PLC Channel
El Ghzaoui Mohammed (*University Sidi Mohammed Ben Abdellah, Morocco*); *Belkadid Jamal* (*University Sidi Mohammed Ben Abdellah, Morocco*); *Ali Benbassou* (*University Sidi Mohammed Ben Abdellah, Morocco*);

Session 4A4a
Fault Detection, Diagnosis and Tolerant Control

Wednesday AM, March 23, 2011

Room D

Organized by Demba Diallo, Mohamed El Hachemi Benbouzid

Chaired by Georges Barakat

08:20 Study of the Impact of Soft Faults on Multiconductor Transmission Lines
Maud Franchet (*CEA LIST, France*); *Nicolas Ravot* (*CEA LIST, France*); *Odile Picon* (*Universite Paris-Est, France*);

08:40 The Influence of Laminate DK Tolerances on Microstrip Butler Matrix Performance
Mateusz Mazur (*Telemobile Electronics Ltd., Poland*);

09:00 The Effects of Electromagnetic Field Stress on SiGe HBT's
Ali Alaeddine (*University of Rouen, France*); *Moncef Kadi* (*ESIGELEC, France*); *Daoud Kaouther* (*University of Rouen, France*);

09:20 Modeling and Diagnostic of Stator Faults in Induction Machines Using Permeance Network Method
Yacine Amara (*University of Le Havre, France*); *Georges Barakat* (*University of Le Havre, France*);

09:40 A Backstepping-based Fault-tolerant Control Approach for Induction Motor Drives
Omar Benzineb (*Université of Brest, France*); *Mohamed Tadjine* (*Ecole Nationale Polytechnique, Algeria*); *Mohamed Benbouzid* (*Université of Brest, France*); *Demba Diallo* (*Université of Paris Sud P11, France*);

10:00 **Coffee Break**

Session 4A4b
Electromagnetic Methods and Instruments for Non Destructive Testing Applications of Ground Penetrating Radar

Wednesday AM, March 23, 2011

Room D

Organized by Lorenzo Capineri, Colin G. Windsor

Chaired by Lorenzo Capineri, Colin G. Windsor

10:20 Interference from the Second Layer in Holographic Radar
Masaharu Inagaki (*Walnut Ltd., Japan*); *Timothy D. Bechtel* (*Franklin & Marshall College, USA*); *V. Razevig* (*Bauman Moscow State Technical University, Russia*);

10:40 Detection of Latent Damage from Insect Activity in Wooden Structures through the Use of Holographic Subsurface Radar
Tim Bechtel (*Franklin & Marshall College, USA*); *Lorenzo Capineri* (*Università di Firenze, Italy*); *Pierluigi Falorni* (*Universita di Firenze, Italy*); *Masaharu Inagaki* (*Walnut Ltd., Japan*); *Andrey V. Zhuravlev* (*Bauman Moscow State Technical University, Russia*); *Vladimir V. Razevig* (*Bauman Moscow State Technical University, Russia*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University, Russia*); *Colin G. Windsor* (*United Kingdom Atomic Energy Authority (UKAEA), UK*);

11:00 Distinguishing Buried Mines from Battlefield Clutter Using Holographic Radar
Colin G. Windsor (*United Kingdom Atomic Energy Authority (UKAEA), UK*); *Lorenzo Capineri* (*Università di Firenze, Italy*);

11:20 A Quasi Linear Sampling Method in Electromagnetic Inverse Scattering
Guanghua Li (*Sichuan University, China*); *Xiang Zhao* (*Sichuan University, China*); *Kama Huang* (*Sichuan University, China*);

Session 4A5
Radar Signal Processing, Target Recognition and Identification

Wednesday AM, March 23, 2011

Room E

Organized by In-Sik Choi

Chaired by In-Sik Choi

08:20 Bistatic Radar Target Classification Using Time-frequency Analysis and Multilayered Perceptron Neural Network
Sung-Jun Lee (*Hannam University, Korea*); *In-Sik Choi* (*Hannam University, Korea*);

08:40 New Models for Radar Targets and Background Coupling
Henri-Jose Mametsa (*ONERA DEMR, France*); *A. Berges* (*ONERA DEMR, France*); *Jonas Rahm* (*FOI Information Systems, Sweden*); *E. Zdansky* (*FOI Information Systems, Sweden*); *Anders Örbom* (*FOI Information Systems, Sweden*); *Christian Cochin* (*DGA Information Superiority, France*); *B. Maréchal* (*DGA Information Superiority, France*);

09:00 Spatially Variant Apodization for Polarimetric SAR Images
Ping Zhang (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*); *Zhen Li* (*Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*);

09:20 Measurement of UWB Radar Signals Using Time-domain and Frequency-domain Measurement System
In-Sik Choi (*Hannam University, Korea*); *Edward J. Rothwell* (*Michigan State University, USA*);

10:00 **Coffee Break**

10:20 Low Frequency Radar Target Imaging Using Ramp Response Signatures in Arbitrary Directions
Janic Chauveau (*Université de Nantes, France*); *Yanhua Wen* (*Université de Nantes, France*); *Nicole De Beaucoudrey* (*Université de Nantes, France*);

10:40 A Wigner Ville Distribution Based Method for Detection of Gaussian Contaminated Sinusoidal Signal in Frequency Domain
Shahida Ghulam Qadir (*Northwestern Polytechnical University, China*); *Yangyu Fan* (*Northwestern Polytechnical University, China*); *Fathy M. Ahmed* (*Military Technical College, Egypt*);

11:00 The Extraction and Analysis of Spatial Information for SAR Image Using Binary Cliques Iterative Decomposition Method with Multifractal Dimensions
Hse Tzia Teng (*Multimedia University, Malaysia*); *Hong Tat Ewe* (*Universiti Tunku Abdul Rahman, Malaysia*); *Sin Leng Tan* (*Universiti Tunku Abdul Rahman, Malaysia*);

Session 4A6
Medical Electromagnetics, RF Biological Effect, MRI

Wednesday AM, March 23, 2011

Room F

Chaired by Alberto Foletti, Khalil El Khamlichi Drissi

08:20 Effects of Millimeter Wave Exposure on Termite Behavior
Andrew Z. Tirkel (*Scientific Technology, Australia*); *Joseph C. S. Lai* (*UNSW@ADFA, Australia*); *Theodore A. Evans* (*CSIRO Entomology, Australia*); *Gerard A. Rankin* (*The University of Adelaide, Australia*);

08:40 Heating and Provocation of Termites Using Millimeter Waves
Andrew Z. Tirkel (*Scientific Technology, Australia*); *Joseph C. S. Lai* (*UNSW@ADFA, Australia*); *Theodore A. Evans* (*CSIRO Entomology, Australia*); *Gerard A. Rankin* (*The University of Adelaide, Australia*);

09:00 Electromagnetic Information Transfer of Specific Molecular Signals Mediated through Aqueous Systems: Experimental Findings on Two Human Cellular Models
Alberto Foletti (*Independent Researcher, Switzerland*); *Settimio Grimaldi* (*Institute of Neurobiology and Molecular Medicine, CNR, Italy*); *Mario Ledda* (*Istituto di Neurobiologia e Medicina Molecolare, C.N.R., Italy*); *Antonella Lisi* (*Istituto di Neurobiologia e Medicina Molecolare, CNR, Italy*);

09:20 Vectorial Electro-optic Sensors for Microwave Dosimetric Applications
P. Jarrige (*Kapteos, France*); *S. Kohler* (*Universite de Limoges, France*); *N. Ticaud* (*Universite de Limoges, France*); *Lionel Duvillaret* (*Kapteos, France*); *Gwenael Gaborit* (*Universite de Savoie, France*); *P. Leveque* (*Universite de Limoges, France*); *D. Arnaud-Cormos* (*Universite de Limoges, France*);

09:40 New Techniques to Reduce the Common-mode Signal in Multi-frequency EIT Applications
Mohamad Rahal (*University of Hail, Saudi Arabia*); *Ibrahim Rida* (*University of Hail, Saudi Arabia*); *Muhammad Usman* (*University of Hail, Saudi Arabia*); *Andreas Demosthenous* (*London's Global University, UK*);

10:00 **Coffee Break**

10:20 Meta-analysis of Occupational and Residential Extremely Low Frequency Magnetic Fields Exposures and Neurodegenerative Disease
Gabor Mezei (*Electric Power Research Institute, USA*); *Yong-Sung Cho* (*UCLA, USA*); *Ximena Vergara* (*Electric Power Research Institute, USA*); *Leeka Kheifets* (*University of California, Los Angeles (UCLA), USA*);

10:40 Human Exposure to Outdoor PLC System
Vicko Doric (*University of Split, Croatia*); *Dragan Poljak* (*University of Split, Croatia*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*);

11:00 Analysis of Transmit Magnetic Field Homogeneity for a 7 T Multi-channel MRI Loop Array
Mikhail Kozlov (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*);

Session 4A7
Electromagnetic Simulations and Applications 1

Wednesday AM, March 23, 2011

Room G

Organized by Peter Virtic

Chaired by Peter Virtic

08:20 Using Rectangular-shape Resonators to Improve the Far-end Crosstalk of the Coupled Microstrip Lines
Ding-Bing Lin (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chen-Kuang Wang* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chi-Hao Lu* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Wen-Tzeng Huang* (*Minghsin University of Science and Technology, Taiwan, R.O.C.*);

08:40 Electromagnetic Model of In-wall Wiring of Indoor Powerline Communications
Vesna Arnautovski-Toseva (*University Blaise Pascal, France*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*); *Kamal Kerroum* (*Blaise Pascal University, France*);

09:00 Analysis of Transmit Performance Optimization Strategies for Multi Channel MRI Array
Mikhail Kozlov (*Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Planck Institute for Human Cognitive and Brain Sciences, Germany*);

09:20 Harmonic-suppression Using Adaptive Surface Meshing and Genetic Algorithms
Mohammad S. Bin-Melha (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Dawei Zhou* (*University of Bradford, UK*); *Z. B. Zainal-Abdin* (*University of Bradford, UK*); *Chan H. See* (*University of Bradford, UK*); *Issa T. E. Elfergani* (*University of Bradford, UK*); *Peter S. Excell* (*Glyndwr University, UK*);

09:40 A Reliable Lattice-Boltzmann Solver for Electrodynamics: New Applications in Non-linear Media
M. Mendoza (*Institute for Building Materials, Switzerland*); *Jose Daniel Muñoz* (*Universidad Nacional de Colombia, Colombia*);

10:00 **Coffee Break**

10:20 Testing and Finite Element Modeling of Sample Holders for Dielectric and Magnetic Constant Measurements of Nano-scale Powders
Szilvia Nagy (*Széchenyi István University, Hungary*); *András Fehér* (*Széchenyi István University, Hungary*); *C. Rabe* (*Hochschule fur Telecommunikation Leipzig, Germany*);

10:40 Developing Sample Holders for Measuring Shielding Effectiveness of Thin Layers on Compound Semiconductor Substrates
Szilvia Nagy (*Széchenyi István University, Hungary*); *András Fehér* (*Széchenyi István University, Hungary*);

11:00 Dissipative Losses Evaluation in Magnetic Power Devices with Litz-wire Type Windings
Claudio Carretero (*Universidad de Zaragoza, Spain*); *Rafael Alonso* (*Universidad de Zaragoza, Spain*); *Jesus Acero* (*Universidad de Zaragoza, Spain*); *Oscar Lucia* (*Universidad de Zaragoza, Spain*); *Jose Miguel Burdio* (*Universidad de Zaragoza, Spain*);

11:20 The Minimum Phase Nature of the Transfer Function of the Impulse Radiating Antenna
James S. McLean (*TDK Corporation, USA*); *Robert Sutton* (*TDK Corporation, USA*); *Heinrich Foltz* (*University of Texas — Pan American, USA*);

11:40 High-power Mesoband Switched Oscillators and Their Integration into Antennas
David V. Giri (*Pro-Tech, USA*);

Session 4A8
Electromagnetic Theory

Wednesday AM, March 23, 2011

Room H

Chaired by Thomas Koryu Ishii, Anthony H. J. Fleming

08:00 The Study on Electromagnetic Force Induced Vibration and Noise from a Normal and an Eccentric Universal Motors
Koki Shiohata (*Ibaraki University, Japan*); *R. Kusama* (*Toyota Ltd., Japan*); *S. Ohtsu* (*Yamagata, Hitachioomiya, Ibaraki, Japan*); *T. Iwatsubo* (*Kansai University, Japan*);

08:20 Engineering Students' Conceptual Understanding of Electro- and Magnetostatics
Johanna Leppavirta (*Aalto University School of Science and Technology, Finland*); *Henrik Kettunen* (*Aalto University School of Science and Technology, Finland*); *Ari Henrik Sihvola* (*Aalto University School of Science and Technology, Finland*);

08:40 A Physical Model of Electro-magnetism for a Theory of Everything
Michael J. Underhill (*Underhill Research, UK*);

09:00 Space Constants of Auxiliary Waves
Thomas Koryu Ishii (*Marquette University, USA*);

09:20 Characteristic Equations of Strip-slotted Structures
Seil Sautbekov (*Euroasian National University, Kazakhstan*); *Gulnar Alkina* (*Euroasian National University, Kazakhstan*);

09:40 Self-field Theory a Mathematical Description of Physics
Anthony H. J. Fleming (*Biophotonics Research Institute, Australia*);

10:00 **Coffee Break**

10:20 Self-field Theory: Cosmological and Biological Evolution May Be Linked
Anthony H. J. Fleming (*Biophotonics Research Institute, Australia*);

10:40 Self-field Theory and General Physical Uncertainty Relations
Anthony H. J. Fleming (*Biophotonics Research Institute, Australia*); *Vadim N. Matveev* (*Sinerta Closed Joint-Stock Company, Lithuania*); *Oleg V. Matvejev* (*Sinerta Closed Joint-Stock Company, Lithuania*);

11:00 General Physical Uncertainty Relations as a Consequence of the Lorentz Transformation
Vadim N. Matveev (*Sinerta Closed Joint-Stock Company, Lithuania*); *Oleg V. Matvejev* (*Sinerta Closed Joint-Stock Company, Lithuania*);

11:20 Complete Imitation of the Special Theory of Relativity by the Means of the Classical Physics
Vadim N. Matveev (*Sinerta Closed Joint-Stock Company, Lithuania*); *Oleg V. Matvejev* (*Sinerta Closed Joint-Stock Company, Lithuania*);

Session 4P1
Microwave and Millimeter Wave Integrated Circuits Design

Wednesday PM, March 23, 2011

Room A

Chaired by Ingmar Kallfass

13:00 Effects of Hardware Impairments in Six-port Homodyne Receivers for Communication Systems
Alvaro Moscoso-Martir (*University Malaga, Spain*); *Inigo Molina-Fernandez* (*Malaga University, Spain*); *A. Ortega-Monux* (*University Malaga, Spain*);

13:20 Investigation on C-loaded Microstrip Line for Very Low Phase Shifting Small Size TL for S-band RF QFN Package
Mohssin Aoutoul (*Moroccan Association for Scientific and Innovation Researches-Microelectronics, Morocco*); *N. Healey* (*Moroccan Association for Scientific and Innovation Researches-Microelectronics, Morocco*); *J. Kiwan* (*Moroccan Association for Scientific and Innovation Researches-Microelectronics, Morocco*); *F. Bourzeix* (*Moroccan Association for Scientific and Innovation Researches-Microelectronics, Morocco*); *B. Lakssir* (*Moroccan Association for Scientific and Innovation Researches-Microelectronics, Morocco*); *Mohammad Essaaidi* (*Faculty of Sciences, Morocco*);

13:40 FET-based Frequency Multiplier S-MMICs up to 440 GHz
Ingmar Kallfass (*Karlsruhe Institute of Technology, Germany*); *H. Massler* (*Fraunhofer Institute for Solid State Physics, Germany*); *A. Tessmann* (*Fraunhofer Institute for Solid State Physics, Germany*); *A. Leuther* (*Fraunhofer Institute for Solid State Physics, Germany*);

14:00 Compact Non-degenerate Dual-mode Filter with Adjustable Transmission Zero
Abdel-Fattah Sheta (*King Saud University, Saudi Arabia*); *Majeed A. S. Alkanhal* (*King Saud University, Saudi Arabia*); *Zeyad Alhekail* (*King Saud University, Saudi Arabia*);

14:20 6×3 Microstrip Beam Forming Network for Multibeam Triangular Array
Aitor Novo-García (*Universidad de Vigo, Spain*); *María Vera-Isasa* (*Universidad de Vigo, Spain*); *Javier García-Gasco Trujillo* (*Universidad Politécnica de Madrid, Spain*); *Manuel Sierra-Perez* (*Polytechnical University of Madrid, Spain*);

14:40 Comparative Study of Two Microstrip Beam Forming Networks for Multibeam Triangular Array
Aitor Novo-García (*Universidad de Vigo, Spain*); *María Vera-Isasa* (*Universidad de Vigo, Spain*); *Manuel Sierra-Pérez* (*Universidad Politécnica de Madrid, Spain*);

15:00 **Coffee Break**

15:20 Automatic Design and 3D Electromagnetic Simulation of Sub-nH Spiral Inductors
Luca Aluigi (*University of Perugia, Italy*); *Federico Alimenti* (*University of Perugia, Italy*); *Luca Roselli* (*University of Perugia, Italy*);

15:40 A Novel Dual-mode Dual-band Bandpass Filter with DGS
Chang Chen (*University of Science and Technology of China, China*); *Weidong Chen* (*University of Science and Technology of China, China*); *Zhongxiang Zhang* (*Hefei Normal University, China*);

16:00 Quasi-elliptic Wideband Bandpass Filter Using Grounded Coupled Lines and Chip Capacitor
Takenori Yasuzumi (*Aoyama Gakuin University, Japan*); *M. Kamada* (*Aoyama Gakuin University, Japan*); *T. Uwano* (*Aoyama Gakuin University, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

16:20 New Compact Dual-band Filter Using Common Resonator Sections and Double-diplexing Structure
Pu-Hua Deng (*National University of Kaohsiung, Taiwan*); *Jyun-Hao Jheng* (*National University of Tainan, Taiwan*);

16:40 Comparative Study of RF Dual-band-pass Filter
Leila Bousbia (*SUPCOM-ISETCOM, Tunisia*); *Mohamed Mabrouk* (*SUPCOM-ISETCOM, Tunisia*); *Adel Ghazel* (*Ecole Super Commun, Tunisia*);

Session 4P2
Fiber Optics, Optical Sensors

Wednesday PM, March 23, 2011

Room B

Chaired by Marco De Sario, Pedro Pereyra

13:00 Vectorial Remote Sensing of Guided Electric Field with Pigtailed Electro-optic Microcavities
Adriana Warzecha (*Universite de Savoie, France*); *Gwenael Gaborit* (*Universite de Savoie, France*); *Lionel Duvillaret* (*Kapteos, France*);

13:20 Incorporation of Optical Fiber-loop and FBG as Displacement and Temperature Sensors for Structure Monitoring
Mohd Kamil Abd-Rahman (*Universiti Teknologi MARA, Malaysia*); *N. Jannah Muhd-Satar* (*Universiti Teknologi MARA, Malaysia*);

13:40 Electromagnetic Waves through Fiber Bragg Gratings
Pedro Pereyra (*Universidad Autonoma Metropolitana, Mexico*);

14:00 Multi-long-period Gratings for the Optimization of Pump Absorption in Microstructured Optical Fiber Lasers
Tommaso Palmisano (*Politecnico di Bari, Italy*); *M. Surico* (*Politecnico di Bari, Italy*); *Antonella D'Orazio* (*Politecnico di Bari, Italy*); *Marco De Sario* (*Politecnico di Bari, Italy*); *L. Mescia* (*Politecnico di Bari, Italy*); *Vincenzo Petruzzelli* (*Politecnico di Bari, Italy*); *Francesco Prudenzano* (*Politecnico di Bari, Italy*);

14:20 Two-components Electric-field Sensor for Ultra Wide Band Polarimetric Measurements
Y. Gaeremynck (*Kapteos, France*); *P. Jarrige* (*Kapteos, France*); *Lionel Duvillaret* (*Kapteos, France*); *Gwenael Gaborit* (*Kapteos, France*); *L. Lecoche* (*Kapteos, France*);

14:40 1-Soliton Solution of the Nonlinear Schrödinger's Equation with Log Law Nonlinearity by Lie Symmetry Analysis
Chaudry Masood Khalique (*North-West University, South Africa*);

15:00 **Coffee Break**

15:20 Optical Solitons in a Log Law Media by He's Variational Principle
Anjan Biswas (*Delaware State University, USA*);

15:40 A Novel Idea of Quantum Cryptography Coupled with Handover Satellite Constellation for World Cover Communications
Aris Skander (*Mentouri University, Algeria*); *Abderraouf Messai* (*Université de Constantine, Algeria*); *Merabtine Nadjim* (*Taif University, Saudi Arabia*); *Mosleh M. Al-Harthi* (*Taif University, Saudi Arabia*); *Malek Benslama* (*University of Constantine, Algeria*);

16:20 Statistical Modelling of the Polarization Mode Dispersion in the Single Mode Optical Fiber Links
Lynda Cherbi (*University of Sciences and Technology Houari Boumediene, Algeria*);

Session 4P3
Safety and Electromagnetic Compatibility in Ubiquitous Health Environment

Wednesday PM, March 23, 2011

Room C

Organized by Victoria Ramos, Francisco J. Falcone

Chaired by Victoria Ramos, Francisco J. Falcone

13:00 New Electromagnetic Environments for Health and Welfare
Victoria Ramos (*Health Institute Carlos III, Spain*); *Jorge García* (*Health Institute Carlos III, Spain*); *Alejandro Del Pozo* (*Health Institute Carlos III, Spain*);

13:20 Electromagnetic Compatibility of Portable RF Emitters in Uniquos Health Environment: Regulatory Issues
Federica Censi (*Istituto Superiore di Sanita, Italy*); *Giovanni Calcagnini* (*University of Roma La Sapienza, Italy*); *Eugenio Mattei* (*Italian National Institute of Health (ISS), Italy*); *Michele Triventi* (*Istituto Superiore di Sanita, Italy*); *Pietro Bartolini* (*Istituto Superiore di Sanita, Italy*);

13:40 Electromagnetic Evaluation for Personal Communications in Outdoor Environments
Silvia De Miguel (*Health Institute Carlos III, Spain*); *Francisco J. Falcone* (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Aránzazu Sanchis Otero* (*Centro Nacional de Sanidad Ambiental (CNSA), Instituto de Salud Carlos III, Spain*); *Victoria Ramos* (*Health Institute Carlos III, Spain*);

14:00 Three Dimensional Safety Distance Analysis around a Cellular Base Station
Fatih Ustuner (*TÜBİTAK UEKAE, Turkey*);

14:20 Analysis of Electromagnetic Dossimetry of Indoor ZigBee Networks
Victor Torres (*Universidad Pública de Navarra, Spain*); *Juan Antonio Nazabal* (*Universidad Pública de Navarra, Spain*); *Miguel Navarro-Cia* (*Universidad Pública de Navarra, Spain*); *Miguel Beruete* (*Universidad Pública de Navarra, Spain*); *Victoria Ramos* (*Health Institute "Carlos III", Spain*); *Carlos Fernández* (*Universidad Pública de Navarra, Spain*); *Francisco J. Falcone* (*Universidad Pública de Navarra, Spain*);

14:40 Analysis of High Power Microwave Environments in Common Scenarios
Aránzazu Sanchis Otero (*Centro Nacional de Sanidad Ambiental (CNSA), Instituto de Salud Carlos III, Spain*); *José Roldán* (*Centro Nacional de Sanidad Ambiental, Instituto de Salud Carlos III, Spain*); *Victoria Ramos* (*Health Institute Carlos III, Spain*); *Agustín Martín* (*Instituto de Física Aplicada, Consejo Superior de Investigaciones Científicas (CSIC), Spain*);

15:00 **Coffee Break**

15:20 Risks Communication Strategies in Hospitals to Avoid Electromagnetic Interferences and Healthcare Professionals' Use of Ubiquitous Communication Devices
Maria Dolores Marcos García (*Agency "Lain Entralgo" for Education and Health Research, Spain*); *Victoria Ramos* (*Health Institute "Carlos III", Spain*);

Session 4P4a
Electromagnetic Property and Measurement

Wednesday PM, March 23, 2011

Room D

Chaired by Moulay Rachid Douiri, Arcady P. Zhukov

13:00 Accuracy of High Temperature Waveguide Measurements
Christer Larsson (*Lund University, Sweden*); *Daniel Sjoberg* (*Lund University, Sweden*);

13:20 Fast and Accurate Dielectric Characterization Technical to Get Various Electrolytic Parameters
Cedric Gilbert (*University of Paris Sud, France*); *Olivier Meyer* (*University of Paris Sud, France*);

13:40 Enzymatic Acetylcholine Hydrolysis Modification by High Voltage and Fast Rise Time Pulsed EMW Using Dielectric Spectroscopy
Cedric Gilbert (*University of Paris Sud, France*); *Olivier Meyer* (*University of Paris Sud, France*);

14:00 Tuneable Metamaterials Containing Arrays of Magnetic Microwires
Larissa V. Panina (*University of Plymouth, UK*); *Mihail Ipatov* (*Universidad del Pais Vasco, Spain*); *V. Zhukova* (*Universidad del Pais Vasco, Spain*); *J. Gonzalez* (*Universidad del Pais Vasco, Spain*); *Arcady P. Zhukov* (*Universidad del Pais Vasco, Spain*);

14:20 Accurate Broadband Electromagnetic Characterization Method for Dielectric and Magnetic Materials
Jorge E. Lezaca (*Université Européenne de Bretagne, France*); *Patrick Queffelec* (*Université Européenne de Bretagne, France*); *Alexis Chevalier* (*Université Européenne de Bretagne, France*);

Session 4P4b
EM Theory: Waves and Media

Wednesday PM, March 23, 2011
Room D
Chaired by José María Saiz, Zi-Hua Weng

15:20 Metal Nanoshell Characterization by Means of the Linear Polarization Degree at Right-angle Scattering Configuration
Pablo Albella (*Universidad de Cantabria, Spain*); *Rodrigo Alcaraz de la Osa* (*Universidad of Cantabria, Spain*); *Francisco González* (*Universidad de Cantabria, Spain*); *José María Saiz* (*Universidad de Cantabria, Spain*); *Fernando Moreno* (*Universidad de Cantabria, Spain*);

15:40 Application of the Green's Function to Calculating the Impedance of a Uniform Current Density between Two Multilayered Media
Jesus Acero (*Universidad de Zaragoza, Spain*); *Claudio Carretero* (*Universidad de Zaragoza, Spain*); *Rafael Alonso* (*Universidad de Zaragoza, Spain*); *Oscar Lucia* (*Universidad de Zaragoza, Spain*); *Jose Miguel Burdio* (*Universidad de Zaragoza, Spain*);

16:00 Heavy Ions Acceleration of Solar Wind in Electromagnetic and Gravitational Fields
Ying Weng (*Xiamen University, China*); *Zi-Hua Weng* (*Xiamen University, China*);

16:20 Magneto-optic and Electro-optic Effects in Electromagnetic Fields
Zi-Hua Weng (*Xiamen University, China*);

16:40 Magnetic Suspension System for Platform Performance
Chin E. Lin (*National Cheng Kung University, Taiwan*); *Wei-Cheng Huang* (*National Cheng Kung University, Taiwan*);

Session 4P5a
Ground Penetrating Radar (GPR) for Civil Engineering Applications

Wednesday PM, March 23, 2011
Room E
Organized by Jamal-Eddine Rhazi
Chaired by Jamal-Eddine Rhazi, Giovanni Picardi

13:00 Test Method for Evaluating Asphalt-covered Concrete Bridge Decks Using Ground Penetrating Radar
Jamal-Eddine Rhazi (*University of Sherbrooke, Canada*);

13:20 Characterization of the GPR Surface Waves for Civil Engineering Applications
Bilal Filali (*University of Sherbrooke, Canada*); *Jamal-Eddine Rhazi* (*University of Sherbrooke, Canada*); *Francois Boone* (*University of Sherbrooke, Canada*); *Gerard Ballivy* (*University of Sherbrooke, Canada*);

13:40 Simulation and Detection Limit of EM Waves in Masonry Structures with Application of an Algorithm for Image Processing
Rani Hamrouche (*Université de Toulouse, France*); *G. Klysz* (*Université de Toulouse, France*); *J. P. Balayssac* (*Université de Toulouse, France*); *Jamal-Eddine Rhazi* (*University of Sherbrooke, Canada*); *Gerard Ballivy* (*University of Sherbrooke, Canada*);

14:00 GPR Limits for Thin Layers in Concrete Detection: Numerical and Experimental Evaluation
Audrey Van der Wielen (*University of Liege, Belgium*); *Luc Courard* (*University of Liege, Belgium*); *Frédéric Nguyen* (*University of Liege, Belgium*);

14:20 MARSIS Data Analysis Planning
Giovanni Picardi (*University of Rome "La Sapienza", Italy*); *A. Masdea* (*University of Rome "La Sapienza", Italy*); *M. Restano* (*University of Rome "La Sapienza", Italy*); *Roberto Seu* (*University of Rome "La Sapienza", Italy*);

14:40 Insulated Concrete form Void Detection Using Ground Penetrating Radar
Roger Roberts (*Geophysical Survey Systems Inc., USA*); *Ken Corcoran* (*Geophysical Survey Systems Inc., USA*); *Michael Arvanitis* (*Geophysical Survey Systems Inc., USA*); *Alan Schutz* (*Geophysical Survey Systems Inc., USA*);

15:00 **Coffee Break**

Session 4P5b
Scattering, Rough Surface Scattering and Remote Sensing

Wednesday PM, March 23, 2011
Room E
Chaired by Jean-Charles Bolomey, Akira Komiyama

15:20 Light Scattering from Surfaces and Multilayers: Measurement and Modeling Using Vector Perturbation Theories
Marcus Trost (*Fraunhofer Institute for Applied Optics and Precision Engineering, Germany*); *Sven Schröder* (*Fraunhofer Institute for Applied Optics and Precision Engineering, Germany*); *Angela Duparre* (*Fraunhofer Institute for Applied Optics and Precision Engineering, Germany*); *Andreas Tünnermann* (*Fraunhofer Institute for Applied Optics and Precision Engineering, Germany*);

15:40 TE wave Scattering from a Binary Periodic Random Surface (I) — Bbinary Fluctuation of Zero/One Series
Kazuhiro Hattori (*Mayekawa MFG. Co., Ltd., Japan*); *Junichi Nakayama* (*Kyoto Institute of Technology, Japan*); *Yasuhiko Tamura* (*Kyoto Institute of Technology, Japan*);

16:00 Analytically-based Optimization for Load-modulated Scattering Antennas
Hamidreza Memarzadeh-Tehran (*École Polytechnique de Montréal, Canada*); *Jean-Charles Bolomey* (*Supélec, France*); *Jean-Jacques Laurin* (*École Polytechnique de Montréal, Canada*);

16:20 Localization and Diffusion of Light in Waveguide Systems
Akira Komiyama (*Osaka Electro-Communication University, Japan*);

16:40 Model Development and Analysis of Multiple Surface Scattering and Surface-Volume Scattering in Snow Layer
Syabeela Syahali (*Multimedia University, Malaysia*); *Hong Tat Ewe* (*Universiti Tunku Abdul Rahman, Malaysia*);

Session 4P6a
Apparatus for Biological, Medical and Industrial Applications of EM Field

Wednesday PM, March 23, 2011

Room F

Organized by Jan Vrba

Chaired by Jan Vrba

13:00 Prospective Applications of EM fields in Medicine
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Ladislav Oppl* (*Czech Technical University in Prague, Czech Republic*); *David Vrba* (*Czech Technical University in Prague, Czech Republic*); *Jaroslav Vorlicek* (*Czech Technical University, Czech Republic*); *Barbora Vrbova* (*Czech Technical University in Prague, Czech Republic*); *Daniel Havelka* (*Czech Technical University, Czech Republic*);

13:20 Applicators for Research of Biological Effects of EM Field
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Lukas Visek* (*Czech Technical University in Prague, Czech Republic*); *Ladislav Oppl* (*Czech Technical University in Prague, Czech Republic*); *Luca Vannucci* (*Institute of Microbiology, Czech Academy of Sciences, Czech Republic*);

13:40 Numerical Dosimetry Analysis of Exposure Chamber
Lukas Visek (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

14:00 Electric Oscillating Field of Microtubule Network
Daniel Havelka (*Czech Technical University, Czech Republic*); *Michal Cifra* (*Institute of Photonics and Electronics, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

14:20 Contribution of Complex Permittivity Measurement in Hyperthermia Treatment Planning
Jaroslav Vorlicek (*Czech Technical University, Czech Republic*); *Ladislav Oppl* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

14:40 Applicators for Microwave Thermotherapy: Comparison of SAR Distribution in Homogeneous Phantom and in Anatomical Model
Barbora Vrbova (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

15:00 **Coffee Break**

15:20 Microwave Applicators for Industrial Purposes
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Milan Stejskal* (*Research Institute of Textile Machines, Czech Republic*); *Jan Vrba (Jr.)* (*RWTH Aachen University, Germany*); *Tomas Vydra* (*Czech Technical University in Prague, Czech Republic*); *Marika Pourova* (*Czech Technical University in Prague, Czech Republic*);

15:40 System for Visualization and Evaluation of Microwave Applications
Tomas Vydra (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*); *Marika Pourova* (*Czech Technical University in Prague, Czech Republic*);

Session 4P6b
Nonlinear Dynamics in Magntically Confined Plasmas and Photonic Systems: Part 1

Wednesday PM, March 23, 2011

Room F

Organized by Giorgio Sonnino, Mustapha Tlidi

Chaired by Giorgio Sonnino

16:00 Nonlinear Distribution Functions for Fully Ionized, Collisional, Tokamak-plasmas
Giorgio Sonnino (*Universite Libre de Bruxelles (U.L.B.), Belgium*);

Session 4P7a
Electromagnetic Simulations and Applications 2

Wednesday PM, March 23, 2011

Room G

Organized by Peter Virtic

Chaired by Peter Virtic

13:00 Closed-form Green's Functions for Stratified Uniaxial Anisotropic Medium
Ping Ping Ding (*Supelec, France*); *Said Zouhdi* (*University Paris Sud, France*); *Le-Wei Li* (*National University of Singapore, Singapore*); *Swee Ping Yeo* (*National University of Singapore, Singapore*);

13:20 Extended Analytical Formulation Based on Marcatili's Approach Coupled to Effective Index Method for Pedestal Waveguides: Convergence with Numerical Methods
Bruno Beche (*Université Rennes 1, France*); *T. Begou* (*Université Rennes 1, France*); *Nicolas Grossard* (*Photline Technologies S. A., France*); *J. Zyss* (*ENS Cachan, France*); *A. Goullet* (*Université de Nantes, France*); *E. Gaviot* (*Université Le Mans, France*);

13:40 Sidelobe Reduction in Offset Dish Parabolic Antennas Using Metallic Scatters
Ali Houssein Harmouch (*American University of Science and Technology (AUST), Lebanon*); *Walid A. Kamali* (*Al-Manar University of Tripoli, Lebanon*); *Chadi H. El Moucary* (*Notre Dame University, Lebanon*);

14:00 Influence of Design Parameters on Electromagnetic Field in Coreless Stator Axial Flux Permanent Magnet Synchronous Machines
Peter Virtic (*University of Maribor, Slovenia*);

14:20 Theory of Electromagnetic Field Calculation in Electrical Machines by Using Conformal Mapping
Peter Virtic (*University of Maribor, Slovenia*);

14:40 Electromagnetic Field Analysis of an Axial Flux Synchronous Motor with Ring Permanent Magnets by Using Analytical Method
Peter Virtic (*University of Maribor, Slovenia*); *Jurij Avsec* (*University of Maribor, Slovenia*);

15:00 **Coffee Break**

Session 4P7b
Computational Electromagnetics

Wednesday PM, March 23, 2011

Room G

Chaired by Salvador Gonzalez Garcia

15:20 Computational Electromagnetic Tools for EMC in Aerospace
Jesus Alvarez (*EADS CASA, Spain*); *Salvador Gonzalez Garcia* (*University of Granada, Spain*); *Luis Diaz Angulo* (*University of Granada, Spain*); *Amelia Rubio Bretones* (*University of Granada, Spain*);

15:40 Development of a Resonant Cavity Multi-line Coupling Model and Validation Using Measurements
Romain Orange (*THALES Air Systems, France*); *Philippe Eudeline* (*THALES Air Systems, France*); *Stephane Louis* (*THALES Air Systems, France*); *Belahcene Mazari* (*IRSEEM, France*); *F. Duval* (*IRSEEM, France*);

16:00 Source Identification in Time Domain Electromagnetic — Application to Focusing Problem
Jaume Benoit (*Blaise Pascal University, France*); *C. Chauvière* (*Blaise Pascal University, France*); *P. Bonnet* (*Blaise Pascal University, France*);

16:20 An Efficient Computational Method Based on Current Measurements for Fields Radiated by a Thin Antenna or a PLC Line
Mohamed Chaaban (*Blaise Pascal University, France*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*); *Christophe Pasquier* (*Blaise Pascal University, France*); *Ali Ismail* (*IUT Saida, Lebanon*);

16:40 Multi-GPU Accelerated Finite-difference Time-domain Solver in Open Computing Language
Tomasz Pawel Stefanski (*ETH Zurich, Switzerland*); *Nicolas Chavannes* (*SPEAG Software R&D, Switzerland*); *Niels Kuster* (*Foundation for Research on Information Technologies in Society, Switzerland*);

17:00 Electromagnetic Total Scattering Cross Section from Reverberation Chamber Simulations in Time Domain
Ibrahim El Baba (*Blaise Pascal University, France*); *Sebastien Lallechere* (*Blaise Pascal University, France*); *P. Bonnet* (*Blaise Pascal University, France*);

17:20 Artificial Neural Network Modeling of Synchronous Reluctance Motor
Primoz Bajec (*Hidria Institute for Materials and Technologies d.o.o., Slovenia*); *Bogomir Zidaric* (*Hidria Institute for Materials and Technologies d.o.o., Slovenia*); *Damijan Miljavec* (*University of Ljubljana, Slovenia*);

Session 4P8
Earth Electromagnetic Environment and Radiowaves Propagation & Scattering: Modelling, Method, Observation and Measurements

Wednesday PM, March 23, 2011

Room H

Organized by Rachid Talhi

Chaired by Rachid Talhi, Michel Parrot

13:00 HF Ground Wave Propagation over a Randomly Rough Sea Surface
Christophe Bourlier (*Universite de Nantes, France*); *Gildas Kubicke* (*DGA-MI, CGN1 Division, France*);

13:20 The Physical Mechanism of the Lightning Return Stroke Initiation Point as an Electromagnetic Source
Robert L. Gardner (*6152 Manchester Park Circle, USA*);

13:40 Real-time Correction of Distributed Ionospheric Model by OTHR Coordinate Registration Based on Sea/Land Transition Identification: Method Outline
Luca Facheris (*Università di Firenze, Italy*); *Fabrizio Cuccoli* (*Università di Firenze, Italy*); *Francesco Sermi* (*Università di Firenze, Italy*);

14:00 Design of Air Gap and Slotted Microstrip Antenna with Capacitive Feed for Wideband Applications
Malay Ranjan Tripathy (*Jind Institute of Engineering and Technology (JIET), India*); *Pawan Kumar* (*SDITM, India*); *H. P. Sinha* (*Maharishi Markendeshwer University, India*); *Rachid Talhi* (*University of Tours and CNRS, France*);

14:20 Calibration of Earth Atmosphere for Radio Science Experiments
Sami Asmar (*California Institute of Technology, USA*); *Kamal Oudrhiri* (*California Institute of Technology, USA*);

14:40 Review of Perturbations Induced by Powerful VLF Ground-based Transmitters in the Ionosphere
M. Parrot (*LPC2E/CNRS, France*);

15:00 **Coffee Break**

15:20 System for Measuring Rain Attenuation in Terahertz Wave Ranges
Seishiro Ishii (*National Defense Academy, Japan*); *Toshihisa Kamei* (*National Defense Academy, Japan*); *Shuji Sayama* (*National Defense Academy, Japan*);

PIERS SURVEY

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A1. For the next PIERS to be held on 12–16 September, 2011 in Suzhou, CHINA,

( ) I will be interested in organizing and chairing a session, and the proposed title is

_____

B. For past PIERS, I attended

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	SUNDAY AM 8:00 March 20		SUNDAY PM 13:00 March 20		MONDAY AM 8:00 March 21	MONDAY PM 13:00 March 21	
ROOM A	1A1 - Advances in Nonlinear Optical Cavity Dynamics		1P1 - Advances in Phase --- Space Optics		2A1 - Instabilities and Solitons in Nonlinear Photonics: Part 1	2P1 - Instabilities and Solitons in Nonlinear Photonics: Part 2	
ROOM B	1A2 - Extraordinary Transmission: Theory and Experiments		1P2a - Ionospheric Radio Propagation and Effects with Special Emphasis on the Mediterranean and North African Areas	1P2b - Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging	2A2 - Electromagnetic Modeling, Inversion and Applications	2P2 - Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals	
ROOM C	1A3a - Near-field Techniques Applied to Based Metamaterial Devices	1A3b - Metamaterials and Their Applications 1	1P3 - Metamaterials and Their Applications 2		2A3 - Microwave/Terahertz Photonics Technologies and Their Applications	2P3 - Transformation Optics, Metamaterials and Plasmonics	
ROOM D	1A4 - Emerging Modalities and Novel Applications of Inverse Problems in Electromagnetics		1P4a - Theoretical Issues and Experimental Constraints in Active Microwave Imaging	1P4b - Time Reversal Methods for Electromagnetic Applications	2A4 - Electromagnetic Nondestructive Evaluation (NDE) 1	2P4a - Electromagnetic Nondestructive Evaluation (NDE) 2	2P4b - Sensor-based Structural Damage Detection: Concrete Applications
ROOM E	1A5 - SMOS Satellite CAL/VAL: CAROLS L Band Radiometer Airborne Campaigns		1P5 - Remote Sensing		2A5 - Emerging Strategies and Innovative Algorithms for the Solution of Inverse Scattering Problems 1	2P5 - Emerging Strategies and Innovative Algorithms for the Solution of Inverse Scattering Problems 2	
ROOM F	1A6a - Small Antennas	1A6b - Electrically Small Antennas for Military Applications	1P6a - Advances in Nano-antennas	1P6b - Platform Effects and Mutual Coupling in Large Complex Array Systems	2A6 - Antenna and Array 1	2P6a - Antenna and Array 2	2P6b - Reconfigurable Antennas
ROOM G	1A7 - Biosensing with Nanoplasmonics		1P7 - Novel Mathematical Methods in Electromagnetics		2A7 - Statics and Dynamics of Magnetic Nanostructures: Vortices and Nanomagnonics	2P7 - Computational Electromagnetics, Hybrid Methods	
ROOM H	1A8a - EM Interactions in Biomedical Engineering	1A8b - EMC and Mitigation Techniques: Theory and Practice 1	1P8 - EMC and Mitigation Techniques: Theory and Practice 2		2A8 - Antenna Channel Interactions in Multipath Wireless Channels	2P8 - Signals, Waves and Shielding	
ROOM K	1A9 - Poster Session 1		1P9 - Poster Session 2		2A9 - Poster Session 3	2P9 - Poster Session 4	

	TUESDAY AM 8:00 March 22	TUESDAY PM 13:00 March 22		WEDNESDAY AM 8:00 March 23		WEDNESDAY PM 13:00 March 23	
ROOM A	3A1 - Rogue Waves in Nature and Extreme Events	3P1 - Anisotropic Media and Liquid Crystals Optics		4A1 - Universal Soliton Traits across Different Physical Systems: The Case of Conservative and Dissipative Mechanisms		4P1 - Microwave and Millimeter Wave Integrated Circuits Design	
ROOM B	3A2 - Microwave and Millimeter Wave Circuits and Devices, CAD	3P2 - Terahertz Radiation Detection and Emission by Field Effect Transistors		4A2 - Optics, Photonic, Nanophotonic and Plasmonics		4P2 - Fiber Optics, Optical Sensors	
ROOM C	3A3 - Electromagnetic Wave Propagation in Dissipative Media	3P3a - Reduction of the Mutual Coupling and/or Metamaterial Absorbers	3P3b - Electromagnetic Research in Photonic Metamaterials	4A3 - Advanced Electromagnetics for Communications in Dissipative Media and Difficult Environments		4P3 - Safety and EM Compatibility in Ubiquitous Health Environment	
ROOM D	3A4 - Electromagnetic Modeling and Imaging of Anisotropic Media	3P4a - Advances in Image Processing	3P4b - EM Scattering over Arid Surfaces: Subsurface and Salt Issues	4A4a - Fault Detection, Diagnosis and Tolerant Control	4A4b - EM Methods and Instruments for Non Destructive Testing Applications of Ground Penetrating Radar	4P4a - EM Property and Measurement	4P4b - EM Theory: Waves and Media
ROOM E	3A5 - Electromagnetics in Remote Sensing	3P5a - Lightning Effects to Tall Structures and Wind Turbines	3P5b - Circuits and Devices, CAD	4A5 - Radar Signal Processing, Target Recognition and Identification		4P5a - GPR for Civil Engineering Applications	4P5b - Scattering, Rough Surface Scattering and Remote Sensing
ROOM F	3A6 - RFID and RFID-enabled Sensors	3P6a - Material, Design and Drive of Functional Devices	3P6b - Smart Materials	4A6 - Medical Electromagnetics, RF Biological Effect, MRI		4P6a - Apparatus for Biological, Medical and Industrial Applications of EM Field	4P6b - Nonlinear Dynamics in Magntically Confined Plasmas and Photonic Systems: Part 1
ROOM G	3A7 - Validation of Computational Electromagnetics and Quantitative Comparisons	3P7 - RF and Wireless Communication, Multipath		4A7 - Electromagnetic Simulations and Applications 1		4P7a - Electromagnetic Simulations and Applications 2	4P7b - Computational Electromagnetics
ROOM H	3A8 - Extended/Unconventional EM Theory, EHD/EMHD, and Electro-biology	3P8 - Power Electronics		4A8 - Electromagnetic Theory		4P8 - Earth EM Environment and Radiowaves Propagation & Scattering: Modelling, Method, Observation and Measurements	
ROOM K	3A9 - Poster Session 5	3P9 - Poster Session 6					