

PROGRAM VI EIEC

The sixth edition of the “*Iberian Meeting on Computational Electromagnetism*” (Hotel Iberostar Andalucía Playa, Chiclana de la Frontera, Cádiz, October 22-24, 2008) offers to the participants a scientific program including 27 presentations of research groups coming from Spain, Portugal and Switzerland. Moreover, this year we have four invited talks which will be given by the following speakers:

- **Prof. Dr. Pasi Ylä-Oijala**, *Department of Radio Science and Engineering, Helsinki University of Technology (Finland)*.
- **Prof. Dr. Niels Kuster**, *SPEAG and Foundation IT'IS, ETH-Zurich (Suiza)*.
- **Prof. Dr. Daniël De Zutter**, *Electromagnetics Group, Faculty of Engineering, Universiteit Gent (Belgium)*.
- **Prof. Dr. José Antonio Encinar**, *Dept. de Electromagnetismo y Teoría de Circuitos, ETSI Telecomunicación, Universidad Politécnica de Madrid (Spain)*.

21st of October 2008

Welcome and collection of conference materials at the conference desk.

22nd of October 2008

08:45 Opening session.

09:00-11:00 Sesión 1.a.- Integral Equation Methods.

- **09:00-09:30 INVITED TALK.** “Applying Surface Equivalence Principle Algorithm in Large Electromagnetic Scattering Problems”.
Pasi Ylä-Oijala.
- **09:30-10:00.** “Progress in Numerical Techniques Applied to Integral Equation Formulations”.
F.J. Pérez Soler, F. Quesada Pereira, J.S. Gómez Díaz, M. Martínez, Mendoza, D. Canyete Rebenaque, J. Pascual García, J.L. Gómez Tornero, Juan R. Mosig, A. Álvarez Melcón.
- **10:00-10:30.** “Efficient Computation of Non-Periodic Green’s Functions in Layered Media and Periodic Green’s Functions in Homogeneous Media”.
Rafael R. Boix, Francisco Mesa, Ana L. Fructos y Francisco Medina.
- **10:30-11:00.** “Quadruple Static Potential Integrals for Uniform Source Distributions on Rectangular Domains”.
S. López Peña, M. Mattes, J. R. Mosig.

11:00-11:30 Coffee break.

11:30-13:30 Session 1.b.- Modeling of Transmission Lines and Dielectric Waveguides.

- **11:30-12:00 INVITED TALK. “Transmission Line Modeling of Coupled Lines in a Semiconducting Substrate”.**
Daniël De Zutter, Thomas Demeester.
- **12:00-12:30. “Fourier Reconstruction of Discontinuous Fields without Gibbs Phenomenon”.**
A. Ortega-Moñux, J.G. Wangüemert-Pérez, R. Godoy-Rubio, I. Molina-Fernández.
- **12:30-13:00. “Modelos para la Caracterización de Líneas de Transmisión en Terahercios” (“Models for the Characterization of Terahertz Transmission Lines”).**
Jorge A. Ruiz-Cruz, José R. Montejo-Garai, Jesús M. Rebollar.
- **13:00-13:30. “From Microwave to Optics: Electromagnetic Simulation Tools Applied to Dielectric Waveguides and Devices”.**
José. Rodríguez García, Miguel García Granda, Susana F. Fernández.

13:30-15:30 Lunch

15:30-17:30 Session 2.a.- Large Size Electromagnetic Problems and Accelerated Methods.

- **15:30-16:00. “Fast Multipole Method in Supercomputers”.**
L. Landesa, J.M. Taboada, F. Obelleiro, J.L. Rodríguez, J. Mouriño, A. Gómez.
- **16:00-16:30. “A Parallelized and User Oriented Version of the Moment Method Computer Code MONURBS”.**
Iván González, Abdelhamid Tayebi, Josefa Gómez, Santiago Cejudo, Felipe Cátedra.
- **16:30-17:00. “Progress in MoM Solution of Electromagnetic Scattering and Radiation at UPC AntennaLab”.**
A. Heldring, J.M. Tamayo, J.M. Rius, E. Ubeda.
- **17:00-17:30. “Fast Physical Optics for Spherical Cap Surfaces”.**
Felipe Vico-Bondía, Miguel Ferrando-Bataller, Mariano Baquero-Escudero, Vicent M. Rodrigo-Peñarrocha.

17:30-18:00 Coffee break.

18:00-20:00 Session 2.b.- Metamaterials.

- **18:00-18:30. “Materiales Avanzados para Frecuencias de Microondas: Nuevos Diseños, Técnicas de Medida y Herramientas de Análisis” (“Advanced Materials for Microwave Frequencies: New Designs, Measurement Techniques and Analysis Tools”).**
A.J. García Collado, G.J. Molina Cuberos, J. Margineda, E. Martín, M.J. Núñez, M.A. Solano, A. Vegas, A.M. Grande, O. González, J.A. Pereda, A. Gómez, I. Barba, A.C. López Cabeceira, J. Represa.
- **18:30-19:00. “Analysis of Slotted Antennas on Metamaterial Waveguides”.**
M. Navarro Tapia, J. Esteban Marzo, C. Camacho Peñalosa.
- **19:00-19:30. “Analysis of Metamaterial Loaded Antennas using MoM Computational Tools”.**
F.J. Herraiz-Martínez, L. E. García-Muñoz, V. González-Posadas, D. Segovia-Vargas.
- **19:30-20:00. “Guided Waves in Metamaterial Three-dimensional Waveguides”.**
Antonio L. Topa, Carlos R. Paiva, Afonso M. Barbosa.

23rd of October 2008

09:00-11:00 Session 3.a.- Arrays and Reflectarrays.

- **09:00-09:30 INVITED TALK. “Analysis, Design and Applications of Reflect-arrays”.**
J.A. Encinar
- **09:30-10:00. “Obtaining Patterns of Moderate Directivity and Low Sidelobes by Using Small Linear Arrays of Dipoles Fed with Uniform Voltages”.**
J.A. Rodríguez-González, M. Álvarez-Folgueiras, F. Ares-Pena.
- **10:00-10:30. “Optimization of Coupled Antenna Arrays Characterized by Spherical Mode Expansions by Means of an Interior-Point Filtering Method”.**
Juan Córcoles, Miguel Ángel González, Jesús Rubio, Juan Zapata.
- **10:30-11:00. “Shape Antenna Radiation Diagram with Discrete Weights Using PSO Algorithm and Periodic and Nest Spaces”.**
Oscar E. Herrera, Luis Nuño Fernández.

11:00-11:30 Coffee break.

11:30-13:30 Session 3.b.- Time Domain Methods.

- **11:30-12:00 INVITED TALK.** “Latest Advances in Hybrid FDTD Approaches”.
Niels Kuster, Francisco Núñez, Stefan Benkler y Nicolas Chavannes
- **12:00-12:30.** “Programming Techniques for Accelerating FDTD/CFDTD”.
Gary Junkin, Josep Parrón.
- **12:30-13:00.** “Resolution of 2D Maxwell’s Equations Using Interpolating Wavelets”.
Margarete O. Domingues, Paulo J.S.G. Ferreira, Sônia M. Gomes, Anamaria Gomide, Andrielber S. Oliveira, José R. Pereira y Pedro Pinho.
- **13:00-13:30.** “Estudio de las Propiedades Numéricas de una Extensión del Método FDTD para la Incorporación de Circuitos Concentrados” (“Study of the Numerical Properties of an Extension of FDTD Method to Incorporate Lumped Circuits”).
Oscar González, José A. Pereda, Ana Grande, Ángel Vegas.

13:30-15:30 Lunch.

15:30-17:30 Session 4.a.- Electromagnetic Theory and Antennas.

- **15:30-16:00.** “Interfaces Between Air and General Anisotropic Media: A Geometric Algebra Approach”.
J. R. Canto, S. A. Matos, C. R. Paiva y A. M. Barbosa.
- **16:00-16:30.** “Electromagnetics of Complex Media using Geometric Algebra”.
Sérgio A. Matos, João R. Canto, Carlos R. Paiva y Afonso M. Barbosa.
- **16:30-17:00.** “Support Vector Multi-regression for Antenna Measurement Corrections”.
Germán León, Rafael G. Ayestarán, Susana Loredó, Fernando Las-Heras.
- **17:00-17:30.** “Reflector Shaping by Physical Optics Based Linearization Method”.
Borja González-Valdés, José A. Martínez-Lorenzo, Antonio García-Pino, Carey M. Rappaport.

17:30-18:00 Coffee break.

18:00-19:30 Session 4.b.- Finite Elements.

- **18:00-18:30. “Recent Developments Regarding Finite Element Methods at the Radiofrequency Group of Universidad Carlos III de Madrid”.**
Luis E. García Castillo, Ignacio Gómez Revuelto, Magdalena Salazar Palma, Daniel Segovia Vargas.
- **18:30-19:00. “Numerical Dosimetry of Cell Cultures”.**
Rohit Bahl, L.D. Angulo, Salvador G. García, A. Rubio Bretones, M. Fernández Pantoja, C. Moreno de jong Van Coevorden, R. Gómez Martín.
- **19:00-19:30. “A Fourier-Finite-Element Framework with Electromagnetics and Multiphysics Applications”.**
David Pardo, C. Torres-Verdín, L.E. García Castillo, M. Paszynski, M. J. Nam.

19:45-20:15 General Assembly.

21:00 Closing Dinner.

24th of October 2008

09:00 Excursion.

Visit to the town of Tarifa (the South point of Europe, capital of windsurf in Europe) crossing the Natural Park “Los Alcornocales” and visit to the roman remains of “Baelo Claudia” at the breathtaking beach of Bolonia.