



# Workshop on **MAGNETISM & INDUSTRY**

October 26 & 27, 2006

Conference room of the Applus+ Centre (Bellaterra) Barcelona- Spain

**Organized by Technical Section of Metallurgy and Material Science (STM & CM) of the Association of Chemistry of Catalunya, College of Chemistry of Catalunya and the Spanish Club of Magnetism (CEM)**

With the collaboration of:

Centro Applus +, Sociedad de Técnicos de Automoción (STA), ...

Companies : AMES, IMA, Hispano Ferritas, Mavilor, ....

Universities: Barcelona (UB, UAB), Madrid (UAM, UCM), Oviedo (UO), País Vasco (UPV/EHU), ....

Research Centers: Instituto de Materiales de Madrid y de Barcelona (CSIC).

## **ORGANIZING Committee:**

J. A. Bas - President of STM & CM, Technical Consultant of AMES and Treasurer of the CEM.

Jesús Blanco - Professor U Oviedo, Secretary of the CEM.

Vicente Aucejo - Manager of INDIALEC, Valencia.

P. Molera - Board of STM and CM, Professor of Materials Sciences and Metallurgy UB.

Juan Santiago Muñoz - Prof. of Applied Physics UAB and member of the CEM

Ricardo Ibarra - Prof. U. of Zaragoza and Board of CEM

Josep Maria Virgili - Secretary of STM y CM. Professor of Materials Sciences

Joan Josep Sunyol - Professor of Applied Physics, University of Girona ( UG )

Antoni Portela - Technical Secretary of the Colegio-Asociación de Químicos de Cataluña.

José Manuel Barandiarán - Professor of Applied Physics, UPV/EHU and President of the CEM

Manuel Vázquez - Senior research scientist at the Instituto de Materiales de Madrid (CSIC) and Vice-president of the CEM

Ricardo Altimira - Manager of Ingeniería Magnética Aplicada, S. L. (IMA).

## **OBJETIVES**

*The workshop is aimed to all kind of scientist and technical staff working with Magnetic Materials or Electrical Machinery. It will give an overview of the latest developments in the area, with special emphasis on the industry applications.*

*It will also provide a forum for interchange of information, contact with specialized research centers both in Spain and abroad, Universities and Technical laboratories which can provide Magnetic characterization, research facilities, magnetic instrumentation and, possibly, customers.*

**Registration:** Col·legi - Associació de Químics de Catalunya: Portal de l'Àngel, 24. 1º 2ª 08002 BARCELONA, TEL.: 93- 317 92 49, Fax: 93- 317 92 99, e-mail: [colquim@cqc.ictnet.es](mailto:colquim@cqc.ictnet.es)

**Fees:** Individual: 180,00 €, Members of organizing Institutions: 120,00 €, Companies: 500,00 € (up to 3 attendees)

# PRELIMINARY PROGRAMM

## **26<sup>th</sup> October: *Measurements, Design and Simulation***

- 9:00 Opening: Dr. Capellades.  
9:15 Presentation of the "Club Español de Magnetismo": Prof. José Manuel Barandiarán (UPV/EHU)  
9:45 "Calibration and traceability of Magnetic Measurement Equipment": Prof. Avelino López, (UPM)  
10:15 "Magnetic properties of soft and hard magnetic materials in DC and AC. Determination standards and instrumentation": Laboratorio Electrofisico Engi. Srl.

10:45 Coffee break

- 11:00 "Multipole Magnetization of sensor ring with index pole a project review": Peter Ulrich, Magnet Phisyk.  
11:30 "Sinusoidal magnetization of isotropic rotors": Laboratorio Electrofisico Engi.Srl.  
12.00 "Induction currents in no magnetic conductors : Characterization and defects detection by non destructive tests (NDT): Professor José Ignacio Iñiguez de la Torre, USAL

13:15-15:00 Lunch

- 15:00 "New aspects of simulation and design of electrical motors by 2D and 3D Finite Elements Methods": Vicente Aucejo (INDIELEC)  
15:45 "Materials Soft Magnetic Composites (SCM), for motors and magnetic circuits in substitution of magnetic sheets. Design, modelling and applications": Prof. Alan Jack, University Newcastle.  
16:30 "Thermal issues in the design of permanent magnet based electrical motors": Dr. Josep Camino, Consultant.

17:-17:15 Coffee break

- 17:15 "Slots influence in the cogging torque, in the servomotors: Ivan Flotats, Director R & D Mavilor.  
17:45-19:00 Round table: "Spanish panorama in Magnetic Measurement and Normalization": Alan Jack, Avelino López, LEE, José Antonio Benito, Josep Camino, Vicente Aucejo, José Manuel Barandiarán

## **27<sup>th</sup> October: New magnetic Materials for Industry**

- 9:00 "Nanomagnetic materiales and high frequency measurements: Prof. Javier Tejada (UB).  
9:45 "Hard magnetic materials for Industrial applications": Dr. Josep Nogués (ICREA-IMA).  
10:30 "Amorphous magnetic materials of industrial interest" : Dr. Manuel Vázquez (ICMM)

11:15-11:30 Coffee break

- 11:30 "Sintered soft magnetic materials: Properties and applications": Dr. J. A. Bas (AMES ).  
12:15 "Advanced applications of Soft Ferrites": Miguel Cortés, Manager of Hispano Ferritas.  
13:00 "Magnetic thin film technology ". Professor Joan Esteve, UB

13:45 - 15:15 Lunch

15:15-16:15 Visit to the ICMAB (Bellaterra) where the last talks will take place:

- 16:15 "New materials for industrial magnetic sensors and actuators": Dr. Josep Fontcuberta (ICMAB) and Dr. Luis Martinez, Manager of ATIPIIC (Parc Tecnològic del Vallès)  
17:00 "High Tech Superconductors for industrial application": Dr. Xavier Obradors (ICMAB)

17:30 Closure: Prof. Carles Miravittles and Dr. J. A. Bas