



JEMS 2012

The 6th Joint European Magnetic Symposia (JEMS 2012) were held in Parma, Italy, on September 9–14, 2012. JEMS 2012 was a EPS sponsored conference jointly organized by the CNR Institute of Materials for Electronics and Magnetism (IMEM-CNR) and the Department of Physics and Earth Sciences of the University of Parma. The two institutions have been engaged in magnetism research since the late 1960s and continue that tradition today by engaging in frontier research. The Joint European Magnetic Symposia are the most important and comprehensive conference on magnetism in Europe. Previous JEMS conferences took place in Grenoble (2001), Dresden (2004), San Sebastian (2006), Dublin (2008) and Krakow (2010).

The success of the conference was made possible by the quality and diversity of the contributions as well as by the lively discussions that followed both the oral and the poster sessions. JEMS2012 was attended by 874 delegates, including 279 students (32%), originating from 42 countries. The 19 Symposia, which attracted 1138 contributions, were focused on a broad range of topics embracing applicative and fundamental aspects of magnetism, as well as novel magnetic materials.

The conference programme consisted of 5 plenary, 10 semi-plenary, 45 symposia oral and 28 poster sessions; 343 symposia oral communications, of which 57 invited, complemented by 731 poster communications. A number of invited speakers (72) gave lectures on important recent advances in the field.

The symposia at JEMS 2012 and the names of their organizers were as follows:

Magneto-transport, spin electronics and magnonic crystals

Susana Cardoso, INESC-MN, Lisbon, Portugal
 José María De Teresa, ICMA-CSIC, Universidad de Zaragoza, Spain
 Alessandra Continenza, University of L'Aquila, Italy
 Fabio Miletto Granozio, University of Naples "Federico II", Italy

Magnetic memories and magnetic recording

Olle Heinonen, Argonne National Laboratory, IL, USA
 Elisabetta Agostinelli, ISM-CNR, Rome, Italy

Organic & Carbon based spintronics

Bert Koopmans, Eindhoven University of Technology, Netherlands
 Valentin Alek Dediu, ISMN-CNR, Bologna, Italy

Micromagnetics, magnetization processes and magnetization dynamics

Thomas Schrefl, St. Pölten University of Applied Sciences, Austria
 Claudio Serpico, University of Naples "Federico II", Italy

Electronic structure and correlation effects in magnetic systems

Eva Pavarini, IFF, Jülich, Germany
 Alessio Filippetti, University of Cagliari, Italy

Magnetic materials for energy applications (permanent magnets, magnetocalorics...)

Oliver Gutfleisch, Institut für Materialwissenschaft, Technische Universität Darmstadt, Germany
 Simone Fabbri, IMEM-CNR, Parma, Italy

Molecular magnetism

Richard Winpenny, University of Manchester, UK
 Stefano Carretta, University of Parma, Italy

Soft magnetic materials and related applications

Frederic Mazaleyrat, ENS, Cachan, France
 Marco Coïsson, INRIM, Turin, Italy

Magnetism in metals, alloys and intermetallics

Zdenek Arnold, Institute of Physics ASCR, Prague, Czech Republic
 Pedro A. Algarabel Lafuente, ICMA-CSIC, Universidad de Zaragoza, Spain

Magnetic shape memory, magnetoelastic and multifunctional materials

Volodymyr Chernenko, Universidad del Pais Vasco UPV/EHU, Bilbao, Spain
 Luciano Lanotte, University of Naples "Federico II", Italy

Diluted Magnetic semiconductors

Tomasz Dietl, University of Warsaw, Poland
 Paola De Padova, ISM-CNR, Rome, Italy

Magnetic nanostructures, surfaces and interfaces

Chris Binns, University of Leicester
 Pietro Gambardella, Catalan Inst. of Nanotechnology (ICN-CSIC), Spain

Paolo Allia, Polytechnic of Turin, Italy

Lorenzo Matterna, University of Genoa, Italy

Spin excitations and ultrafast dynamics

Markus Münzenberg, I. Physikalisches Institut, Göttingen, Germany
 Giovanni Carlotti, University of Perugia, Italy

Biomagnetism

Olga Mykhaylyk, Technische Universität München, Germany
 Alessandro Lascialfari, University of Milan, Italy

Sensors, MEMS and magnetic devices

Orphee Cugat, Domaine Universitaire de St Martin d'Hères/Gières, France

Riccardo Bertacco, Polytechnic of Milan, LNESS, Italy

Disordered and frustrated magnetic systems

Philippe Mendels, University of Paris 11, CNRS, Orsay, France
 Pietro Carretta, University of Pavia, Italy

Magnetism and superconductivity

Christian Bernhard, University of Fribourg, Switzerland
 Samuele Sanna, University of Pavia, Italy

Perovskites and multiferroics

Claude Ederer, ETH Zürich, Switzerland
 Alessandro Bombardi, Diamond Light Source Ltd, Didcot, UK

Advanced experimental techniques for magnetic materials

Hendrik Ohldag, Stanford Synchrotron Radiat Lightsource, Menlo, CA, USA

Claudia Dallera, Polytechnic of Milan, Italy

The success of JEMS 2012 owes everything to the efforts of the Symposium Organizers, the Programme Committee, chaired by Dino Fiorani, the International Advisory Committee, chaired by Dominique Givord and the Publications Committee, chaired by Paola Tiberto. The Local organizing committee did an excellent job in organizing a flawless meeting. Also the excellent facilities and catering offered by the conference made an essential contribution. The meeting arrangements were effectively managed by Planning Congressi. We would like to acknowledge the institutional support received by: Consiglio Nazionale delle Ricerche, Università degli Studi di Parma,

ENEA, CNISM, INSTM, Fondazione Prometeo, Fondazione Monte di Parma, Società Italiana di Fisica, European Physical Society, AIMagn, Journal of Physics D: Applied Physics, ICAM-I2CAM, NSF, IEEE Magnetics – Italy Chapter, Regione Emilia-Romagna, Provincia di Parma, Comune di Parma, Ministero degli Affari Esteri. We would also like to thank the sponsors, who contributed to a balanced budget of this conference: MaTeck Technologie & Kristalle GmbH, Springer-Verlag Italia, Attocube Systems AG, Cryogenic Ltd, IOP Publishing, LakeShore Cryotronics Inc., L.O.T.-Oriol Italia S.r.l., NB nanoScale Biomagnetics, Oxford Instruments Nanoscience, Tohoku Steel Co., Ltd.

Finally, some contributors made the additional effort of turning their presentations into a high quality written report, which we now offer to the research community in the form of these proceedings published open access and available online. This should further strengthen the

dissemination of the research presented at this conference.

The turnout of JEMS 2012 demonstrated that magnetism continues to be an exciting field of research with bright prospects for the future.

The next JEMS 2013 edition will be held in Rhodes, Greece, from August 25th to 30th, 2013.

The JEMS 2012 Conference Chairs:

Franca Albertini, Institute of Materials for Electronics and Magnetism (IMEM), CNR, Parma

Roberto De Renzi, Department of Physics and Earth Sciences, University of Parma



The JEMS 2012 Conference photo on Thursday, September 13th