

Guest Editorial

The 13th European Meeting on Ferroelectricity (EMF-13) has welcomed participants to Portugal for the first time in the history of these meetings. EMF-13 was held, from 28th June to 3rd July 2015, in the Faculty of Sciences of the University of Porto. The conference has been organized by the group “Polarized Materials and Functional Nanostructures” of the Materials Physics Institute, IFIMUP-IN, (IN - Institute of Nanoscience and Nanotechnology), in the Physics and Astronomy Department of the Faculty of Sciences, University of Porto. The Local Organizing Committee included members of the Universities of Porto, Minho and Aveiro.

Three hundred and sixty six attendees from thirty four countries in Europe, Asia, America, and Africa were fully registered at EMF-13 meeting. These participants took active part in the sessions and informal discussions that had place along the 5 days of the meeting. Five plenary talks, given by Vladimir Fridkin, David Field, Annette Bussmann-Holder, Manuel Bibes, and Stephen Rowley, sixty invited talks, and one hundred thirty five oral contributions covered a wide number of topics ranging from basic research to new characterization techniques or novel applications of ferroelectrics and related materials. Complementary to the program of the meeting, a one day satellite workshop on “Inelastic scattering in ferroic materials” took place on Sunday 28th.

EMF-13 is part of a series of meetings held every four years since 1969 in different places. The 4-year cycle makes them very attractive and enables the opportunity to update the actual knowledge, through intensive scientific programs with lectures and contributions delivered by well-known speakers, experienced experimentalists and theoreticians. We believe that the EMF-2015 has followed this tradition by providing excellent opportunities to report innovative ideas and results, allowing interesting and fruitful discussions, and explore new trends in the extended research field of ferroelectricity.

The EMF-13 scientific program covered eleven topics, embracing theory and modeling, basic properties and symmetry, domains and domain walls, relaxors, multiferroicity and magnetoelectricity, integrated ferroelectrics, advances in innovative multifunctional applications of ferroelectrics, cutting-edge microscopic and macroscopic characterization, and modern research trends.

The fifty three papers published in this special issue of *Ferroelectrics* reflect this diversity of topics of the EMF-13 meeting. These papers were submitted during the meeting, and peer reviewed by specialists selected among the conference participants. We hope that this collection may allow the reader to fully appreciate not only the current state-of art in the field but also its dynamism and strength.

During EMF-13 the “In Memoriam” of two well-known members of the ferroelectric community, Prof. Hans Schmid and Prof. Maria Renata Chaves, passed away recently, was presented. Many of us knew them personally and admired their enthusiasm and passion for science.

Before his plenary lecture, Prof. Vladimir Fridkin, from the Institute of Crystallography, Russian Academy of Science, referred to the life and achievements of Prof. Hans Schmid. His research concerned primarily the chemistry, physics, and crystallography of magnetically ordered inorganic 3d-transition metal compounds, in particular single-phase multi-ferroics. In 1977 Prof. Hans Schmid joined the University of Geneva as associate professor in the Department of Inorganic, Analytical and Applied Chemistry, where, in 1978, he was appointed to full professorship. In 1989–1992 he served as the director of this department and became emeritus professor in 1996.

Prof. J.M. Machado da Silva from the University of Porto, presented the “In Memoriam” of Prof. Maria Renata Chaves. Her enthusiasm and optimism has contributed to the development of research on ferroelectrics and related materials at the University of Porto. She was the founder, in 1976, of the “Ferroelectrics” Research Group at the University of Porto. Her major interests included photoconductivity in films, commensurate/incommensurate materials, non-ergodic/frustration in dipolar glasses, critical phenomena in liquid crystals, and multiferroicity/magnetoelectricity. From her work, the interest in ferroelectric materials spread in Portugal, and intensive work in this field has extended to other Portuguese universities.

We would like to express our warmest thanks to all the participants who contributed to this publication, as well as to the referees that helped selecting and improving the manuscripts. Our thanks are extended to the Organizing Committee of the EMF-13, to the Taylor & Francis Group, and to Dr. George W. Taylor and Dr. Deborah J Taylor who made this issue possible. We hope that these proceedings may be useful not only to researchers directly engaged in the field, but also to the larger community working in condensed matter physics and material science. Finally, we express our gratitude to all the public institutions (Local, National and European) and companies that, in many ways, contributed to the success of EMF-13.

According to the decision of International Steering Committee for EMF, the 14th European Meeting on Ferroelectricity (EMF-14) will be held at Lausanne, Switzerland, hosted by Swiss Convention Center within EPFL Campus. We are looking forward to your continuing support to the EMF meetings, and expect to see you all in Switzerland in 2019.

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