

## Preface

The II International Materials Symposium, *Materials 2003*, is a science forum dealing with the advances in science and technology of materials, organized by the Portuguese Materials Society. The II International Materials Symposium, *Materials 2003* followed a series of biannual national and international conferences, that began 20 years ago and became, since 2001, an international forum of scientists, engineers and technologists, working in the field of Materials Science and Engineering to discuss their recent results, exchanging ideas and information.

This volume contains selected papers presented at the II International Materials Symposium which was held at the Faculty of Sciences and Technology of New University of Lisbon (FCT-UNL), in Caparica, Portugal, from 14 to 16 April 2003. This book is a comprehensive report work of the ongoing research at the frontier of Materials Science and Technology.

More than 469 scientists, from 24 countries attended *Materials 2003*. The symposium programme consisted of 21 invited talks, 201 oral presentations and 100 poster presentations, from which were selected for publication in this volume 189, representing 61% of the presented communications. The conference covered a broad range of scientific and technical aspects of Materials Science and Engineering: Electronic, Optoelectronic, Spintronic and Ferroelectric Materials; Metal, Alloys, Composites and Inorganic Materials; Polymers, Molecular Materials, Biomaterials: degradation and biological behaviour of biomaterials; Nano and Micro Structured Materials; Materials for Energy Storage, Generation and Transport and other Industrials Applications; Surfaces, Interfaces and Membranes; Modelling and Numerical Simulation of Materials Behaviour; Industrial Materials and Recycling. We thank all authors for their contributions and for their manuscripts, which constitute the matter of this book.

Besides the scientific and technical sessions two workshops have also been presented with great enthusiasm and lively discussions. The workshop on "Portuguese Industry Oriented Projects" and "Coatings Standards" the latter in the framework of the CEN TC184 WG5 working group (Test Methods for Ceramic Coatings) of the European Committee for Standardization.

Twenty-three internationally recognized scientists were invited to give lectures covering interesting and promising aspects related to the topics chosen for this conference. We are grateful for their excellent and attractive presentations as well as to their valuable help given during the review procedures.

For the first time it was decided to award the best 5 poster presentations. The members of the International and National Committees formed the award committee. Due to high standing presenting instead of 5 it was decided to award 11 posters. The selected poster for the first place was titled "Correlation between the electrical and optical properties presented by WO<sub>3</sub> prepared by rf magnetron sputtering".

During the conference, a technical exhibition was organized at the main Hall of the Pedagogic Complex of FCT-UNL, where 28 of the sponsors of this event shown their activities and equipments.

Conferences like *Materials 2003* live from the contributions of many dedicated people. It is a pleasure for us to thank the members of the National Scientific Committee for their important inputs into the conference, especially for their suggestions regarding the invited speakers and their topics.

We would like also to thank the Local Organizing Committee for the unlimited time, energy and professionalism given for the success of *Materials 2003*. Without their assistance the conference would not be the success that it was.

We are particularly indebted to the secretariat staff for their work before, during and after the conference. Many delegates have commented on the hospitality and sympathy shown during the meeting, and we record here the thanks of everyone to all the support staff.

We also gratefully acknowledge the financial support of our sponsors who made the conference possible, specially for the: Portuguese Materials Society, Faculty of Sciences and Technology of New University of Lisbon, Portuguese Science Foundation, Calouste Gulbenkian Foundation and Luso American Foundation.

We believe that, the excellent papers presentation coupled with the interesting workshops in association to the very friendly and attractive atmosphere of the conference, make *Materials 2003* an excellent meeting place for scientists, technologists and engineers, working in the frontier of materials science and technology.

We hope to see you in Aveiro at 2005.

The editors of Advanced Materials Forum II

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January 2004