



THE EUROPEAN MATERIALS RESEARCH SOCIETY

The European Materials Research Society (E-MRS) is a non profit scientific association founded in 1983 with its Headquarters in Strasbourg, France. The Society focuses its activity on creating synergy from the interactions between interdisciplinary, innovative fields of materials research. Great attention is given to spreading and exchanging information and promoting technology transfer from public institutions to industry.

The primary objective of E-MRS is to promote and enhance the efficiency of research in Europe in the field of Advanced Materials. E-MRS seeks to quickly inform researchers about the scientific and technological developments in their fields of interest, taking advantage of the society's links with other Materials Research Societies belonging to the International Union (IUMRS).

Since 2002, in parallel with the Spring meeting held in Strasbourg, Fall Meetings are held in Warsaw. The 2003 Fall meeting consisted of 7 symposia running in parallel, Plenary Sessions, a Joint session with other Symposia and included an exhibition of relevant products and services as well as training activities for young researchers and scientists.

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E-MRS FALL MEETING 2003

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E-MRS FALL MEETING 2003 - SYMPOSIUM F

FUNCTIONAL NANOMATERIALS FOR OPTOELECTRONICS AND OTHER APPLICATIONS

Research and development in the field of nanomaterials - thin films, nanowires, nanocrystal and nanostructured bulk materials - has increased very rapidly during recent years. Especially significant has been research where the structure is closely controlled at a nanometer level in order to achieve the desired functional properties.

Important discoveries including quantum dots, confinement effects and super emission have been made and the prospects for rapid development in these areas are good. The results of much basic research have been the base for an astonishing rate of progress in microelectronics. Therefore it is expected that the study and development of nanomaterials will provide a sound base for a major increase in the number of advanced technologies and the development of new optoelectronics and photonic devices.

The two main reasons for the novel properties of materials which have structural features in the nanometer size range are confinement effects and interface effects. Therefore the study of interfaces is of central importance for the development of new devices.

The symposium was devoted to recent advances in the manufacturing of nanostructured materials - nanocrystals, nanostructured ceramics, nanoparticles, polymer composites, nano-sized semiconductor structures and physical phenomena in these materials.

The symposium was co-organised by the Center of Excellence "HIGH PRESSURE" and PRENABIO Project at the High Pressure Research Center, Polish Academy of Sciences, in Warsaw, as well as the Network of Centers of Excellence "Interfacial effects, Novel properties and Technologies of Nanostructured Materials"

The present volume presents contributions on Luminescence and Quantum Dots, Photonic Materials, Functional Nanomaterials, Functional Polymer Nanocomposites, Production of Nanoparticles, Nanolayers, Carbon Nanostructures and the Abstracts of the Plenary Session and the session held jointly with other symposia.

Witold Łojkowski
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