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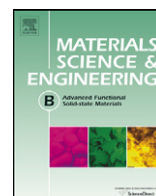


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Editorial

Symposium on Advances in Semiconducting Materials; XIX International Materials Research congress, Cancun, Mexico—August 2010

Updated research information on the recent developments in various materials will be of great interest for academicians and technologists interested in both fundamental research and industrial applications. This international conference, jointly organized by the Academia de Ciencias de Materiales (AMCM) and the Materials Research Society, USA, was held in Cancun, Mexico from August 15–20, 2010. More than 2500 abstracts were submitted by researchers, students and industrialist for 23 different symposiums from 40 different countries. This special issue contains representative work presented in symposium 5 entitled, “Advances in semiconducting materials” of XIX International Materials Research Congress (IMRC2010).

This symposium is intended as a vehicle for the dissemination of research results on the recent developments in semiconducting materials while also providing an excellent opportunity for basic researchers and industrialists around the world to exchange their findings and initiate collaboration at the national and international level. About 234 abstracts were received; including 15 invited 43 oral presentations and the remaining poster presentations.

The main objective of the symposium was to ensure appropriate representation of key issues such as growth, characterization, theoretical studies, device applications and problems related to semiconducting materials. The technical issues covered in this symposium varied from growth and properties of organic semiconductors (SC), inorganic SC, nanostructured SC, hybrid SC, oxide SC, magnetic SC, microscopy of SC materials, magnetic SC, etc. Invited and the contributed presentations presented in the symposium covered various growth techniques including Molecular beam epitaxy, PECVD, hydrothermal, ball milling, spin coatings, etc. for improving the material performances in devices. Another area emphasized in the symposium was the various characterization techniques for structural and morphological assessments of the various semiconducting materials using XRD, FESEM, HRTEM, Energy-dispersive X-ray spectroscopy (EDS) and X-ray photoelectron spectroscopy (XPS) studies, etc., along with various electronic, photonic, photoconductive, optical and thermal analyses techniques. In addition to the above, the scope of the symposium extended to spectroscopy of SC, atomistic simulation of electro-optic and magneto-optic oxide materials, semiconductor quantum optoelectronics, quantum semiconductor devices and technologies, nitride semiconductors and devices, smart devices, etc. Computer Simulation methods and theoretical models from these

properties also elucidated good understanding of the reason behind the materials behavior.

The contributions from the invited speakers in particular made a significant impact on the recent advances made in the growth and characterization of materials such as grapheme, II-VI quantum wells, III-nitride semiconductor nanostructures, functional nano-structured SiC, single-crystal-like Germanium films on polycrystalline flexible Substrates, III-V semiconductor alloys, etc., reflecting the incessant demand from the electronic industries for new materials at the nano-structured level. The latest growth techniques such as epitaxial growth has also made it possible to synthesize artificial nano crystal structures encompassing super lattices, quantum wells, etc. Enlightening presentation by the invited and oral speakers showed that the field of semiconductor engineering still has plenty of room for research, growth, development and expansion. This interaction between the researchers from educational institutions and industries has established a strong link for the creation of multinational thematic and research networks across the globe, as well as promoting interaction for future collaborative joint projects within some of the American and European Union funded projects.

I would like to thank the Editor-in-Chief and his associates of Materials Science and Engineering B for their coordinated work and timely alerts for the successful completion of this special issue. Special thanks are due to my co organizers Dr. Alex freundlich, Dr. Antonieta Garcia Murillo, Dr. Vijay Singh and members of the international Scientific Advisory committee, as well as reviewers for their valuable comments, which have certainly helped to improve the quality of the manuscripts. I also wish to thank Dr. René Asomoza Palacio, General Director, Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV), Mexico and IMRC2010 organizers for their support.

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