

Preface

This book volume is based on the talks delivered in Symposium C entitled Nanoelectronic Materials and Devices at “International Conference on NextGen Electronic Technologies–Silicon to Software” (ICNETS2). The theme of this symposium relates to the advances and emerging directions made in the fabrication, application as well as simulation of novel nanoelectronic materials and their impact on diverse electronic device technologies. The articles in this book volume focus on diverse topics encompassing functional electronic nanomaterials, nanocomposites for energy application, sensing and high-strength materials and simulation of novel device design structures for ultra-low-power applications.

Nanotechnology has been perceived as an enabler of extending the Moore’s law in nanoelectronic domain in the present technology era. This symposium brought together experts from across international and national academic communities as well as industries to discuss fabrication, characterization and computational aspects in the field of nanoelectronics.

This book volume provides a compilation of different functional nanoelectronic materials such as graphene oxide-based metal oxide nanoparticles, nanocomposites and InAs/GaAs quantum dots and their device application in memristors, MEMs, CNTFETs, TFETs and memory circuits. We hope this book provides insight into and perspective on the domain of nanoelectronic materials to upcoming young researchers and non-specialists.

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