

Preface

The last decade has witnessed remarkable changes in IT industry, virtually in all domains. The 50th Annual Convention, CSI-2015, on the theme “Digital Life” was organized as a part of CSI@50, by CSI at Delhi, the national capital of the country, during—December 2–5, 2015. Its concept was formed with an objective to keep ICT community abreast of emerging paradigms in the areas of computing technologies and more importantly looking its impact on the society.

Information and communication technology (ICT) comprises of three main components: infrastructure, services, and product. These components include the Internet, infrastructure-based/infrastructure-less wireless networks, mobile terminals, and other communication mediums. ICT is gaining popularity due to rapid growth in communication capabilities for real-time-based applications. New user requirements and services entail modified ICT architecture along with next-generation networks (NGNs). CSI-2015 attracted over 1500 papers from researchers and practitioners from academia, industry, and government agencies, from all over the world, thereby making the job of the Programme Committee extremely difficult. After a series of tough review exercises by a team of over 700 experts, 565 papers were accepted for presentation in CSI-2015 during the 3 days of the convention under ten parallel tracks. The Programme Committee, in consultation with Springer, the world’s largest publisher of scientific documents, decided to publish the proceedings of the presented papers, after the convention, in ten topical volumes, under ASIC series of the Springer, as detailed hereunder:

1. Volume # 1: ICT Based Innovations
2. Volume # 2: Next-Generation Networks
3. Volume # 3: Nature Inspired Computing
4. Volume # 4: Speech and Language Processing for Human-Machine Communications
5. Volume # 5: Sensors and Image Processing
6. Volume # 6: Big Data Analytics
7. Volume # 7: Systems and Architecture

8. Volume # 8: Cyber Security
9. Volume # 9: Software Engineering
10. Volume # 10: Silicon Photonics & High Performance Computing

We are pleased to present before you the proceedings of Volume # 2 on “Next-Generation Networks.” The development in communication technology has transformed all information and services (e.g., voice, text, images, video) through next-generation networks rather than telephone-centric approach. The main focus of NGN depends upon evolution of Internet in context of variety of services offered to users. Its rapid successful growth is due to continual refinement in efficient communication medium including related algorithms, efficient computing resources, and mass storage capabilities which have revolutionized the methods of data extraction and acquiring, storing, transmitting, and exchange of information among users dispersed across the geographical boundaries by taking all the important parameters for performance evaluation (security, power, battery life, load balancing, reliability, etc.) into account.

In today’s scenario, developing countries have made a remarkable progress in communication by incorporating latest technologies. Their main emphasis is not only on finding the emerging paradigms of information and communication technologies but also its overall impact on society. It is imperative to understand the underlying principles, technologies, and ongoing research to ensure better preparedness for responding to upcoming technological trends. By taking above point of view, this volume is published, which would be beneficial for researchers of this domain.

The volume includes scientific, original, and high-quality papers presenting novel research, ideas, and explorations of new vistas by focusing on conceptual and practical aspects of wireless networks, mobile ad hoc networks, wireless sensor networks. The aim of this volume is to provide a stimulating forum for sharing knowledge and results in theory, methodology, applications of ad hoc, sensor networks, and its emerging trends. Its authors are researchers and experts of these domains. This volume is designed to bring together researchers and practitioners from academia and industry to focus on extending the understanding and establishing new collaborations in these areas. It is the outcome of the hard work of the editorial team, who have relentlessly worked with the authors and steered up the same to compile this volume. It will be useful source of reference for the future researchers in this domain. Under the CSI-2015 umbrella, we received over 200 papers for this volume, out of which 57 papers are being published, after rigorous review processes, carried out in multiple cycles.

On behalf of organizing team, it is a matter of great pleasure that CSI-2015 has received an overwhelming response from various professionals from across the country. The organizers of CSI-2015 are thankful to the members of *Advisory Committee, Programme Committee, and Organizing Committee* for their all-round guidance, encouragement, and continuous support. We express our sincere gratitude to the learned *Keynote Speakers* for support and help extended to make this event a grand success. Our sincere thanks are also due to our *Review Committee*

Members and the *Editorial Board* for their untiring efforts in reviewing the manuscripts, giving suggestions and valuable inputs for shaping this volume. We hope that all the participated delegates will be benefitted academically and wish them for their future endeavors.

We also take the opportunity to thank the entire team of Springer, who have worked tirelessly and made the publication of the volume a reality. Last but not the least, we thank the team from Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi, for their untiring support, without which the compilation of this huge volume would not have been possible.

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