

Advances in Intelligent Systems and Computing

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Series editor

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Innovations in Infrastructure

Proceedings of ICIIF 2018

 Springer

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Preface

This volume constitutes a part of the proceedings of first International Conference on Innovations in Infrastructure (ICIIF) 2018, which was held on 18–19 May, 2018, in Ahmedabad, India. The first International Conference on Innovations in Infrastructure (ICIIF) was organized by the Institute of Infrastructure Technology Research and Management (IITRAM), Ahmedabad, in collaboration with Gujarat Knowledge Society, Government of Gujarat. It was funded by the Student Start-up and Innovation Policy (SSIP) initiative of the Government of Gujarat; DST, Government of India; ISRO; and many other industrial partners who aligned with the view of disseminating the progress of innovative, scientific and technological inventions. The conference provided a forum for discussion on issues, concepts, skill development and possible innovations in the infrastructure sector. ICIIF aimed at bringing the best technical minds working in the field of infrastructure development to a common platform to share their knowledge of technical expertise, experience and forthcoming challenges in this area. The conference articles include latest research trends showcasing the important achievements and upcoming challenges in the development of the infrastructure sector. The conference papers included in the proceedings, published post-conference, were grouped into the following areas of research:

- Innovation in Telecommunication Infrastructure
- Innovation in Control Engineering
- Innovation in Power System Infrastructure
- Innovation in Smart Infrastructure
- Innovation in Waste Management
- Sustainable Solutions for Infrastructure Development
- Innovation in Thermal Engineering
- Innovation in Manufacturing
- Innovation in Industrial Infrastructure
- Innovation in Renewable Energy
- Innovation in Hybrid Vehicles
- New Optimization Techniques

Innovation in Mechatronics
Innovation in Machine Learning
Innovation in Indigenous and Rural technologies
Innovations in Infrastructure Management

In ICIF 2018, we had three eminent keynote speakers: Professor Valentina Emilia Balas (Romania), Mr. Aninda Bose (Senior Editor, Springer), and Padma Shri Prof. Ajoy Ray (IIT Kharagpur).

We are thankful to all the authors who have submitted papers so as to keep the quality of ICIF 2018 at high levels. The editors of this book would like to acknowledge all the authors for their contributions and also the reviewers. We have received invaluable help from the members of the International Programme Committee and the chairs responsible for different aspects of the workshop. We appreciate also the role of special sessions' organizers. Thanks to all of them, we had been able to collect many papers of interesting topics. We had very interesting presentations and stimulating discussions.

Our special thanks to Prof. Janusz Kacprzyk (Series Editor, Advances in Intelligent Systems and Computing Series, Springer) for giving us the opportunity to publish this edited volume. We are grateful to Springer, especially to Dr. Thomas Ditzinger (Executive Editor, Applied Sciences and Engineering, Springer-Verlag) and Mr. Aninda Bose (Senior Editor, Hard Sciences, Springer Nature India) for the excellent collaboration, patience and help during the evolution of this volume.

We hope the volume will provide useful information to professors, researchers and graduated students in various fields of engineering to refer to the innovative techniques as a solution for their problems, and all will find this collection of papers inspiring, informative and useful. We also hope to see you in a future ICIF event.

Ahmedabad, India

Dr. Dipankar Deb

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Dipankar Deb completed his Ph.D. from the University of Virginia, Charlottesville, with Gang Tao, IEEE Fellow and Professor in the Department of ECE in 2007. In 2017, he was elected to be IEEE Senior Member. He has served as Lead Engineer at GE Global Research, Bengaluru (2012–2015), and as Assistant Professor in electrical engineering, IIT Guwahati (2010–2012). Presently, he is Associate Professor in the Department of Electrical Engineering at the Institute of Infrastructure Technology Research and Management, Ahmedabad, India. He leads efforts towards innovation. He is Student Startup and Innovation Project Coordinator at IITRAM. He mentors students to build intellectual property rights (patents).

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