

Foreword

The Indian Statistical Institute (ISI) was established on 17th December, 1931 by Prof. Prasanta Chandra Mahalanobis, a great visionary, to promote research in the theory and applications of statistics as a new scientific discipline in India. In 1959, Pandit Jawaharlal Nehru, the then Prime Minister of India introduced the ISI Act in the Parliament and designated it as an Institution of National Importance because of its remarkable achievements in statistical work as well as its contribution to economic planning for social welfare.

Today, the Indian Statistical Institute occupies a prestigious position in the academic firmament. It has been a haven for bright and talented academics working in a number of disciplines. Its research faculty has done India proud in the arenas of Statistics, Mathematics, Economics, Computer Science, among others. Over the last seventy five years, it has grown into a massive banyan tree, as epitomized in the emblem of the institute. The Institute now serves the nation as a unified and monolithic organization from different places, namely Kolkata, the Head Quarters, Delhi and Bangalore, two centers, a network of six SQC-OR Units located at Mumbai, Pune, Baroda, Hyderabad, Chennai and Coimbatore, and a branch (field station) at Giridih.

The platinum jubilee celebrations of ISI had been launched by Honorable Prime Minister Prof. Manmohan Singh on December 24, 2006, and the Govt. of India has declared 29th June as the “Statistics Day” to commemorate the birthday of Prof. Mahalanobis nationwide.

Prof. Mahalanobis was a great believer in interdisciplinary research, because he thought that this will promote the development of not only Statistics, but also the other natural and social sciences. To promote interdisciplinary research, major strides were made in the areas of computer science, statistical quality control, economics, biological and social sciences, physical and earth sciences.

The Institute’s motto of ‘unity in diversity’ has been the guiding principle of all its activities since its inception. It highlights the unifying role of statistics in relation to various scientific activities.

In tune with this hallowed tradition, a comprehensive academic program, involving Nobel Laureates, Fellows of the Royal Society, and other dignitaries, has been implemented throughout the Platinum Jubilee year, highlighting the emerging areas of ongoing frontline research in its various scientific divisions, centres, and outlying units. It includes international and national-level seminars, symposia, conferences and workshops, as well as several special lectures. As an outcome of these events, the Institute is bringing out a series of comprehensive volumes in different subjects under the title Statistical Science and Interdisciplinary Research, published by the World Scientific Publishing, Singapore.

The present volume titled “Algorithms, Architectures, and Information Systems Security” is the third one in the series. It has sixteen chapters, written by eminent scientists from different parts of the world, dealing with three major topics of computer science. The first part of the book deals with computational geometric problems and related algorithms, which have several applications in areas like pattern recognition and computer vision, the second part addresses the issues of optimization in VLSI design and test architectures, and in wireless cellular networks, while the last part concerns with different problems, issues and methods of information systems security. I believe, the state-of-the art studies presented in this book will be very useful to the readers.

Thanks to the contributors for their excellent research articles and to volume editors Dr. B. B. Bhattacharya, Dr. S. Sur-Kolay, Dr. S. C. Nandy and Dr. A. Bagchi for their sincere effort in bringing out the volume nicely in time. Initial design of the cover by Mr. Indranil Dutta is acknowledged. Thanks are also due to World Scientific for their initiative in publishing the series and being a part of the Platinum Jubilee endeavor of the Institute. Sincere efforts by Prof. Dilip Saha and Dr. Barun Mukhopadhyay for editorial assistance are appreciated.



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