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GUEST EDITORIAL

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Prof. Bimal Kumar Roy is a visionary Statistician, widely recognized for his role in promoting the methodology and applications of Statistics to multifarious scientific disciplines. His pioneering role in the education and research of Cryptology in the Indian academia has led to a sustained development of indigenous manpower, and has placed India in the world map of Cryptology. Born on March 7, 1959, Professor Roy received his B.Stat. and M.Stat. degrees from Indian Statistical Institute in 1978 and 1979, respectively, and his PhD in Combinatorics from University of Waterloo, Canada, in 1982. He joined Indian Statistical Institute in 1984, has served as a Professor since 1997, as the Dean of Studies from 2006 to 2008, as the Director from 2010 to 2015, and as the Head of R C Bose Centre for Cryptology and Security since 2015. Professor Roy pioneered Cryptology in Indian academia and built a prominent research group that has been contributing to the international arena of Cryptology for almost 25 years. He also founded the Cryptology Research Society of India in 2001, and started the international conference, Indocrypt. During 2018-19, we are celebrating the 60-th birthday of Prof. Roy. Although his contributions require no introduction in our community, we believe this is a good time to present a special issue on "Applications of Discrete Mathematics in Secure Communication" to commemorate the invaluable contributions of Prof. Roy in connecting discrete mathematics to high-end theoretical and practical research in cryptology.

Over the last fifty years, the cryptology community has witnessed a huge volume of high-quality research work, both in theory and practice of secure communication, and a good proportion of those exploit fundamental principles and constructs of Discrete Mathematics. This is one of the primary areas of expertise of Prof. Bimal Kumar Roy, and his leadership in this domain has direct consequences towards the field of secure communications. In this context, a special issue on "Applications of Discrete Mathematics in Secure Communication" in the journal "Advances in Mathematics of Communications" could be of significant interest to the cryptology community across the world, and harnessing a pool of important research contributions in Discrete Mathematics and Cryptology into a single literary volume will have a substantial archival value.

For this special volume, we solicited the following:

- 1. original research contributions in relevant topics;
- 2. research contributions published and/or presented at past conferences/workshops; (with substantial revision and at least 30% new contribution);
- 3. expository survey articles on relevant topics.

We invited submissions from eminent researchers in this domain, and considered some additional contributory papers in related areas. We proceeded with detailed two-round review process for the invited and the contributed papers, maintaining a standard similar to that of the Journal. We finalized to publish 12 papers for this special issue. We hope the readers will find these papers quite interesting.

We would like to thank the authors of all the submitted papers and express our gratitude to the reviewers for their timely and thorough review work. We are grateful to the Editors Sihem Mesnager and Jintai Ding for kindly accepting the proposal for this special issue. We also acknowledge that this special issue would not have been possible without the support of Alex Scorpan, Liwei Ning and Cuixin Zhou in the editorial office of the journal.

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