

## PREFACE

The Society of Statistics, Computer and Applications (SSCA) was founded in 1998 to honour great legendary Professor M.N. Das. Since then, the SSCA has been organizing National / International Conferences every year along the length and breadth of the country. It has organized thus far 23 conferences. The SSCA, among other scientific activities, also brings out this journal called *Statistics and Applications*. This is an open access journal and readers can view full paper online, download it, save it and print it without any cost. The journal publishes research papers after a stringent review process. The journal is available at <https://ssca.org.in/journal.html>.

This Issue (No. 1) of the Volume 19 of *Statistics and Applications* has been brought out as a tribute to Professor Alope Dey, a world leader in the area of designs of experiments and combinatorics, who at the age of 74 years and 7 months, left for his heavenly abode after a brief illness, on 10 February 2020. Incidentally, Late Professor Dey happened to be a Ph.D. student of Late Professor Das.

The Editorial Board of the journal decided to have this special issue in memory of Late Professor Alope Dey and titled it as **Contributions to Combinatorics, Design of Experiments, Linear Algebra and Related Areas**. The Editorial Board also invited Vinod Kumar Gupta, Sudhir Gupta, Rajender Parsad and Ashish Das to act as the Guest Editors of this special issue. Vinod Gupta shared the key responsibility of coordinating with the authors, the reviewers and the other guest editors. The authors invited to contribute to this issue were essentially Professor Dey's collaborators, his students, friends and colleagues around the globe. It gives us unbounded pleasure to mention here that the response obtained was overwhelming.

Professor Dey was a legendary statistician and his contributions to the advancement of statistical sciences have been colossal. Although he was world renowned for his contributions in the area of design of experiments, Professor Dey had also researched in other diverse areas like survey sampling, combinatorial theory, linear algebra and cryptology. Spread over half a century, his fundamental research, reflecting an amazing versatility, depth and originality immensely enriched the theory and applications of statistics. He also authored 5 books on block designs, fractional factorial designs and cross over designs. Professor Dey not only had been a great researcher, he had also been a brilliant teacher and mentor for many young upcoming researchers. With his strong desire to conduct quality basic research, he influenced the thoughts of many young researchers and inspired them along the journey of their research. With his immense love, affection and willingness to always help, he made an unforgettable mark on the lives of many of his colleagues, students and young researchers. It is a matter of great pride for all the guest editors of this issue to add here that they were also mentored by Late Professor Dey. The research journey of all the four guest editors was also influenced by the guidance of Late Professor Dey. In his demise the statisticians' fraternity has lost a brilliant, celebrated and globally recognized statistician. Professor Dey was a pious soul and a true humane - a gem.

Professor Alope Dey was fellow of the Indian National Science Academy (INSA), the National Academy of Sciences, India (NASI), and an Elected Member of the International Statistical Institute. He served as an editor of *Sankhya*, the Indian Journal of Statistics, during 2002–2005, and was also the chair editor of *Statistics and Applications*, during 2009–2020.

Every year, on June 29th, India celebrates the birth anniversary of Late Professor Prasanta Chandra Mahalanobis, a recognized global leader in the discipline of statistics, as National Statistics Day. On the National Statistics Day in 2010, for his lifetime contributions in the field of Statistics, Late Professor Dey was conferred the Government of India's prestigious National Award in Statistics that had been instituted in honour of Professor P.V. Sukhatme.

This memorial issue has the tributes to this stalwart Professor Dey in the form of 31 research papers from authors across the globe. These papers cover a broad spectrum of the research interests of Professor Dey. Additionally, there is an article on Professor Aloke Dey - A tribute by Vinod Kumar Gupta, Rahul Mukerjee, Mausumi Bose and Arun Nigam. The guest editors feel honoured to have been able to produce an issue that is a befitting homage to their GURU, a tall statistician with immense contributions.

We would like to sincerely express our gratefulness to all the authors for their contribution to this memorial issue. The reviewers, an unobservable layer without whom the process of journal publication cannot function at all, have also been prompt and thorough. Their suggestions helped in improving the quality and presentation of the contents. We are indebted to all the reviewers and thank them sincerely for their support. We would like to place on record our highest admiration for the Executive Council of SSCA and the Editorial Board of Statistics and Applications for their support and for entrusting their faith on the Guest Editors for bringing out this special issue as a tribute to Professor Dey. The Guest Editors, in turn, are greatly honoured by this responsibility. The help received from Dr. B.N. Mandal, Managing Editor for bringing the papers in the format of the journal is highly appreciated.

This issue contains papers of high academic standards covering a wide spectrum of statistical research. We are confident that the readers would find these papers enjoyable and a resource for generating newer ideas for advancing research in statistical sciences. This issue is our endeavour to pay rich tributes to this giant of statistical sciences with a towering stature, filled with traits of humanity like gentleness, kindness, humbleness and gratitude.

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