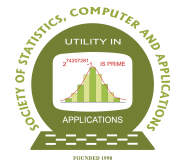


Statistics and Applications {ISSN 2454-7395 (online)}
Special Issue in Memory of Prof. C R Rao
Volume 22, No. 3, 2024 (New Series)
<http://www.ssca.org.in/journal>



From Chair Editor's Desk....

When the world of statistical fraternity, and the world of scientists across all disciplines of sciences, art and commerce, got this sad news of this noble and pious soul leaving the body of Professor Calyampudi Radhakrishna Rao and seeking shelter in the paradise, everyone was moved and touched and was in tears. The world had lost an all-time great visionary, a researcher and a gem with humane values. Everybody felt that this loss has created a void that will not be easy to fill.

Professor C. R. Rao, a Doyen in the domain of Statistical Sciences, was blessed by a super power to ignite the lamp of his soul while he descended on the Earth! He was extraordinarily talented and he roamed over various upcoming areas in the domain of statistical sciences with extreme ease and command and served the broader statistical world in a wide variety of leadership positions. Known to most of us as simply 'CRR', his name remains a byword for excellence.

The present Chair Editor of Statistics and Applications (S&A), Vinod Kumar Gupta, expressed a strong desire to Bikas Kumar Sinha and twin brother Bimal Kumar Sinha to bring out a Special Issue (SI) of the journal S&A in the honour of and to pay rich and befitting tributes to the fond memory of CRR. The twin brothers immediately responded in affirmation and the three decided that the December Issue of 2024 will be a SI to commemorate and pay our huge respect to this doyen of statistical sciences by bringing out a special issue having research papers echoing the research interests of CRR by those who have been his family, his students, his colleagues and collaborators and his friends and well wishers. The editorial board of the S&A resolved to appoint a team of Guest Editors (GEs) led by Bikas K. Sinha and twin brother Bimal K. Sinha and supported by the Chair Editor Vinod K. Gupta for this SI covering different areas of expertise and succeeded in having some of them from around the globe with direct personal contacts with CRR. The other important GEs of the team comprised of Shyamal Peddada, Thomas Mathew, Tapan K. Nayak, Bhramar Mukherjee, Nairanjana Dasgupta, and S. Ejaz Ahmed.

The team of GEs in their wisdom decided that this SI will be called as "***Life and Work of CR Rao (1920-2023): The Revolutionary of Statistical Sciences.***"

When this project [publication of special issue of S&A as a tribute to the fond memory of Late CRR] was to be launched, the GEs got spontaneous responses from several dozen contributors across the continents who were forthcoming with contributions related to the research interests of CRR. A good number of the contributors also had their personal

experiences to narrate.

We decided to add a special feature to this SI. CRR lived for 19 days short of 103 years. To highlight this significant event, we have compiled a list of 103 research papers of CRR that had impacted the furtherance of research in those times and in the chosen areas. The selection of 103 research papers is a representative sample of the total number of research papers of CRR, including some of his early-life path breaking research. We could trace his earliest paper in 1941 (perhaps among the earliest papers published at the age of 21 years). We made an effort to have at least one paper for each of the years from 1941 till 2020. Unfortunately, we could not find any journal publications for the years 2011, 2015 and 2019, respectively. Towards this compilation, we received tremendous help and useful documents from T. J. Rao, B. L. S. Prakasa Rao and T. Krishna Kumar. This help is gratefully acknowledged.

The **37** papers that appear in this SI have been classified into two broad categories. The Part I comprises of eight (**8**) papers describing the “**Facets of Professor C. R. Rao.**” These papers are mostly non-technical in nature. We start with an account of ‘THE FAMILY MAN’ - as CRR had been! This comes from his daughter Tejaswini. She has also obliged us by providing some unique family pictures. Then we have accounts of personal experiences of CRR’s associates, collaborators, students [direct/indirect].

The Part II comprises of **29** “**Regular Research Papers**” covering a wide range of theoretical topics and applicational areas. The contributors had freedom to make their own choice of the topics and deal with their contribution in the best possible way leading to innovative research. The selection of the topics was essentially dictated by the research interests of CRR and every paper in a way addressed one of these research interests. Of course, in the name of CRR, the motivation has been research-oriented and every contributor tried to focus on the use of latest available tools and techniques – at times developing new techniques.

Upon our request, BLS Prakasa Rao spontaneously agreed to write the Preface for this CRR Memorial SI. We are deeply obliged to him for his contribution. The Preface itself is his experience and vision about the life and work of CRR.

We are highly indebted to the GEs for rendering their valuable support in the preparation of this SI. Their choice of topics and contributors in different areas is praiseworthy. They maintained the timeline very strictly and this is the reason we have been able to bring out this SI in time.

Our heartfelt thanks and gratitude go to all the contributors, the distinguished authors, who have enriched the volume with their thought-provoking and illuminating contributions across various topics in theory and applicational areas. Their contributions have added value to this SI. Their unflinching support to maintain time schedule in submitting their original contribution, then preparing the revised version based upon the reviewers suggestions and formatting the paper as per the journal requirements are unparalleled. We are grateful to all the contributors for this.

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 S&A for their support and for entrusting their faith on the GEs for bringing out this special issue as a tribute to Professor C. R. Rao. The help received from Baidya N. Mandal and R. Vishnu Vardhan, Managing Editors, Jyoti Gangwani, Production Executive and Siva G., who helped with the latex template, for bringing the papers in the format of the journal is highly appreciated. This SI 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. We reiterate that the 36 papers in this SI are by CRR's family, former students, colleagues, collaborators, friends, and others who have been influenced by his research, teaching, mentoring, and generous friendship.

This SI is our sincere endeavor to pay homage and rich tributes to this giant doyen of statistical sciences with a towering stature, filled with traits of humanity like gentleness, kindness, humbleness and gratitude along with passion, vigor, enthusiasm, and zeal to enrich statistical sciences with fresh and fragrant ideas.

It may not be out of place to mention here that 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 26 conferences. The SSCA, among other scientific activities, also brings out this journal called Statistics and Applications (S&A). The journal is available at <https://ssca.org.in/journal.html>. The Issue (No. 3) of the Volume 22 of S&A has been brought out as a tribute to an all-time great legendry and father of modern statistics CRR, who at the age of 83 days short of 103 years (10 September 1920 – 22 August 2023), left for his heavenly abode. We fervently hope that this endeavor serves as a rich tribute to this dynamic and passionate researcher who revolutionized statistical sciences with his original path-breaking research. The statistical fraternity is poorer in his loss.

December 2024

Bikas Kumar Sinha
Bimal Kumar Sinha
Vinod Kumar Gupta