



# International Conference on Knowledge Discoveries on Statistical Innovations & Recent Advances in Optimization

**(ICON-KSRAO)**

in association with

International Indian Statistical Association (IISA)

Indian Society for Probability and Statistics (ISPS)

Operational Research Society of India (ORSI)

Society of Statistics, Computer & Applications (SSCA)

**(29<sup>th</sup> & 30<sup>th</sup> December, 2022)**

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## National Workshop on Data Science & Big Data Analytics Using R

**(27<sup>th</sup> & 28<sup>th</sup> December, 2022)**

in honour of

**Prof. K. Srinivasa Rao**

**Andhra University, Visakhapatnam.**



Organized by

**DEPARTMENT OF STATISTICS & POPULATION RESEARCH CENTRE**

Andhra University, Visakhapatnam, 530003, A.P., India.

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Supported by NABARD

## ABOUT THE UNIVERSITY

Andhra University (A.U.) is one of the oldest educational institutions in the country and the first to be conceived as a residential and teaching cum affiliating University, devoted to graduate and post graduate teaching and research. Andhra University was established in the year 1926 and Sir C. R. Reddy as its founder Vice-Chancellor. Former President of India Dr. Sarvepalli Radhakrishnan and Sir C. R. Reddy were among the prominent Vice-Chancellors. Padmavibhushan Prof. C. R. Rao, the renowned statistician of the world, was also the proud alumnus of the University.

The University is offering at present 313 courses in Arts, Commerce & Management, Science & Technology, Engineering, Law, Pharmacy and Education. The University is spread in a sprawling campus of 433 acres of land, having 7 constituent colleges and 16 research centers in its campus with a student strength of 16,400. It has 368 affiliated colleges spread across the territorial jurisdiction of Andhra University and A.U. Stood 24th place in the university ranking category in NIRF 2021. The University is accredited by NAAC with 'A' grade and is ISO 9001 : 2015 certified, apart from being recognized under Category-I in the UGC list of Universities with higher academic autonomy.

## ABOUT THE DEPARTMENT

The Department of Statistics was established in the year 1951, with Prof. K. Nagabhushanam (Late) as the Head of the Department. It is a matter of great pride that the department was started by such an eminent personality who obtained his Doctorate in Statistics under the guidance of Prof. Harald Cramer, an eminent statistician who is renowned across the World. The department, since inception, has been working in tune with the mission of the University to promote teaching, research and extension of knowledge base. The department produced various fields of research in statistics like Distribution Theory, Stochastic Modelling, Statistical Inference, Queuing Theory, Inventory Management, Bio-statistics, Statistical Quantity Control, Econometrics etc. The department often organises Seminars, Conferences and Workshops in Statistics. The department completed several projects sponsored by UGC, DST, UNICEF, other Govt. Organisations and also carried consultancy works. So far the department has produced more than 80 Ph.D.'s and 48 M.Phil.'s. More than 300 research publications were published in various National and International reputed journals.

## ABOUT THE POPULATION RESEARCH CENTRE

As part of its policy to encourage research in Demography, the Ministry of Health & Family Welfare, Government of India has established Population Research Centres (PRCs) in the major states of the country. The Population Research Centre is designated as a Nodal Agency by the Ministry of Health and Family Welfare, Government of India for coordinating the study with other PRCs in the Country. The PRC, Visakhapatnam is one of the 18 Population Research Centres. It was established in 1978 by the visionary Prof. T. V. Avadhani, Department of Statistics as founder Honorary Director at Andhra University, Visakhapatnam. The primary objective of the Institute is to undertake research on various topics pertaining to Population Stabilization, Demography, Socio-Demographic Surveys and Family Welfare programmes in Andhra Pradesh and other states. This centre also undertakes independent and in-depth evaluation of the Family Welfare Programme in Andhra Pradesh to give feedback to the Department of Family Welfare, Government of India thereof besides regularly undertaking seminars, conferences, workshops, training programmes etc.

## ABOUT LOCATION / SIGHTSEEING

Andhra University is located in the city of Visakhapatnam. According to archaeological evidences, the origin of city lays in the famous Buddhist monuments located at Thotlakonda. Visakhapatnam is popularly known as the "City of Destiny" and "The Jewel of the East Coast" and is situated on the East Coast of India with an excellent stretch of beaches, lush green hills, pleasant coastal driveway, hilltop parks and number of tourist places such as Simhachalam Temple, Kailasagiri Hills, Indira Gandhi Zoological Park, Submarine Museum, TU 142 Aircraft Museum, Dolphin's nose, Ramakrishna Beach, Ross Hill, Bheemunipatnam, Araku Valley, Borra Caves, etc. The City has a strong naval base and is the headquarter of Easter Naval Command, Indian Navy. Visakhapatnam is well connected to major parts of the country by air, rail and road.

## ABOUT INTERNATIONAL INDIAN STATISTICAL ASSOCIATION (IISA)

The International Indian Statistical Association (IISA) is a non-profit organization. In May 1991, Professor Dwivedi called a meeting of Indian Statisticians who were present during a conference Montreal for concerning the need of an Association of Statisticians from the Indian sub-continent. It was unanimously and enthusiastically agreed that steps should be taken to create an organization which would look after the interests of Statisticians of Indian Origin all over the world. A steering committee consisting of seven people was formed with Dr. Dwivedi as chairman. This committee contacted many people in North America and elsewhere. A second meeting of Indian Statisticians was held in Atlanta in August 1991 where the steering committee be expanded to about 25 people. The current name of the association was agreed upon. Next, a couple of meetings of Indian Statisticians took place in Cairo, Egypt, in September 1991. It was decided to develop a constitution in consultation with the Indian Statistical community, and develop bylaws. This was accomplished during 1992 and 93.

## ABOUT INDIAN SOCIETY FOR PROBABILITY AND STATISTICS (ISPS)

Eminent scholars belonging to the disciplines of Mathematical and Statistical Sciences laid the foundation for the origin of Indian Society for Theory of Probability and its Applications (ISTPA) when they met at Sri Venkateswara University in 1980. In the same year, the draft constitution of the society was drawn up during the deliberation of the Conference held at the Indian Institute of Technology Bombay (IITB). Later, in 1981, it was registered in Bombay with its official address at the Department of Mathematics, IIT Bombay. The society was renamed as Indian Society for Probability and Statistics (ISPS) in 1985. It has attracted many researchers and scholars for enrolment as life members over the years and presently, the strength has crossed 1400. ISPS publishes the Journal (JISPS) by Springer Publication.

## ABOUT OPERATIONAL RESEARCH SOCIETY OF INDIA (ORSI)

The Operational Research Society of India was founded in 1957 under the leadership of Prof. P. C. Mahalanobis with its headquarters at Delhi. In 1971, it was shifted to Kolkata. It provides a common forum for the Operations Research Specialists, theoreticians and practitioners, to widen their horizon by exchange of knowledge and application techniques. They may work in academia, in industry or in public service, teaching, conducting research and applying OR methods. It is the professional discipline that deals with application of scientific methods to decision-making. ORSI organized its first Annual Convention in 1968 at Kolkata. The Society is the representative of IFORS and APORS in India. The society celebrated its Diamond Jubilee in 2017. The Society introduced official publication of its own journal OPSEARCH for circulation all over the world in 1964. In 2013, the Society signed an agreement with Springer Nature India Private Limited, New Delhi by granting exclusive right and license to produce, publish, distribute, archive, translate and sell the journal in all languages, all forms and all media, now known or later devised or perfected, throughout the world. The agreement was subsequently renewed in 2018. The Journal brings out high quality research and state-of-the art papers in Operational Research.

## ABOUT SOCIETY OF STATISTICS, COMPUTER & APPLICATIONS (SSCA)

The Society of Statistics, Computer and Applications (SSCA), founded in 1998 under the Societies Registration Act-XXI of 1860 with Registration Number 32833, continues to create awareness among statistical fraternity of innovative application of statistical sciences to other sciences like Agriculture, Informatics, Financial, Medical, Bio-sciences, Management, Industrial, etc. The mission of SSCA is to provide a platform for promotion and dissemination of research in Statistics, blended with information technology, among both theoretical and applied statisticians dedicated to advancing technology for the benefit of humanity. The SSCA brings out a journal called "Statistics and Applications", with two issues per volume. The journal aims at providing a platform to researchers in Statistics, Computer Sciences, Bioinformatics and allied sciences from all around the globe. The first issue of the journal was brought out in the year 1999.

## CALL FOR PAPERS

The organizers invite original and unpublished research papers from students/research scholars, academicians and industry experts to present their work in the specialized areas of Statistics, Operations Research and Data Science. The abstract of contributed papers should be focused on the items such as objective of the study, methodology, research findings, significance and scope of the study. There will be a review on the abstracts by experts and selection of the paper is based on the recommendations of the experts committee. Selected papers will be published in Scopus indexed/UGC Care list journals. The interested delegates are requested to submit the abstract at <https://docs.google.com/forms/d/e/1FAIpQLSf3WWJLln7E1sjiQdsAE3NT43OZfCkYJf70D9UUmQyQ/viewform?vc=0&c=0&w=1&flr=0&gxid=-8203364> before the scheduled date in the following forms:

Text Format	: Microsoft Word format : Times New Roman
Title	: Limited to 200 characters in length. Use initial caps in the title; do not use all caps, 14 Pt Bold, Justified
Abstract Format	: Limited to 200 words, 10 Pt Italic , Justified
Author(s)	: 12 Pt Bold, Centered
Address	: 10 Pt Bold, Centered
Keywords and Phrases	: 10 Pt Bold, Justified
Body	: 12 Pt, Justified
Heading	: 12 Pt, Justified Bold
Equipment Needs	: Indicate your audio-visual equipment needs at the end of the abstract
Funding Agency, if any	: Indicate the Details of Funds and Funding Agency

## CONFERENCE TOPICS

The conference themes include the following broad areas but not limited to :

Acceptance Sampling	Distribution Theory	Order Statistics
Actuarial Statistics	Econometrics	Operational Research
Agricultural Statistics	Epidemiology	Optimization Techniques
Artificial Intelligence	Expert Systems	Probability Theory
Applied Statistics	Fuzzy Theory	Queuing Theory
Bayesian Inference	Goal Programming	Reliability Theory
Big Data Analytics	High Dimensional Data Analytics	Sampling Theory
Bioinformatics	Information Theory	Sequential Analysis
Biostatistics	Information Technology	Soft Computing
Clinical Trials	Inventory Theory	Statistical Decision Theory
Cloud Computing	Machine Learning	Statistics for Society
Cryptography	Managerial Statistics	Statistical Genetics
Computational Finance	Mathematical Modelling	Statistical Inference
Data Analytics	Mathematical Programming	Statistical Innovations
Data Envelopment Analysis	Mathematical Sciences	Statistical Quality Control
Data Mining	Meta Analysis	Statistics in Service Sector
Data Science	Multivariate Analysis	Stochastic Processes
Demography	Neural Networks	Survival Analysis
Design of Experiments	Official Statistics	Time Series Analysis

## IMPORTANT DATES

Submission of abstracts	: on or before 10/12/2022
Acceptance communication	: 15/12/2022
Submission of full length paper	: 20/12/2022 (Full Paper can also be accepted after presentation in the conference)
Payment Registration fees	: 29/12/2022 (Last date)
Dates of Workshop (online)	: 27 <sup>th</sup> & 28 <sup>th</sup> Dec, 2022
Dates of conference	: 29 <sup>th</sup> & 30 <sup>th</sup> Dec, 2022

## REGISTRATION

Participants are requested to register through online web portal of SB Collect to complete the registration process for the National Workshop and the International Conference. The link is given below:

<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=4809779> and the payment details are as follows:

Name	: Organizing Secretary ICON KSRAO
Account Number	: 40793529690
Name of the Bank	: State Bank of India
Branch Name	: AU Branch, Visakhapatnam
IFSC Code	: SBIN0000772
MICR	: 530002004
Swift Code	: SBININBB123 (for International transfers)

There are two categories of registration fees. (i) Online/Virtual Participation/Paper presentations; and (ii) Offline/Physical participation/paper presentations. Expenditure for offline participants include Conference kit, Breakfast, Lunch, Tea/snacks and Dinner for two days.

Participant's Category	International Conference Registration Fee	
	Mode of attendant (Online)	Mode of attendant (Offline)
Research Scholars/Students	INR 200	INR 1200
Faculty/Scientists	INR 500	INR 1500
Industry/Professionals	INR 1000	INR 2000
Foreign Delegates	USD 50	USD 100
Workshop (online) Registration Fee Rs 200		

**Note : Publication fee is not included in the registration fee**

## CONFERENCE OBJECTIVES

The basic objective of the conference is to create an intellectual forum of Statistical Scientists, Data Analysts and Optimization Technologists from all over the globe. The conference is proposed to arrange the Plenary Talks, Keynote Addresses, Invited Sessions, Technical Paper Presentation Sessions, Sharing of Statistical Innovations, Dissemination of New Knowledge Discoveries in Optimization Techniques, etc. The pre-conference workshop is intended to provide the skill training and capacity building practice sessions through hands on experience. Extending the expertise of the academic forums through IISA, ISPS, ORSI and SSCA will be another core objective.

## CONFERENCE STAKEHOLDERS

As this conference and workshop is organized by the active involvement of the Prof. K. S. Rao's Doctoral guidance Ph.D. Awardees and his direct P. G. Students who are working in different higher educational institutes, these events are being hosted by the Department of Statistics, Andhra University in association with the following institutes. 1. Pondichery University (A Central University), Puducherry; 2. Sri Satya Sai Institute of Higher Learning, Puttaparthi; 3. Acharya NG Ranga Agricultural University, Bapatla; 4. GITAM (Deemed to be University), Visakhapatnam.

## ACCOMMODATION AND LOCAL TRANSPORT

Participants will have to make their own arrangements for accommodation and transportation. However, the organizing committee will help them in identifying guest houses/ hotels located close to the conference venue. Limited accommodation on shared basis in the University Guest House and Hostels are available on request. Accommodation charges are not included in the registration fees.

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