ICSTA
2019

PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON STATISTICS: THEORY AND APPLICATIONS (ICSTA'19)

AUGUST 13 - 14, 2019 | LISBON, PORTUGAL

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WELCOME MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the International Conference on Statistics: Theory and Applications (ICSTA'19).

The goal of ICSTA'19 is to gather scholars from all over the world to present advances in the relevant fields and to foster an environment conducive to exchanging ideas and information. This conference will also provide an ideal environment to develop new collaborations and meet experts on the fundamentals, applications, and products of the mentioned fields.

In the first meeting of this conference, three keynote speakers will share their expertise with the aim of exposing participants to a wide spectrum of applications, and to foster crosspollination of ideas and develop new research interests. In addition, approximately 23 papers will be presented from professors, students, and researchers across the world.

We thank you for your participation and contribution to the International Conference on Statistics: Theory and Applications (ICSTA'19). We wish you a very successful and enjoyable experience.

Dr. Gangaram S. Ladde
University of South Florida, USA
Conference Chair
ICSTA'19

Dr. Daniel Jeske
University of California Riverside, USA
Conference Chair
ICSTA'19

ABOUT ICSTA'19

The International Conference on Statistics: Theory and Applications (ICSTA'19) aims to become the leading annual conference in fields related to Statistics: Theory and Applications. The goal of ICSTA'19 is to gather scholars from all over the world to present advances in the fields related to Statistics: Theory and Applications and to foster an environment conducive to exchanging ideas and information. This conference will also provide an ideal environment to develop new collaborations and meet experts on the fundamentals, applications, and products of the mentioned fields.

ICSTA is an international conference will be held yearly. This conference focus on all aspects Statistics: Theory and Applications. ICSTA Will be held this year in lisbon, portugal

ICSTA is an acronym for **I**nternational , **S**tatistics: **T**heory and **A**pplications.

The proceedings are published in Ottawa, Canada.

All papers were peer-reviewed

The congress proceedings is published under an ISSN and ISBN number

Each paper is assigned a unique DOI number by Crossref

The conference proceedings is indexed by Google Scholar

The proceedings is permanently archived in Portico (one of the largest community-supported digital archives in the world)
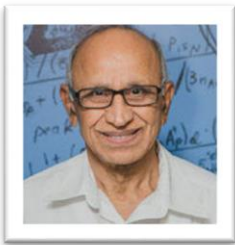
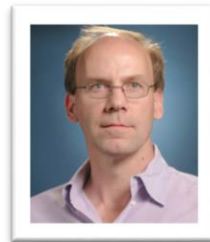Google Scholar   Crossref   PORTICO

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SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the ICSTA'19 Conference:

Dr. Gangaram Ladde
University of South Florida, USA
Conference Chair

Dr. Daniel Jeske
University of California Riverside, USA
Conference Co-Chair

Scientific Committee Members

- **Dr. Gangaram S. Ladde, University of South Florida, USA**
- **Dr. Daniel Jeske, University of California, Riverside**
- **Dr. Mylène Bédard, University of Montreal, Canada**
- **Dr. Yogendra P. Chaubey, Concordia University, Canada**
- **Dr. Dalia Chakrabarty, Loughborough University, UK**
- **Dr. Renata Medeiros-Mirra, Cardiff University, UK**
- **Dr. Hosam M. Mahmoud, George Washington University, USA**
- **Dr. Noelle Samia, Northwestern University, USA**
- **Dr. Christos P. Tsokos, University of South Florida, USA**
- **Dr. Rosario Delgado de la Torre, Universitat Autònoma de Barcelona, Spain**
- **Dr. Jian Zhang, University of Kent, UK**

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PLENARY & KEYNOTE SPEAKERS

The Plenary and keynote information for the 3rd International Conference on Statistics: Theory and Applications (ICSTA'19) is as follows:

Keynote Speakers

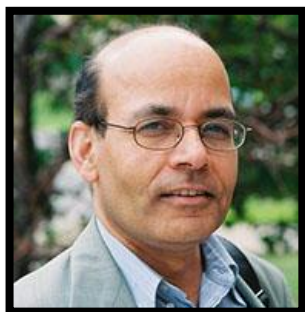**Dr. Yogendra P. Chaubey**
Concordia University, Canada

Dr. Noelle Samia
Northwestern University, USA

Dr. Dalia Chakrabarty
Loughborough University, UK

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ICSTA'19 KEYNOTE LECTURE

Titles: Nonparametric Smooth Estimation of Probability Density Function and Other Related Functionals: Some New Developments
Dr. Yogendra P. Chaubey, Concordia University, Canada

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Yogendra P. Chaubey obtained his M. Stat. degree from the Indian Statistical institute in 1972 and joined the University of Rochester for his doctoral degree. After completing his Ph.D. from the University of Rochester, he took up a Post-Doctoral position at the Carleton University and subsequently joined Dalhousie University, Halifax as an Assistant Professor (1977-79). He moved to Concordia University, Montreal in 1979, where he currently holds the position of Professor in the Department of Mathematics and Statistics. Dr. Chaubey served the department of mathematics as Chair during 2005-20014 and 2016-17.

Titles: Threshold models for time series of counts: MRSA as a case study
Dr. Jaline Gerardin, The University of Texas at Dallas, USA

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Noelle I. Samia. B.S. (Valedictorian) in Mathematics, Notre Dame University, Lebanon; M.S. in Actuarial Science, University of Iowa, USA; Ph.D. in Statistics, University of Iowa, USA. Dr. Noelle I. Samia is an associate professor in the Department of Statistics at Northwestern University, USA. Her research work focuses on introducing and developing new statistical linear and nonlinear (threshold) models for count time-series and spatial data. Her work is both, theoretical and applied in nature. Through crossdisciplinary collaborations, these advanced and often new statistical methodologies are tailored to each specific application with the aim of explaining the dynamics of complex biological systems, particularly in the areas of infectious diseases and epidemiology, statistical ecology, and biomedical research. Her fields of research include nonlinear (e.g., threshold) spatio-temporal modeling, count time-series data, statistical inference for infectious diseases, statistical ecology, and statistical applications to biomedical research.

ICSTA'19 KEYNOTE LECTURE

Titles: Bayesian Learning of the Correlation Structure of High-Dimensional Random Objects.
Dr. Dalia Chakrabarty, Loughborough University , UK

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Dalia Chakrabarty's M.S was in Physics, from the Indian Institute of Science. She obtained her D.Phil from the University of Oxford, where her doctoral work included the development of a new Bayesian method applied to the learning of the gravitational mass of the central black hole in the Milky Way, and modelling of non-linear dynamical effects of relevant galactic features. Thereafter, she continued to undertake the development of probabilistic methodologies given astronomical data, and since moving to Warwick Statistics as a Research Fellow in 2009 - following a Royal Society Dorothy Hodgkin Fellowship - she diversified into developing new methods to address problems in other disciplines as well, including Materials Science; Chemistry; Healthcare; Petrophysics; Psychometrics, etc. Her work helps towards laying foundations of our understanding within Applied Probability and Statistics, when faced with assorted peculiarities of real-world data, thus enabling the corresponding real-world applications that would have remained intractable otherwise.

LIST OF PAPERS

The following papers were presented at the International Conference on Statistics: Theory and Applications (ICSTA'19).

Applied Statistics

Titles: Standards of Living Study in Sharjah Emirate: a Conceptual Framework
Authors: Naama Alaboodi

View Paper

Titles: Nonparametric Smooth Estimation of Probability Density Function and Other Related Functionals: Some New Developments
Authors: Yogendra P. Chaubey

View Paper

Titles: Course Achievement and Students Attitudes Towards Statistics
Authors: Diana Šimić, Jelena Gusić, Lucija ŽignićHusmeier

View Paper

Titles: Joint Mean and Dispersion Effects Modelling in R: The jmdem Package
Authors: Ka Yui Karl Wu

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Titles: On Fitting Complex Models to Noisy Data
Authors: Mu Zhu

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LIST OF PAPERS

The following papers were presented at the International Conference on Statistics: Theory and Applications (ICSTA'19).

Applied Statistics

Titles: Direct Learning Left Ventricular Meshes from CMR Images
Authors: Lukasz Romaszko, Agnieszka Borowska, Alan Lazarus, Hao Gao, Xiaoyu Luo, Dirk Husmeier

View Paper

Titles: Comparison of spatial regression models with Road Traffic Accidents Data
Authors: Ghanim AL-Hasani, Md Asaduzzaman, Abdel-Hamid Soliman

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Medical Statistics

Titles: Massive Dimensionality Reduction for the Left Ventricular Mesh
Authors: Lukasz Romaszko, Alan Lazarus, Hao Gao, Agnieszka Borowska, Xiaoyu Luo, Dirk HusmeierLi

View Paper

Titles: Quantification of Myocardial Perfusion Lesions using Spatially Variant Finite Mixture Modelling of DCE-MRI
Authors: Yalei Yang, Hao Gao, Colin Berry, Aleksandra Radjenovic, Dirk

View Paper

Titles: MCMC with delayed acceptance using a surrogate model with an application to cardiovascular fluid dynamics
Authors: L. Mihaela Paun, Mitchel Colebank, Umar Qureshi, Mette Olufsen, Nicholas Hill, Dirk Husmeier

View Paper

Titles: Statistical Emulation of Cardiac Mechanics: An Important Step towards a Clinical Decision Support System
Authors: Dirk Husmeier, Alan Lazarus, Umberto Noe, Vinny Davies, Agnieszka Borowska, Benn Macdonald, Hao Gao, Colin Berry, Xiaoyu Luo

View Paper

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Bayesian Statistics

Titles: A Study on Discrete-time Movement Models
Authors: Ionut Alexandru Paun, Dirk Husmeier, Colin Torney

View Paper

Titles: Bayesian Experimental Design: Efficient Exploration of the Design Space
Authors: Lida Mavrogonatou, Vladislav Vyshemirsky

View Paper

Titles: Outdoor Acoustics: Range Estimation of Gunfire over an Acoustically Soft Impedance Ground in a Homogeneous Atmosphere
Authors: Jordan Parry, Kirill Horoshenkov, Duncan Williams

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Symposium on Nonarametric Statistics

Titles: Time-Varying Copula Models for Longitudinal Data
Authors: Esra Kurum

View Paper

Titles: Assessing Bayes Factor Surfaces Using Interactive Visualization and Computer Surrogate Modeling
Authors: Chris FranckHusmeier

View Paper

Titles: Nonparametric Adaptive CUSUM Chart for Detecting Arbitrary Distributional Changes
Authors: Jun Li

View Paper

Titles: Uncertainty Quantification of Treatment Regime in Precision Medicine with an Application in Nonparametric Adaptive Design
Authors: Min-ge Xie

View Paper

Titles: Dynamic Tensor Recommender System
Authors: Annie Qu

View Paper

SPONSORS

International ASET Inc. would like to thank the following sponsors for their support of ICSTA'19:

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Publication Ethics and Publication Malpractice Statement

The following statement is mainly based on the Code of Conduct and Best-Practice Guidelines for Journal Editors (Committee on Publication Ethics, 2011).

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Scientific Committee
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Scientific Committee

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ETHICS & MALPRACTICE

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ETHICS & MALPRACTICE

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ETHICS & MALPRACTICE

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Schedule

This conference proceeding accompanies the conference, meaning a new proceedings will be published every year for the corresponding annual conference of this series.

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