



PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON STATISTICS: THEORY AND APPLICATIONS (ICSTA'20)

AUGUST 19 - 21, 2020 | ~~PRAGUE, CZECH REPUBLIC~~ VIRTUAL CONFERENCE

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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 2nd International Conference on Statistics: Theory and Applications (ICSTA'20).

Due to the evolving COVID-19 outbreak and corresponding issues in border entry in European countries, the 2nd International Conference on Statistics: Theory and Applications (ICSTA'20) which was supposed to be held in Prague, Czech Republic will be held **virtually** instead on **August 19 – 21, 2020**.

The goal of ICSTA'20 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, four 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 2nd International Conference on Statistics: Theory and Applications (ICSTA'20). We wish you a very successful and enjoyable experience.

Dr. Gangaram Ladde
University of South Florida, USA
Conference Chair
ICSTA'20

Dr. Noelle Samia
Northwestern University, USA
Conference Co-Chair
ICSTA'20

ABOUT ICSTA'20

The 2nd International Conference on Statistics: Theory and Applications (ICSTA'20) aims to become the leading annual conference in fields related to Statistics: Theory and Applications. The goal of ICSTA'20 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

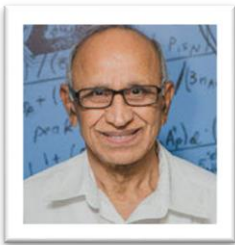
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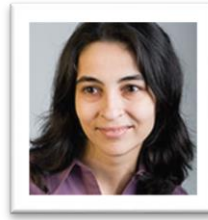
SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the ICSTA'20 Conference:



Dr. Gangaram Ladde

University of South Florida, USA
Conference Chair



Dr. Noelle Samia

Northwestern University, USA
Conference Co-Chair

Scientific Committee Members

Dr. Mylène Bédard, University of Montreal, Canada

Dr. Dalia Chakrabarty, Loughborough University, UK

Dr. Sujay Datta, University of Akron, USA

Dr. Rosario Delgado de la Torre, Universitat Autònoma de Barcelona, Spain

Dr. Christopher Franck, Virginia Tech, USA

Dr. Dirk Husmeier, University of Glasgow, UK

Dr. Esra Kurum, University of California, Riverside, USA

Dr. Shili Lin, Ohio State University, USA

Dr. Hosam M. Mahmoud, George Washington University, USA

Dr. Nao Mimoto, University of Akron, USA

Dr. Mohsen Pourahmadi, Texas A&M University, USA

Dr. Krzysztof Podgórski, Lund University, Sweden

Dr. Noelle Samia, Northwestern University, USA

Dr. Min-ge Xie, Rutgers University, USA

Dr. Mu Zhu, University of Waterloo, Canada

PLENARY & KEYNOTE SPEAKERS

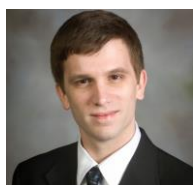
The Plenary and keynote information for the 2nd International Conference on Statistics: Theory and Applications (ICSTA'20) is as follows:

Plenary Speaker



Dr. Min-ge Xie
Rutgers University, USA

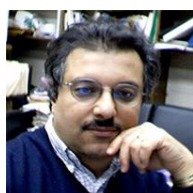
Keynote Speakers



Dr. Christopher Franck
Virginia Tech, USA



Dr. Dirk Husmeier
University of Glasgow, UK



Dr. Hosam M. Mahmoud
George Washington
University, USA



Dr. Mu Zhu
University of Waterloo, Canada

ICSTA'20 PLENARY SPEAKER



Titles: A union of BFF (Bayesian, frequentist and fiducial) inferences by confidence distribution and Monte-Carlo based inference

Dr. Min-ge Xie, Rutgers University, USA

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Min-ge Xie is Distinguished Professor of Statistics in Department of Statistics, Rutgers University and Director of Rutgers Office of Statistical Consulting. His main research interest is in the foundation of statistical inference, confidence distribution, fusion learning, estimating equations and developing new statistical methodologies and theories for problems stemming from interdisciplinary research. He received the B.S. degree in mathematics with a high honor from the University of Science and Technology of China (USTC) and the M.S. and Ph.D. degrees in statistics from University of Illinois at Urbana-Champaign (UIUC). His research has been supported in part by grants from the National Science Foundation (NSF), the National Institute of Health (NIH), The Department of Veterans Affairs (VA), the Federal Aviation Administration, among others.

ICSTA'20 KEYNOTE LECTURE



Titles: Hiding in plain sight: latent grouping factors in linear models

Dr. Christopher Franck, Virginia Tech, USA

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Chris Franck is an assistant professor in the Department of Statistics at Virginia Tech. He received his Ph.D. in Statistics from North Carolina State University in 2010 under the direction of Jason Osborne. His research focuses in Bayesian model selection and averaging, objective Bayes, and spatial statistics. Much of his work has a specific emphasis in health applications. From 2010-2016, He was the assistant director of LISA, the Laboratory for Interdisciplinary Statistical Analysis. In this role he worked on a large variety of research projects spanning medical, psychological, bioinformatic, biomechanical, and other areas. In 2016, he converted to an assistant professor in the Department of Statistics at Virginia Tech.



Titles: Computationally efficient parameter estimation and uncertainty quantification in complex physiological systems

Dr. Dirk Husmeier, University of Glasgow, UK

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Dirk Husmeier holds a Chair of Statistics at the University of Glasgow. He has made contributions to a wide range of scientific disciplines, including statistical physics (University of Bochum, Germany), neural computation (King's College London), machine learning (Imperial College London), bioinformatics and systems biology (Biomathematics & Statistics Scotland), statistical methodology, ecology and cell and soft tissue biology (University of Glasgow). This is evidenced by over 130 peer-reviewed publications in international journals and conference proceedings, the publication of two books (on Neural Computation and Bioinformatics), and the successful supervision of 14 former postgraduate students and 8 former postdoctoral research assistants (currently supervising 8 PhD students and 1 postdoc).

ICSTA'20 KEYNOTE LECTURE



Titles: Pólya urns: Probabilistic analysis and statistical questions

Dr. Hosam M. Mahmoud, George Washington University, USA

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Dr. Hosam M. Mahmoud (Professor of Statistics, 1983 Ph.D.) is an elected member of the International Statistical Institute. He currently serves as an Editor of Journal of Applied Probability and Editor of Advances in Applied Probability (publications of the UK Probability Trust). He is also an Associate Editor of the Annals of the Institute of Statistical Mathematics (Japan), an Associate Editor of Methodology and Computing in Applied Probability (USA), and an Associate Editor of Applicable Analysis and Discrete Mathematics (Serbia).



Titles: Some statistical applications of generative neural networks

Dr. Mu Zhu, University of Waterloo, Canada

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Mu Zhu is Professor of Statistics at the University of Waterloo, Canada. He obtained his undergraduate degree from Harvard University in 1995, and his doctoral degree from Stanford University in 2001. In 2012, he served as President of the Business and Industrial Statistics Section for the Statistical Society of Canada. In 2019, he was elected Fellow of the American Statistical Association.

LIST OF PAPERS

The following papers were presented at the International Conference on Statistics: Theory and Applications (ICSTA'20).

Computational Statistics

Titles: A MCEM Based Multistate Model of Interval-Censored and Correlated Panel Data for Neurocysticercosis Study

Authors: Hongbin Zhang, Elizabeth Kelvin, Arturo Carpio, Allen Hauser

[View Paper](#)

Titles: Approximate Bayesian Inference for Individual-based Models with Emergent Dynamics

Authors: Jennifer Gaskell, Nazareno Campioni, Juan M. Morales, Dirk Husmeier, Colin J. Torney

[View Paper](#)

Titles: Closed-loop effects in cardiovascular clinical decision support

Authors: Dirk Husmeier, L. Mihaela Paun

[View Paper](#)

LIST OF PAPERS

The following papers were presented at the International Conference on Statistics: Theory and Applications (ICSTA'20).

Linear and Multiple Regression Methods

Titles: Explainable Modelling of Particulate Air Pollution in Warsaw

Authors: Małgorzata Łazęcka, Katarzyna Woźnica

[View Paper](#)

Titles: The Effect of Spectral Line Components on Coefficients in Time Series Regression Models

Authors: Jordan Kokocinski, Wesley S. Burr, Glen Takahara

[View Paper](#)

LIST OF PAPERS

Statistical Signal Processing

Titles: Statistical Tests for Detection of Frequency-Modulated Signals

Authors: Kian Blanchette, Wesley Burr, Glen Takahara

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Titles: Transfer Function Based Band Selection in Frequency Domain
Time Series Regression

Authors: Skye Griffith, Glen Takahara, Wesley S. Burr

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Titles: Time Series Clustering using Coherence

Authors: Jianwei Yue, Glen Takahara, Brian Franczak, Wesley S. Burr

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LIST OF PAPERS

Applied Statistics

Titles: A Curve Free Method based on Bayesian Optimization for Oncology Phase I Clinical Trials

Authors: Ami Takahashi, Taiji Suzuki

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Titles: Picking Bayesian or Classical Statistics by Means of Mathematical Criteria

Authors: Paolo Rocchi

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Titles: Modelling multiscale collective behavior with Gaussian processes

Authors: Nazareno Campioni, Dirk Husmeier, Juan M. Morales, Jennifer Gaskell, Colin J. Torney

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Titles: Comparative Evaluation of Different Emulators for Cardiac Mechanics

Authors: David Dalton, Alan Lazarus, Dirk Husmeier

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Titles: Evaluation and Development of Time Series Interpolators

Authors: Sophie Castel, Wesley S. Burr

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Titles: New Approaches to Modeling and Analysis of Sleep Apnea Events Data from Infants Using Pacifiers for Improved Diagnosis of Obstructive Sleep Apnea

Authors: Sujay Datta

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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).

Scientific Committee

Scientific Committee

Scientific committees consisting of experts in the fields are established. The committees oversee the peer-review and publication process. To see the scientific committee members, please follow the link below.

[Scientific Committee](#)

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ETHICS & MALPRACTICE

Reviewers

Contribution to Decisions

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ETHICS & MALPRACTICE

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Authorship

Only persons who have significantly contributed to the work and the manuscript can be named authors on a paper. These contributions include the idea/concept, design, experiments, evaluation, analysis, drafting or revision of the manuscript, and others. Authors must all have agreed to be named as such and for the manuscript to be submitted. Anyone who has contributed based on the above, but the level of contribution is not significant, may appear in the acknowledgement section of the manuscript.

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ETHICS & MALPRACTICE

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Errata and Retractions

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Schedule

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