ICSTA 2021

3RD INTERNATIONAL CONFERENCE ON STATISTICS: THEORY AND APPLICATIONS (ICSTA'21)

July 29 - 31, 2021 | ~~Prague, Czech Republic~~| Virtual Conference

ICSTA'21 **July 30** **July 31**

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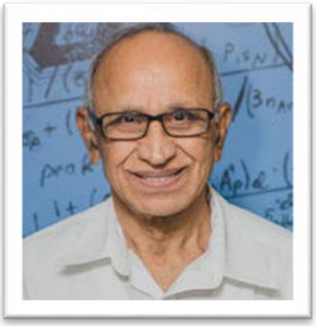
ICSTA'21

ICSTA'21 | Scientific Committee Chair



Dr. Gangaram S. Ladde

University of South Florida, USA
Conference Chair
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Dr. Noelle Samia

Northwestern University, USA
Conference Chair
View Profile

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JULY 30

8:00 AM - 9:00 AM	**Registrations**
9:00 AM - 9:10 AM	**Official Opening**
	Dr. Noelle Samia, Northwestern University, USA
9:10 AM - 10:10 AM	**PLENARY LECTURE**
	Mathematical Modeling to Inform policy **Dr. Jaline Gerardin, Northwestern University, USA**
10:10 AM - 10:55 AM	**KEYNOTE LECTURE**
	The Concept of Statistical Evidence **Dr. Michael Evans, University of Toronto, Canada**
10:55 AM - 11:40 AM	**KEYNOTE LECTURE**
	Consistent Sparse Deep Learning: Theory and Computation **Dr. Faming Liang, Purdue University, USA**
11:40 AM - 11:55 AM	**Break**

JULY 30

11:55 AM - 12:40 PM	**KEYNOTE LECTURE**
	Distributed Learning of Finite Gaussian Mixtures **Dr. Jiahua Chen, University of British Columbia, Canada**
12:40 PM - 02:25 PM	**Session** **Statistics Theory and Applications I**

PLENARY LECTURE

JULY 30 | 9:10 AM - 10:10 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: Mathematical Modeling to Inform Policy

Dr. Jaline Gerardin, Northwestern University, USA

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Jaline Gerardin is Assistant Professor of Preventive Medicine at Northwestern University. Her group uses quantitative methods to support decision-making around policies to manage infectious disease, focusing on malaria and COVID-19.

KEYNOTE LECTURE

JULY 30 | 10:10 AM - 10:55 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: The Concept of Statistical Evidence
Dr. Michael Evans, University of Toronto, Canada

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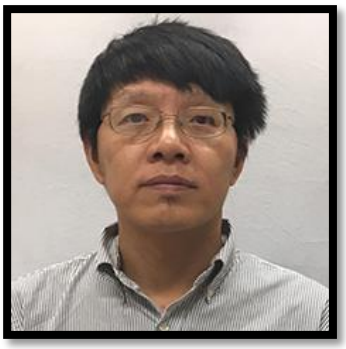
Michael Evans is a Professor of Statistics at the University of Toronto. He received his Ph.D. from the University of Toronto in 1977 and has been employed there ever since with leaves spent at Stanford University and Carnegie Mellon University. He is a Fellow of the American Statistical Association, has served as an Associate Editor of JASA Theory and Methods 1991-2005, an Associate Editor of the Canadian Journal of Statistics 1999-2006, 2017-present, an Associate Editor of the journal Bayesian Analysis 2005-2015 and an Editor 2015-present and is a subject matter Editor for the online journal FACETS. He served as President of the Statistical Society of Canada 2013-2014. His research has been concerned with multivariate statistical methodology, computational statistics, and the foundations of statistics. A current focus of research is the development of a theory of inference based upon an explicit definition of how to measure statistical evidence and the development of tools to deal with criticisms of statistical methodology associated with its inherent subjectivity. He has authored, or coauthored, numerous research papers as well as the books Approximating Integrals via Monte Carlo and Deterministic Methods (with T. Swartz) published by Oxford in 2000, Probability and Statistics: The Science of Uncertainty (with J. Rosenthal) published by W.H. Freeman in 2004 and 2010 and Measuring Statistical Evidence Using Relative Belief published by CRC Press/ Chapman and Hall in 2015.

KEYNOTE LECTURE

JULY 30 | 10:55 AM - 11:40 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA



Titles: Consistent Sparse Deep Learning: Theory and Computation

Dr. Faming Liang, Purdue University, USA

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Faming Liang is Distinguished Professor of Statistics at Purdue University. He is ASA fellow, IMS fellow, and the winner of Youden prize in 2017. Faming has wide research interests, including Monte Carlo methods, machine learning, bioinformatics, high-dimensional statistics, and big data.

KEYNOTE LECTURE

JULY 30 | 11:55 AM - 12:40 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: Distributed Learning of Finite Gaussian Mixtures

Dr. Jiahua Chen, University of British Columbia, Canada

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Dr. Jiahua Chen received his Master's degree from the Institute of System's Science in Academia Sinica in Jan 1985 under the supervision of Professor Ping Cheng, and Ph. D. degree from the University of Wisconsin-Madison in July 1990 under the supervision of Professor Jeff Wu.

Dr. Jiahua Chen joined the Department of Statistics and Actuarial Science at the University of Waterloo as a visiting scholar in the year 1989, accepted an assistant professorship in 1991, and was dutifully promoted to associate and full professor during the period until the end of 2006. He then joined the Department of Statistics at the University of British Columbia as Canada Research Chair, Tier I from Jan 2007 until Dec 2020 from which point he remains as a full professor. He worked on problems in the design of experiment, but his research interest quickly extends broadly to include Finite Mixture Models, Empirical Likelihood, Survey Methodology, and many others. He is proud of his result on the periodicity of the minimum aberration fractional factorial designs, the groundbreaking EM-test for the order of finite mixture models, the challenging results on the nearest neighbor imputation in sampling data analysis, the pioneering work of introducing the empirical likelihood to sampling problems, as well as the invention of extended Bayesian information criterion for large model spaces.

For more information Please visit:
https://icsta.net/keynote-speakers/

SESSION

STATISTICS THEORY AND APPLICATIONS I

JULY 30 | 12:40 AM - 02:25 PM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA & DR. KANDETHODY RAMACHANDRAN, UNIVERSITY OF SOUTH FLORIDA, USA

Titles: Statistical Analysis of Measurements in Exact and Inexact Sciences: An Open Problem
ICSTA 126
Time: 12:40 AM - 12:55 PM
Presenter: Lia Queiroz do Amaral, Universidade de São Paulo, Brazil
Authors: Lia Queiroz do Amaral, Universidade de São Paulo, Brazil

Titles: The Concept of Statistical Evidence
ICSTA 139
Time: 12:55 PM - 01:10 PM
Presenter: Michael Evans, University of Toronto, Canada
Authors: Michael Evans

Titles: Graph Neural Network Emulation of Cardiac Mechanics
ICSTA 127
Time:01:10 PM - 01:25 PM
Presenter: David Dalton, University of Glasgow, UK
Authors: David Dalton, Alan Lazarus Arash Rabbani, Hao Gao, Dirk Husmeier

Titles: Reproducibility for Estimation Based on Randomised Response Methods
ICSTA 128
Time:01:25 PM - 01:40 PM
Presenter: Fatimah Alghamdi, University of Durham, UK
Authors: Fatimah Alghamdi,Frank Coolen, Tahani Coolen-Maturi

Titles: Robustness of Gaussian Mixture Reduction for Split-and-Conquer Learning of Finite Gaussian Mixtures
ICSTA 135
Time:01:40 PM - 01:55 PM
Presenter: Jiahua Chen, University of British Columbia, Canada
Authors: Qiong Zhang, Jiahua Chen

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STATISTICS THEORY AND APPLICATIONS I

JULY 30 | 12:40 AM - 02:25 PM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA & DR. KANDETHODY RAMACHANDRAN, UNIVERSITY OF SOUTH FLORIDA, USA

Titles: Inference in Cardiovascular Modelling Subject to Medical Interventions
ICSTA 109
Time:01:55 PM - 02:10 PM
Presenter: Dirk Husmeier, University of Glasgow, UK
Authors: L. Mihaela Paun, Agnieszka Borowska, Mitchel J. Colebank, Mette S. Olufsen and Dirk Husmeier

Titles: Estimation of Parameters of Logistic Regression with Missing Covariates via Joint Conditional Likelihood Method
ICSTA 117
Time:02:10 PM - 02:25 PM
Presenter: Phuoc-Loc Tran, Can Tho University, Viet Nam & Feng Chia University, Taiwan
Authors: Phuoc-Loc Tran, Truong-Nhat Le, Shen-Ming Lee, and Chin-Shang Li

Titles: Change Point Analysis and Clustering Examined Through Chicago Crime During COIVD-19
ICSTA 137
Time:02:25 PM - 02:40 PM
Presenter: Mena Whalen
Authors: Mena Whalen, Joseph Feinglass, Noelle Samia

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JULY 31

9:00 AM - 9:30 AM	KEYNOTE LECTURE
	Statistical ChaleInges for Studying Replication Dr. Jacob M Schauer, Northwestern University, USA
9:00 AM - 10:15 AM	KEYNOTE LECTURE
	Identification of Underlying Partial Differential Equations from Noisy Data with Splines Dr. Xiaoming Huo, Georgia Institute of Technology, USA
10:15 AM - 11:15 AM	PLENARY LECTURE
	ON THE ANALYTIC POWER OF DIVIDE & RECOMBINE (D&R) DR. WILLIAM S. CLEVELAND, PURDUE UNIVERSITY, USA
11:15 AM - 11:30 AM	BREAK
11:30 AM - 01:15 PM	SESSION Statistics Theory and Applications II

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KEYNOTE LECTURE

JULY 31 | 9:00 AM - 9:30 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: Statistical Challenges for Studying Replication

Dr. Jacob M Schauer, Northwestern University, USA

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Jacob Schauer is an assistant professor in the Biostatistics Division of the Department of Preventive Medicine at Northwestern University's Feinberg School of Medicine. His applied research concerns interpretable machine learning for medical diagnoses, as well as various issues in medical social sciences, including health disparities and health literacy. His methodological work focuses on approaches to studying replication, incomplete data meta-analyses, and data privacy. Prior to joining Feinberg, Jacob completed his PhD in statistics from Northwestern University in 2018 and worked as a postdoctoral fellow at the Institute for Policy Research at Northwestern from 2018 to 2020.

KEYNOTE LECTURE

JULY 31 | 09:30 AM - 10:15 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: Identification of Underlying Partial Differential Equations from Noisy Data with Splines

Dr. Xiaoming Huo, Georgia Institute of Technology, USA

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Dr. Huo received the B.S. degree in mathematics from the University of Science and Technology, China, in 1993, and the M.S. degree in electrical engineering and the Ph.D. degree in statistics from Stanford University, Stanford, CA, in 1997 and 1999, respectively. Since August 1999, he has been an Assistant/Associate/Full Professor with the School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta. He represented China in the 30th International Mathematical Olympiad (IMO), which was held in Braunschweig, Germany, in 1989, and received a golden prize. Dr. Huo was a Visiting Fellow at the Institute for Pure and Applied Mathematics at the University of California, Los Angeles in the fall of 2004. From August 2013 to August 2015, he served the US National Science Foundation as a Program Director in the Division of Mathematical Sciences (DMS). Dr. Huo has presented keynote talks in major conferences (e.g., The 2nd IEEE Global Conference on Signal and Information Processing, Atlanta, GA, and the IMA-HK-IAS Joint program on statistics and computational interfaces to big data, The Hong Kong University of Science and Technology, Hong Kong, etc.) and numerous invited colloquia and seminar presentations in the US, Asia, and Europe. Dr. Huo has organized/co-organized sessions/workshop in various statistical conferences. He has been the Specialty Chief Editor in Frontiers in Applied Mathematics and Statistics – Statistics, since April 2021.

PLENARY LECTURE

JULY 31 | 10:15 AM - 11:15 AM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA

Titles: On the Analytic Power of Divide & Recombine (D&R)

Dr. Xiaoming Huo, Georgia Institute of Technology, USA

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William S. Cleveland (Bill) received a B.A. in math from Princeton; his thesis advisor was Willy Feller, a famous probabilist. He received a PhD in Statistics from Yale; his advisor was Leonard Jimmie Savage who had resurrected Bayesian statistics by proving it was the optimal approach to statistical decision making. Manny Parzen and Marvin Zelen invited Bill to spend a summer at the Statistics Department of SUNY at Buffalo. Bill then moved on to the Statistics Department at Bell Labs in 1971. There, he had much contact with John Tukey, who revolutionized statistics by developing and injecting into the field:
Analytic methods defined algorithmically, what today we call machine learning; exploratory data analysis and data visualization; and computational methods and systems for data analysis. Bill embraced Tukey's ideas. In 1999, in a talk at the ISI 52nd ISI Session, and in 2001 in a paper in the ISI Review, Bill advocated an action plan that would add algorithms, data exploration, and computing with data to the field of statistics, and named it "data science", defining the term as it is used today. Bill also carried out significant work on these additions. In data visualization he published many papers, and wrote two books, The Elements of Graphing Data and Visualizing Data, now classics, and started the new field of graphical perception. He developed the widely used machine learning non-parametric methods loess and stl. In 2004, Bill became the Shanti S. Gupta Distinguished Professor of Statistics at Purdue University. Bill and graduate student Saptarshi Guha developed the Divide and Recombine statistical approach to big data, and implemented it by the RHIPE software: R and Hadoop Integrated Programming Environment (RHIPE).
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SESSION

STATISTICS THEORY AND APPLICATIONS II

JULY 31 | 11:30 AM - 01:15 PM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA & DR. XIAOMING HUO GEORGIA INSTITUTE OF TECHNOLOGY, USA

Titles: Prediction Model for the Result of Percutaneous Coronary Intervention in Coronary Chronic Total Occlusions
ICSTA 129
Time: 11:30 AM - 11:45 AM
Presenter: Maria Ganopoulou, Aristotle University of Thessaloniki, Greece
Authors: Maria Ganopoulou, Ioannis Kangelidis, Georgios Sianos, Lefteris Angelis

Titles: Parameter Estimation for Stochastic McKean-Vlasov Equations
ICSTA 123
Time: 11:45 AM - 12:00 PM
Presenter: Louis Sharrock, Imperial College London, UK
Authors: Louis Sharrock, Nikolas Kantas, Grigorios Pavliotis, Panos Parpas

Titles: Generalized Functional Responses in Habitat Selection Fitted by Decision Trees and Random Forests
ICSTA 125
Time: 12:00 PM - 12:15 PM
Presenter: Shaykhah Aldossari, University of Glasgow, UK
Authors: Shaykhah Aldossari, Dirk Husmeier, Jason Matthiopoulos

Titles: Combining Time Series and Sentiment Analysis for Stock Market Forecasting
ICSTA 132
Time: 12:15 PM - 12:30 PM
Presenter: Kandethody M. Ramachandran, University of South Florida, USA
Authors: Hsiao-Chuan Chou, Kandethody M. Ramachandran

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STATISTICS THEORY AND APPLICATIONS II

JULY 31 | 11:30 AM - 01:15 PM | SESSION CHAIR: DR. NOELLE SAMIA, NORTHWESTERN UNIVERSITY, USA & DR. XIAOMING HUO GEORGIA INSTITUTE OF TECHNOLOGY, USA

Titles: Sufficient Dimension Reduction with Deep Neural Networks for Phenotype Prediction
ICSTA 134
Time: 12:30 PM - 12:45 PM
Presenter: Siqi Liang, Purdue University, USA
Authors: Siqi Liang, Wei-Heng Huang, Faming Liang

Titles: The Impact of Entity Resolution on Observed Social Network Structure
ICSTA 136
Time: 12:45 PM - 01:00 PM
Presenter: Abby Smith, Northwestern University, USA
Authors: Abby Smith

Titles: Generalized Functional Responses in Habitat Selection Fitted by Decision Trees and Random Forests
ICSTA 125
Time: 12:00 PM - 12:15 PM
Presenter: Shaykhah Aldossari, University of Glasgow, UK
Authors: Shaykhah Aldossari, Dirk Husmeier, Jason Matthiopoulos

Titles: Using Routine Case Data In The Presence Of Improved Reporting Quality and Treatment-Seeking Behavior to Quantify the Protective Effectiveness of Seasonal Malaria Chemoprevention under Programmatic Implementation
ICSTA 138
Time: 01:00 PM - 01:15 PM
Presenter: Sebastian Rodriguez, Northwestern University, USA
Authors: Sebastian Rodriguez, Noelle Samia, Jaline Gerardin

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