

UMBC

AN HONORS UNIVERSITY IN MARYLAND

Department of
MATHEMATICS & STATISTICS

15th ANNUAL PROBABILITY & STATISTICS DAY AT UMBC

Saturday, April 20, 2024

Rooms 116/118

Interdisciplinary Life Sciences Building (ILSB)

Program

8:00 AM – 9:00 AM **REGISTRATION & BREAKFAST**
LOBBY, Interdisciplinary Life Sciences Building (ILSB)

9:00 AM-9:15 AM **WELCOME**

Room 116, ILSB

Thomas Mathew

Professor, Department of Mathematics & Statistics, UMBC

Animikh Biswas

Chair, Department of Mathematics & Statistics, UMBC

William R. LaCourse

Dean, College of Natural and Mathematical Sciences

9:15 AM-10:00 AM **KEYNOTE ADDRESS I**

Room 116, ILSB

Introduction of Speaker: Yaakov Malinovsky, UMBC

Speaker: Jay Bartroff, The University of Texas at Austin

Title: *Optimal hypergeometric confidence sets are (almost) always intervals*

10:00 AM-10:45 AM **KEYNOTE ADDRESS II**

Room 116, ILSB

Introduction of Speaker: DoHwan Park, UMBC

Speaker: Scott H. Holan, University of Missouri

Title: *Computationally efficient Bayesian unit-level models for non-Gaussian data under informative sampling*

10:45 AM – 11:15 AM **COFFEE BREAK**

11:15 AM-NOON **KEYNOTE ADDRESS III**

Room 116, ILSB

Introduction of Speaker: Yi Huang, UMBC

Speaker: Debdeep Pati, Texas A&M University

Title: *Reconciling computational barriers and statistical guarantees in variational inference*

NOON-12:45 PM **KEYNOTE ADDRESS IV**

Room 116, ILSB

Introduction of Speaker: Ansu Chatterjee, UMBC

Speaker: Tian Zheng, Columbia University

Title: *Statistical challenges in climate data science*

12:45 PM – 02:00 PM **PHOTO SESSION & LUNCH**

02:00 PM – 03:45 PM *INTERNATIONAL INVITED SESSION*

Room 116, ILSB

Chair: Yehenew G. Kifle, UMBC

UMBC's African International Conference: Some Highlights

Speaker: Yehenew G. Kifle, UMBC

The root-Gaussian Cox Process for Spatio-temporal Disease Mapping with Aggregated Data

Speaker: Zeytu Gashaw Asfaw, Addis Ababa University, Ethiopia.

Ridge--Type Shrinkage Estimators in Low and High Dimensional Beta Regression Models with Applications in Econometrics and Medicine

Speaker: Abdulkadir Hussein, University of Windsor, Canada

03:45 PM – 04:15 PM *COFFEE BREAK*

04:15 PM – 06:15 PM *ORAL PRESENTATIONS BY GRADUATE STUDENTS*

Room 116, ILSB

Coordinator and Chair: Thu Nguyen, UMBC

1. *High-Dimensional Classifiers With Variable Selection Using Mirror Statistic*
Vahid Andalib
UMBC
2. *Spatial profile of microbiome in the St. Lawrence River: Probing the association with water physicochemical properties*
Sucharitha Dodamgodage
Clarkson University
3. *Dirichlet Distribution Parameter Estimation with Applications in Microbiome Analysis*
Daniel Fuller
Clarkson University
4. *Modeling Interval-Censored Time-to-Reaching Normal CD4 Levels in HIV+ Patients*
Mesfin Tsegaye Haileyesus
UMBC

5. *Shrinkage Testimator for the Common Mean of Several Univariate Normal Populations*
Modupi Peter Mphekgwana
University of Limpopo, South Africa
6. *Hypothesis testing on the relative abundance of microbiome data using a Dirichlet model*
Thevasha Sathiyakumar
Clarkson University
7. *Mixed Modeling Approach for Characterizing the Genetic Effects in a Longitudinal Phenotype*
Pei Zhang
University of Maryland College Park

04:15 PM – 06:15 PM *POSTER PRESENTATIONS BY GRADUATE STUDENTS*
Lobby, ILSB

Coordinator: Seungchul Baek, UMBC

1. *Parameter Estimation in Networks via a Combination of Different Data Sources*
Feilian Huang
Johns Hopkins University
2. *Bayesian multinomial model: Default modeling and suggestions*
Souvik Paul
University of Illinois Chicago
3. *Robust estimation of Circular-Spherical data with Density Power Divergence*
Upama Paul Chowdhury
UMBC
4. *Classifying violent anti-government conflicts in Mexico: A machine learning framework*
Vishal Subedi
UMBC

5. *The Influence of Nuisance Parameter Uncertainty on Statistical Inference in Practical Data Science Models*

Yunrong Wan

Johns Hopkins University

6. *Finding Faults in Classification Models through Error Isolation*

Zihao Zhao

Johns Hopkins University

06:15 PM – 06:30 PM *STUDENT AWARD PRESENTATIONS*

Room 116, ILSB

Coordinator: Yi Huang & DoHwan Park, UMBC

06:30 PM – 07:00 PM *RECEPTION*

Lobby, ILSB

07:30 PM – 09:30 PM *CONFERENCE DINNER*

Mint Leaf Indian Restaurant

118 Shawan Rd, Cockeysville, MD 21030

Introduction of Banquet Speaker: Bimal Sinha, UMBC

Banquet Speaker: Tommy Wright, Center Chief

Center for Statistical Research and Methodology

US Census Bureau

Title: *Visualization and Uncertainty*