



FIU

Robert Stempel College
of Public Health
& Social Work

**New
Student
Orientation**

Biostatistics



**Robert Stempel College
of Public Health
& Social Work**

**STEMPEL COLLEGE FALL 2022 ORIENTATION
Green Library (GL 100)
Wednesday, January 4th, 2023
9AM – 1PM**

8:30 AM to 8:55 AM | **Check-in**

9:00 AM | **Welcome**

9:15 AM – 9:35 AM | **Office of Student and Alumni Affairs Overview**

9:35 AM – 9:45 AM | **Library Services**

9:45 AM – 10:00 AM | **Student Organizations Introduction**

Break to Program Breakout Sessions

*Department of Public Health
Location: GL 100A*

10:00 AM – 10:10 AM | **Welcome, Fiorella Suyon, Admissions Coordinator**

10:10 AM – 10:25 AM | **Registration and PDA, Zoraya Arguello, Sr. Public Health Coordinator**

10:25 AM – 10:45 AM | **MPH Practicum, Florence Greer, Practicum Coordinator**

11:00 AM – 1pm | **Meet with Department Chairs, Faculty and Staff:**

- **GL 137 Department of Biostatistics (Bio)**



Table of Contents

1. Welcome and Introductions
2. Orientation notebook
3. The FIU Center for Statistical Consulting and Collaboration (FIU STATCONSULT)
4. Registering for spring 2023
5. Questions and Discussion

WELCOME AND INTRODUCTION

We are delighted that you have chosen to pursue a career in public health at Florida International University. All public health studies need biostatistical support and a major in Biostatistics within the MPH Program will rigorously train you in theoretical concepts and the application of biostatistical and computing methods in public health.

Biostatistics as a discipline and Departments of Biostatistics have been central to Public Health in general and specifically to Schools of Public Health for over 50 years. During this time, biostatisticians have contributed critically to the understanding of health and medical issues that impact on our populations. They have done this both through the development and implementation of new theoretical and applied methods for public health and medical data and through the utilization of sound research methodologies that have helped develop improved approaches to health promotion, disease prevention, and clinical care. SPES SCIENTIA FACULTAS

The Department of Biostatistics at Stempel is continuously building its teaching and research programs. Our core faculty members, in addition to their teaching responsibilities, have active research programs for developing contemporary biostatistical and computing methods. They also contribute to applied and collaborative projects that focus on improved health promotion, disease prevention, and approaches to clinical care. At this point, we offer an MPH degree with a concentration in Biostatistics and are starting and new Ph.D. major in Biostatistics and Data Analytics in 2021.

Biostatistics provides a great career path, especially during a national shortage of biostatisticians. Our discipline has consistently ranked among the top ten best jobs as ranked by US News and World Reports. An MPH with a concentration in Biostatistics can greatly facilitate entry into public health service and/or public health, medical and pharmaceutical research. It can also serve as a stepping stone toward a higher degree or can facilitate career advancement for those already employed in these fields. It is a much-prized addition for those with MD degrees or applying for one.

Again, welcome to the Department of Biostatistics, we are excited to have an opportunity to interact, teach and mentor you over the next couple of years, and prepare you for the exciting professional future in this field.



FACULTY



Zoran Bursac, Ph.D., M.P.H.

Professor & Chair

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Background

Dr. Zoran Bursac obtained a Ph.D. in Biostatistics from the University of Oklahoma Health Science Center in 2003. Dr. Bursac's first academic appointment as an Assistant Professor was at the University of Arkansas for Medical Sciences (UAMS) in 2003. Dr. Bursac spent eleven years at UAMS and was promoted to Associate Professor in 2008. Dr. Bursac received his appointment at the University of Tennessee Health Science Center (UTHSC) as a Professor in Preventive Medicine, and Associate Director and Senior Statistical Scientist in the Center for Population Sciences. Currently, Dr. Bursac is a Professor and Chair in the Department of Biostatistics and Director of the FIU Center for Statistical Consulting and Collaboration at the Stempel College of Public Health, Florida International University. During his career, Dr. Bursac has worked on over 50 research grants with a total value of over \$75,000,000. Dr. Bursac has authored/co-authored over 150 peer-reviewed publications in various areas of public health, preventive and clinical medicine, and biostatistics. These publications have been cited over 5500 times. Dr. Bursac has been a director and instructor for numerous graduate-level courses and has mentored over 60 graduate students, as well as a number of junior faculty. He serves as an Associate Editor for the Journal of Computational and Mathematical Methods in Medicine and provides continuing grant review services to PCORI. Dr. Bursac is an active member of the American Statistical Association and SAS Users Group.

Research

Statistical methods in public health and medicine: longitudinal data methods and repeated measures, missing data problems, mixed models, hyperbolic and other non-linear growth models, statistical computing, and simulation, graphical data visualization, categorical data methods, logistic regression topics, and variable selection algorithms. Application areas: tobacco use, alcohol and substance abuse, weight loss and obesity, cancer screening and prevention, maternal and child health, health disparities.



Michelle Hospital, Ph.D.

Research Associate Professor

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Background

Dr. Michelle Hospital is the Associate Director of Research and Development of FIU's Community-Based Research Institute (CBRI). She also currently serves as a co-leader of South Florida's first Health Disparities Research Center at a Minority Institution (RCMI) from the National Institute on Minority Health and Health Disparities (NIMHD). She was awarded a Ph.D. in Applied Life-Span Developmental Psychology and an M.S. in Counseling Psychology at Florida International University and a Bachelor of Business Administration (BBA) from the University of Miami with a concentration in Accounting. Dr. Hospital completed her Post-Doctoral training in advanced statistical analyses including Structural Equation Modeling (SEM) and Growth Curve Modeling (GCM) as well as national weighted longitudinal datasets. Dr. Hospital has extensive experience conducting community-based prevention research and program evaluation. She has served as a co-investigator for over 10 NIH and other federally funded grants including multiple R01 randomized clinical trials (RCTs). She has served as the primary internal evaluator for a multi-year National Science Foundation (NSF) grant. Dr. Hospital is also a Licensed Mental Health Counselor in the State of Florida (LMHC License # MH 9226) and currently serves as the Chair of the FIU Health Sciences Institutional Review Board (IRB).

Research

Structural Equation Modeling, program evaluation, weighted data, data analyses for intervention studies, as well as, health disparities, and youth risk behavior prevention research.



Nan Hu, Ph.D.

Associate Professor

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Background

Dr. Nan Hu earned his Ph.D. in Biostatistics from the University of Washington, School of Public Health in 2010. He was an assistant professor in the Division of Epidemiology at the University of Utah, School of Medicine, and an investigator and biostatistician at Huntsman Cancer Institute (HCI) from 2013 to 2019. Dr. Hu has a broad biostatistics/epidemiology background, with specific training and expertise in the areas of survival analysis, longitudinal analysis, meta-data analysis, and analysis of missing data. As the investigator in the Cancer Control and Population Sciences (CCPS) at HCI, I was involved in several clinical trials and cohort studies in breast cancer, myeloma, skin cancer, endometrial cancer, and brain cancer. He also developed novel methods in cancer diagnosis and efficacy trials. At HCI, I successfully managed and completed two internal grants as the study PI and study results were published in cancer clinical journals. Dr. Hu implemented new statistical methodologies in biomarker evaluation with longitudinal and survival outcomes. Collaborating with his colleagues, Dr. Hu developed new statistical methods in time-to-event models with time-varying covariates. As an investigator at the statistical coordinating center for Cardiovascular Health Studies from 2006 to 2008, he managed the heart MRI and clinical data of a large follow-up observational study with 6914 participants. Dr. Hu has participated in 20 NIH-funded projects with a total amount of support of over \$25,000,000.

Research

Survival analysis, longitudinal data analysis, meta-analysis, analysis of missing data, statistical methods in medical diagnosis and prognosis, medical research on cardiovascular disease, kidney disease, neurological disorders, and radiology.



Boubakari Ibrahimou, Ph.D.

Associate Professor

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Background

Dr. Boubakari Ibrahimou has a PhD. in Pure and Applied Mathematics and a PhD. in Biostatistics from the University of South Florida. He came to FIU in 2013 after serving as an Assistant Professor of Biostatistics in the Department of Public Health at Western Kentucky

University. He is currently an Associate Professor at the FIU Department of Biostatistics and the Deputy Director for the FIU Center for Statistical Consulting and Collaboration (FIU- STATCONSULT), where he collaborates and consults with clinicians, public health professionals, scientists, engineers, and social science researchers. Dr. Ibrahimou research interests focus on nonlinear analysis, correlated data analysis, modeling, and health impact of air pollutant and chemical agents, statistical modeling of biological systems with application in maternal and child health (MCH) and cardiovascular disease. Dr. Ibrahimou is currently serving as a Principal Investigator (PI) of a funded NIH project titled: “Particulate Matter (PM) Metals and Racial Disparity in Cardiovascular (CVD) Risk Factors”. He is investigating the role of environmental metal mixtures on cardiovascular disease risk factors. Dr. Ibrahimou is currently providing or has provided biostatistical support to several funded projects at FIU including; Traumatic Brain Injury: Multimodal Biomarker Screening, Green Schools Challenge: Evidence-based Practice, Risk Factors for Longer Hospital Stay Following the Fontan Operation, Cocaine and HCV on Liver Fibrosis, Care Coordination Involvement Among Older Adults, FIU-RCMI. Dr. Ibrahimou served as a consultant to the Florida Prevention Research Center and the Center for Collaborative Research (CCR) at the University of South Florida. He teaches several courses in the department.

Research

Dr. Ibrahimou research interests include; Nonlinear analysis, correlated data analysis, exposure assessment, modeling, and health impact of air pollutant and chemical agents, statistical modeling of biological systems with application in maternal and child health (MCH) and cardiovascular disease (CVD).



Tan Li, Ph.D.

Associate Professor

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Background

Dr. Tan Li received his Ph.D. in Statistics from the University of South Carolina in 2011. He joined the Department of Biostatistics at Florida International University (FIU) as a visiting assistant professor in 2012 and is currently an Associate Professor and the Graduate Program Director of the Biostatistics MPH program. Dr. Li is the Deputy Director for the FIU Center for Statistical Consulting and Collaboration (FIU-STATCONSULT) of the Department of Biostatistics. Dr. Li provides biostatistical support for numerous funded studies with the Center of Children and Families (CCF) and the Center for Research on U.S. Latino HIV/AIDS and Drug Abuse (CRUSADA). He previously worked at the Statistical Consulting Laboratory at the University of South Carolina. His statistical research focuses on algorithms for analyzing complex medical, public health, and psychological survey data and on assessing complex relationships when data are collected over multiple time points on the same person.

Research

Dr. Li's research interests are in biostatistical methods and applications for self-reported assessment data and longitudinal data. In particular, he is interested in dimensionality assessment for Item Response Theory and time-varying covariates as well as complex interaction effects in longitudinal data analysis. His collaborative research is multidisciplinary with researchers in various fields, including dietetics and nutrition, epidemiology, psychology, and social work. Dr. Li has provided biostatistical support for numerous projects funded by NIH and other foundations.



Gabriel Odom, Ph.D., Th.D.

Assistant Professor

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Background

Rev. Dr. Gabriel J. Odom is an Assistant Professor of Biostatistics in the Department of Biostatistics at Florida International University's Stempel College of Public Health. He is a statistician and data scientist with a primary research area in software, algorithms, and methods for high-dimensional and high-throughput (-omics) data. His current research applications are in the areas of multi-omics integration, pathway clustering, and genome-wide / epigenome-wide analyses, and he publishes open-source software packages related to these applications through the Bioconductor project. Dr. Odom completed his doctoral work in statistical science at Baylor University in 2017 under Prof. Dean M. Young and Prof. Amanda S. Hering. He completed his postdoctoral training in biostatistics in the Department of Public Health Sciences, Division of Biostatistics at the University of Miami's Miller School of Medicine under Prof. Steven Chen and Prof. Lily Wang in 2019. He is also an ordained and active Eastern-rite (Maronite) Catholic presbyter.

Research

High-Dimensional Statistics, Statistical Genetics, R/Bioconductor Package Development, Data Science, Matrix Theory, Bayesian Statistics, Spatial/Time Series



Emir Veledar, Ph.D.

Courtesy Professor

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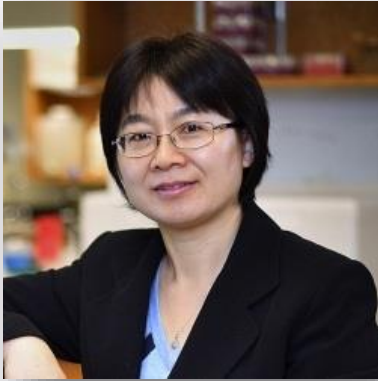
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Background

Dr. Emir Veledar, Courtesy Professor in the Department of Biostatistics, has more than 20 years of teaching and research experience in statistics and biostatistics and served on the research faculty in the Division of Cardiology of the Emory University School of Medicine. He received his MS in 1985 from the Institute for Economics, Belgrade, Serbia, and his Ph.D. in 1990 from the University of Mostar. From 1990 to 1993 he was an assistant professor at the University of Mostar and the University of Sarajevo. In 1993 he became a visiting researcher at Tilburg University in the Netherlands. From 1994 to 1998 he taught mathematics at the University of Georgia, and in the fall of 1998, he was appointed assistant professor of statistics at James Madison University in Virginia. In January 1999 he moved to the Cardiology Division at Emory University. For some time now, Dr. Veledar has been using and teaching statistical methods and data mining techniques. This includes being familiar with statistical methods that apply to Phase I-IV clinical trials and having a strong working knowledge of SAS, S+ and R. In the last 9 years Dr. Veledar coauthored more than 450 scientific abstracts and articles and helped colleagues with sample size and power calculation for grants. Dr. Veledar served as a lead biostatistician on many small and large one- or multi-protocol projects during his time at Emory and participated on project teams, prepared analysis plans, and wrote detailed specifications for analysis files, consistency checks, tables, and figures. For the last 3 years, Dr. Veledar has been teaching “Clinical Trial, Design and Analysis” to cardiology residents at Emory University. He is also a professor for Data Mining at a graduate school organized by the School of Information Technology at the University of Mostar.

Research

Biostatistical methods in medicine.



Xuexia (Helen) Wang, Ph.D.

Professor

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Background

Dr. Xuexia (Helen) Wang is a Professor with extensive experience in designing a study based on a specific research goal, providing protocol to collect sample data, performing quality control of a big dataset, supervising postdocs or graduate students in methods development and data analysis, interpreting the study findings. In the past 10 years, she has worked with a number of principal investigators in grant applications by proposing study design, power estimation, methods, and procedures for data analysis. Dr. Wang has led data analysis for numerous projects in cancer etiology and treatment-related adverse outcomes ranging from candidate genes, genome-wide association studies, to next-generation sequencing data analysis. In addition, she has developed many powerful statistical methods and computational tools in genetic association studies which contribute to the identification of the genetic susceptibility to complex diseases.

Research

Novel statistical methods and computational tools in genetic discovery and risk prediction for complex diseases.



Changwon Yoo, Ph.D.

Associate Professor

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Background

Dr. Changwon Yoo is an Associate Professor with experience in statistical analysis. Dr. Yoo collaborates with researchers in projects related to collaborative biomedical informatics research ranging from discovering gene networks from microarray experiments to analyzing patient and public health data. More specifically, he has been working on analyses of large genome-wide datasets to discover gene networks for mesothelioma using causal Bayesian networks and handling patient datasets to build a computational causal model of Asbestos Related Disease and on pattern recognition (e.g., classification of pentatricopeptide repeat proteins in *Mimulus*). Dr. Yoo has also developed an informatics database core, to help translational research and integrate other sources of data, that was supported by NIH Centers of Biomedical Research Excellence and NSF Experimental Program to Stimulate Competitive Research grants.

Research

Dr. Yoo's areas of research include bioinformatics, medical informatics, causal discovery, causal Bayesian networks, intervention modeling, multivariate analysis, artificial intelligence, and machine learning.

FIU CENTER FOR STATISTICAL CONSULTING AND COLLABORATION (FIU - STATCONSULT)

The FIU Center for Statistical Consulting and Collaboration (FIU - STATCONSULT) is operated by the Department of Biostatistics within the Robert Stempel College of Public Health and Social Work at Florida International University.

Mission

Our mission is to provide expertise in statistics and data analytics related to public health, medicine, and other research areas.

Services

We collaborate and provide consulting to FIU faculty, postdocs, research staff, students, residents and external institutions, and agencies.

Our services include:

- Data Management
- Study Design (experiments and surveys)
- Grant proposal development
- Sample size calculation and power analysis
- Data modeling and analysis
- Interpretation of the results
- Professional and scientific report-writing and preparation

Support can range from quick questions or short-term projects to long-term collaborative work. We provide free initial and short consultations, however more involved projects require either grant funding, one-time fee for service, or hourly reimbursement.

Consultants have experience with SAS, Stata, R, Mplus, and SPSS as well as REDCap and Qualtrics databases.

Meet Our Team

Our team consists of biostatistics department faculty members, affiliated members approved by biostatistics department faculty members, Ph.D. and Master's level consultants with expertise in a wide range of statistical methods and statistical programming. These areas include study design, sample size and power calculation, linear regression modeling, categorical data analysis, logistic regression modeling, survival data analysis, longitudinal data analysis, mixed-effects modeling, non-

parametric statistical methods, survey sampling, genetic data analysis, and statistical programming.

All faculty and staff in the biostatistics department are members of the center. Please browse the research areas in their faculty and research staff profiles to see how they can collaborate on your next project.

Faculty Members

- Zoran Bursac, Ph.D., M.P.H.
 - Research Interests
 - Longitudinal and missing data methods
 - Nonlinear growth and survival models
 - Categorical data analysis and variable selection
- Tan Li, Ph.D.
 - Research Interests
 - Ordinal Data Analysis
 - Multilevel Mixture Models
 - Psychometrics
 - Longitudinal Study
- Boubakari Ibrahimou, Ph.D.
 - Research Interests
 - Modeling and health impact of air pollutant and chemical agents
 - Nonlinear Analysis
 - Maternal and Child Health
 - Survival Analysis
 - Correlated Data Analysis
- Changwon Yoo, Ph.D.
 - Research Interests
 - Statistical Genomics / Bioinformatics / Big Data Analytics
 - Bayesian Data Analysis / Computational Statistics
 - Intervention Modeling / Causal Analysis
 - Statistical Learning / Artificial Intelligence / Machine Learning
 - For more information
 - <http://statconsult.fiu.edu>

Research Staff

- Stephanie Garcia, MPH, MSHRM
 - Research Interests
 - Public health (e.g. child and elderly health, substance abuse, employee wellness, etc.)
 - Capacity building
 - Evidence-based research
 - Data quality, assurance, and management
- Ingrid Gonzalez, MPH
 - Research Interests
 - Public health
- Stefanie Moore, MPH
 - Research Interests
 - Public health



COLLEGE & DEPARTMENT CONTACTS

ROBERT STEMPEL COLLEGE OF PUBLIC HEALTH AND SOCIAL WORK

DEAN'S OFFICE

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BIOSTATISTICS DEPARTMENT



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STUDENT SERVICE REPRESENTATIVES

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HELPFUL LINKS & CONTACTS

- FIU Main Webpage - www.fiu.edu
- Robert Stempel College of Public Health & Social Work - <http://stempel.fiu.edu>
- College Funding Opportunities - <https://stempel.fiu.edu/student-life/funding-your-education/>
- Department of Biostatistics - <http://stempel.fiu.edu/biostatistics>
- University Graduate School - <http://gradschool.fiu.edu>
- University Graduate School Fellowships - <http://gradschool.fiu.edu/students/funding/fellowships/>
- Graduate Catalog - <http://catalog.fiu.edu>
- Financial Aid - <https://onestop.fiu.edu/financial-aid/index.html>
- MyFIU Account - <https://my.fiu.edu>
- Policies and Regulations - <http://conduct.fiu.edu>
- FIU Policies and Procedures Library - <http://policies.fiu.edu>
- FIU Library - <https://library.fiu.edu>
- Online FIU Phonebook/Directory - <https://who.fiu.edu>
- Map of Modesto A. Maidique Campus - <http://campusmaps.fiu.edu>
- International Students and Scholar Services - <http://iss.fiu.edu>
- Academic Calendar - <http://onestop.fiu.edu/academic-calendar>
- FIU Online - <http://online.fiu.edu>
- eLabs - <https://elabs.fiu.edu>

Professional Organizations

- American Public Health Association - <http://www.apha.org>
- PublicHealthJobs.net - <http://www.publichealthjobs.net>