

MOHAMED MILAD, Ph.D.

Assistant Professor of Statistics
Department of Mathematics & Statistics
Arkansas State University
Office: CSM 115
Phone: 573-308-2630|Email: mmilad@astate.edu

EDUCATION

2013-2017	PhD.	Biostatistics	Missouri University of S&T	Rolla, MO-USA
2011-2013	M.S.	Applied Mathematics	Missouri University of S&T	Rolla, MO -USA
2002-2004	M.S.	Mathematics	University Science Malaysia	Penang, Malaysia
1996-2000	B.S.	Statistics	Garyounis University	Benghazi, Libya

PhD. DISSERTATION

A FUNCTIONAL DATA ANALYTIC APPROACH FOR REGION LEVEL DIFFERENTIAL DNA METHYLATION DETECTION

M.S. DISSERTATION

APPLICATION OF ROTTERDAM MODEL TO THE MEAT DEMAND SYSTEM IN MALAYSIA

RESEARCH INTEREST

- **Statistical Modeling of Biological Data:** Research focused on the development of statistical methods for analysis of big data genetic, genomic, and other “omics” data in epigenetics and clinical science. Specific topics included “DNA methylation and supervised and unsupervised machine learning analysis of next generation sequence data.”

PROFESSIONAL EXPERIENCE

- 2017-2018: Collaborative research at Arkansas Bioscience Institute. (Dr. Xiuzhen Huang)
Research Title: Identification of Cell Genes of the Yeast *Saccharomyces cerevisiae*
- 2019-Present: Collaborative research at Arkansas Bioscience Institute. (Dr. Asela Wijertne)
Research Title: Constructing a gene regulatory network during biotic stress in soybean
- 2018-Present: Tenure-track (Assistant professor)
Department of Mathematics & Statistics
Arkansas State University
- 2017-2018: Visitor Assistant professor
Department of Mathematics & Statistics
Arkansas State University
- 2013-2017: Research and Teaching Assistant
Department of Mathematics & statistics
Missouri University of Science and Technology

- 2016-2017: Adjunct Faculty
Department of Mathematics
Ozark technical community college (OTC, USA)
- 2014-2016: Research Assistant
Department of Mathematics & statistics
Missouri University of Science and Technology
Projects Funded by: Fred Hutchinson Cancer Research Center (Seattle, USA)
- Comparing statistical methods to test the differential methylation region
 - Statistical Analysis of DNA Methylation Data in a Cervical Cancer Study
- June-Aug 2016:
- Reynolds American Inc., Winston Salem, NC, USA**
Research and Development Department (Internship)
Internship Objective: Develop and improve methods of analyzing gene Profile Methylation
- Project 1: **(Highly Confidential)**
Title: Identify Differentially Methylated Regions Related to Smoking
- Project 2 :**(Highly Confidential)**
Title: Methylation patterns in buccal cells from tobacco consumers
- 2005-2009: Lecturer Assistant
Department of Data Analysis
Al-Jabal Al-Gharbi University
- 2003-2004: Lab Assistant
Department of Mathematics
University of Science Malaysia
- 2003-2004: Research Officer
Department of Mathematics
University of Science Malaysia
Project entitled: “Stochastic Optimization for Financial Decision Making”

GRANTS

- (PI) Funded by College of Mathematics and Science, Arkansas State University “Testing Differentially Methylated Regions through wavelet principal component” 5000\$; August 19, 2019–June 19, 2020.
- (PI) Submitted to IDeA Network of Biomedical Research Excellence (INBRE) “Identify Differentially Methylated Regions Related to soybean plants with a pathogen” \$4,542.21.
- Arkansas Department of Higher Education (SURF): “Differential Expression and Correlation Analysis of Histopathology and Proteogenomics Data for Ovarian cancer” \$4,000
- Arkansas Department of Higher Education(SURF): “ Statistical Analysis of DNA Methylation Data in a Chronic lymphocytic leukemia (CLL)” \$4,000
- (Co-investigators) “Dynamic regulatory networks underlying the defense signaling in soybean against Phytophthora sojae.” \$500,000 (will be submitting very soon to NSF)

SERVICE

- Department graduate programs assessment committee
- Serve as faculty in the Environmental Sciences and Molecular Biosciences
- Faculty Achievement Committee
- Master's thesis committees
- Doctoral dissertation committees

PROFESSIONAL CERTIFICATES

1ST Summer Institute in Statistics for Big Data (2015, University of Washington, Seattle)

- Supervised Methods for Statistical Machine Learning for big data (University of Washington, Seattle)
- Unsupervised Methods for Statistical Machine Learning for big data (University of Washington, Seattle)

AWARDS

- Teaching Excellence Award of Missouri University of Science & Technology, Rolla, MO, Spring; 2013-2015
- Scholarship of Ministry of Libyan education
- Professional Development Award of Arkansas State University

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Statistical Association (ASA)
- East North American Region (ENAT) of the International Biometric Society

SOFTWARE PROFESSIONAL SUMMARY

- Over 6 years of statistical experience in analyzing and interpreting complex data using SAS and R software
- Worked with various research experts on genomic and agriculture data
- Proficient in using statistical tools and methodologies, such as principal component clustering, generalize linear model, and mixed model
- Experience of using R and SAS software extensively for research, coursework, and projects
- Developed R code and simulation to streamline functional principal component analysis on epigenetics data
- Developed R code for region level analysis on DNA methylation data
- Applied linear and nonlinear model on meat demand system using SAS software

TEACHING EXPERIENCE

Course Title	Institution	Level	Terms Instructed
Probability and Statistics I II	Arkansas State University	Undergraduate	1
Statistics for Professional Health	Arkansas State University	Undergraduate	1
Data Analysis II (ANOVA)	Arkansas State University	Graduate	1
Data Analysis I (Regression Analysis) **	Arkansas State University	Graduate	1
Calculus**	Arkansas State University	Undergraduate	2
Applied Statistics **	Arkansas State University	Undergraduate	8
Pre-Calculus**	Arkansas State University	Undergraduate	1
Applied Statistics for Engineering **	Missouri University S&T	Undergraduate	1
Collage Algebra **	Ozark technical college	Undergraduate	1
Contemporary Math**	Ozark technical college	Undergraduate	1
Calculus for Engineering -I†	Missouri University S&T	Undergraduate	2
Calculus for Engineering–III**†	Missouri University S&T	Undergraduate	4
Advanced Algebra**	Missouri University S&T	Undergraduate	2
Trigonometry**	Missouri University S&T	Undergraduate	1
Intermediate Algebra**	Ozark technical college	Undergraduate	2

** –Lecturer

* –Lab Assistant

† –Teaching Asistant

MANUSCRIPTS SUBMITTED

1. M. Milad * and Olbricht GR. “TESTING DIFFERENTIALLY METHYLATED REGIONS THROUGH FUNCTIONAL PRINCIPAL COMPONENT ANALYSIS” (Under review, Applied Statistics Journal).
2. M. Milad * and Olbricht GR “SMOOTHED FUNCTIONAL PRINCIPAL COMPONENTS METHOD TO IDENTIFY DIFFERENTIALLY METHYLATED REGIONS IN PLANTS” (Under review, Statistical Applications in Genetics and Molecular Biology).
3. William Jackson and Mohamed Milad (2019) “Laparoscopic sleeve gastrectomy versus laparoscopic Roux-en-Y gastric bypass in the pediatric population: a MBSAQIP analysis”(Accepted to Surgery for Obesity and Related Diseases Journal)

PRESENTATIONS

- M. Milad*, Olbricht GR (2019). WAVELET FUNCTIONAL ANALYSIS TO IDENTIFY DIFFERENTIALLY METHYLATED REGIONS IN PLANTS. CHICAGO, IL (JSM 2019).
- M. Milad*, Olbricht GR (2017). A SMOOTHED FUNCTIONAL PRINCIPAL COMPONENTS METHOD TO IDENTIFY DIFFERENTIALLY METHYLATED REGIONS IN PLANTS, KANSAS STATE UNIVERSITY (2017)
- M. Milad*, Olbricht GR (2016). REGION-LEVEL DIFFERENTIAL METHYLATION TESTING WITH SMOOTHED FUNCTIONAL PRINCIPAL COMPONENT ANALYSIS. CHICAGO, IL (JSM 2016).
- M. Milad*, Kamil AA (2003). APPLYING ROTTERDAM MODEL AND DEMAND SYSTEM TO MEAT EXPENDITURE. REGIONAL CONFERENCE INTEGRATING TECHNOLOGY IN MATHEMATICAL SCIENCE (USM).
- M. Milad*, Kamil AA (2004). MEAT DEMAND SYSTEM IN MALAYSIA: AN APPLICATION OF ROTTERDAM MODEL WITH THE ELASTICITY OF ECONOMETRICS. NATIONAL CONFERENCE ON MANAGEMENT SCIENCE AND OPERATION RESEARCH (INCMOR).

REFERENCES

Professor: Gayla R. Olbricht (My research advisor)

Ph.D. Purdue University
215 Rolla Building
Missouri University of Science and Technology
Rolla, MO; 65409-0020
(573) 341-4913
Email: olbrichtg@mst.edu

Dr. VA Samaranyake, Curators' Teaching Professor

Ph.D. Kansas State University
302 Rolla Building
Missouri University of Science and Technology
Rolla, MO; 65409-0020
(573) 341-4658
Email: vsam@mst.edu

Dr. Ilene H. Morgan, Associate Professor (For verifying teaching ability)

Ph.D. The Pennsylvania State University
212 Rolla Building
Missouri University of Science and Technology
Rolla, MO; 65409-0020
(573) 341-4652
Email: imorgan@mst.edu