

CURRICULUM VITA

Dr. Edgard Messan Maboudou

Associate Professor
Department of Statistics
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Education:

- July 2006 **Ph.D. in statistics**, School of Statistics, University of Minnesota,
Minneapolis, MN
Advisor: Douglas M. Hawkins
Thesis title: Self-Starting Multivariate Exponentially Weighted Moving
Average
- June 2005 **M.Sc in Statistics**, School of Statistics, University of Minnesota,
Minneapolis, MN
- June 1992 **B.Sc in Mechanical Engineering**, University of Benin, Lome-Togo

Employment

- 2013 – Present **Associate Professor**, Department of Statistics, University of Central
Florida, Orlando, Florida
- 2007 – 2013 **Assistant Professor**, Department of Statistics, University of Central
Florida, Orlando, Florida
- 2006 – 2007 **Visiting Assistant Professor**, Department of Statistics & Actuarial
Science, University of Central Florida, Orlando, Florida
- 2003 - 2006 **Graduate Instructor**, School of Statistics, University of Minnesota,
Minneapolis, MN
- 1999 – 2003 **Teaching Assistant**, School of Statistics, University of Minnesota,
Minneapolis, MN
- 1993 – 1997 **Instructor**, School of Engineering (ENSI), University of Benin,

Lome – Togo

Research Interests:

- Multivariate Statistics, High dimensional problems
- Matrix, arrays with Kronecker product structure
- Data Mining, Segmentation Problems, Change point problems
- Support Vector machines, Support vector Regression, Kernel Methods
- Covariance Estimation, Missing Values
- Statistical quality control
- Biostatistics, Statistical Genetics

Publications:

Refereed

- **Edgard M. Maboudou-Tchao**, Ivair Silva, and Norou Diawara, “Monitoring the mean vector with Mahalanobis kernels” re-submitted to *Quality Technology and Quantitative Management (QTQM)* after favorable review.
- Nicholas Paperno, Michael. Rupp, **Edgard Maboudou**, Janan Smither, and Aman Behal, “A Predictive Model of Human Factors vs Performance of ADL Tasks for Users of an Assistive Robotic Manipulator” under revision after favorable review of *IEEE Transactions on Human-Machine Systems (THMS)*.
- Ivair Ramos Silva, **Edgard M. Maboudou-Tchao**, Weslei L de Figueiredo, and Lato Senu, “Bayesian Test for Mean Vectors in High Dimension” submitted to *Journal of Multivariate Analysis*.
- **Edgard M. Maboudou-Tchao**, “Kernel Methods for Detection of Change in Covariance Matrices with Fewer Observations than Variables” almost to be submitted.
- **Edgard M. Maboudou-Tchao** and Sumen Sen, “SVM-SVDD Control Charts” under preparation.
- Norou Diawara, S. H. Sathish Indika, Melva Grant, and **Edgard M. Maboudou-**

- Tchao**, “The Bivariate Erlang and its Application in Modeling Recurrence Times of Kidney Dialysis Data.” *International Journal of Statistics in Medical Research*. Vol. 3 (2), pp. 88-93, 2014
- Norou Diawara, S. H. Sathish Indika, and **Edgard M. Maboudou-Tchao**, "The Distribution of the Sum of Independent Product of Bernoulli and Exponential", *American Journal of Mathematics and Mathematical Sciences (AJMMS)*, 32 (1) pp 75 – 89, 2013.
 - Douglas M. Hawkins and **Edgard M. Maboudou-Tchao**, “Smoothed Linear Modeling for Smooth Spectral Data”, *International Journal of Spectroscopy*, vol. 2013, Article ID 604548, 8 pages
 - **Edgard M. Maboudou-Tchao** and Ivair Silva, "Test for Mean Vectors in High Dimension", *Statistical Analysis and Data Mining (SADM)*. Special Issue JSM 2012, Vol. 6 (6), pp. 578 – 598, 2013
 - **Edgard M. Maboudou-Tchao** and Douglas Hawkins, “Detection of Multivariate Change-Point for Multivariate Data”, *Journal of Applied Statistics*, Vol. 40 (9), pp. 1979 – 1995, 2013.
 - **Edgard M. Maboudou-Tchao** and Norou Diawara, “A LASSO Chart for Monitoring the Covariance Matrix”, *Quality Technology and Quantitative Management (QTQM)*, 10 (1) pp. 95 – 114, 2013.
 - **Edgard M. Maboudou-Tchao** and Vincent Agboto, “Monitoring the Covariance Matrix with Fewer Observations than Variables”, *Computational Statistics and Data Analysis*, Vol. 64, pp. 99 – 112, 2013.
 - Weiwu Pang, Yu-Cheng Liu, and **Edgard M. Maboudou-Tchao**, “Metoclopramide Improves Quality of Tramadol PCA Indistinguishable to Morphine PCA: A Prospective, Randomized, Double Blind Clinical Comparison”, *Journal of the American Academy of Pain Medicine*, vol. 14 (9) pp 1426 – 1434, 2013
 - **Edgard M. Maboudou-Tchao** and Douglas M. Hawkins, “Self-Starting Multivariate Control Charts for Location and Scale.” *Journal of Quality Technology*, 43 (2) 113-126, 2011
 - Matt Modisett and **Edgard M. Maboudou-Tchao**, “Significantly Lower

- Estimates of Volatility Arise from the Use of Open-High-Low-Close Price Data”
NAAJ, vol 14, N 1, 68-85, 2010
- Douglas M. Hawkins and **Edgard M. Maboudou-Tchao**, “Multivariate Exponentially Weighted Moving Covariance Matrix”, *Technometrics*, 50 (2) 155-166, 2008
 - Douglas M. Hawkins and **Edgard M. Maboudou-Tchao**, “Self-Starting Multivariate Exponentially Weighted Moving Average Control Charting”, *Technometrics*, vol. 49, N 2, 2007, pp 199-209

Non-refereed:

- **Edgard M. Maboudou-Tchao**, Ivair Silva, and Jeremiah Perez, "Testing the Mean Vector of a Population in High Dimension ", *Proceedings of the Joint Statistical Meetings 2012, Section on Statistical Learning and Data Mining*, , pp 2962-2977
- **Edgard M. Maboudou-Tchao** and Douglas M. Hawkins, “Fitting Multiple Change-Point Models to a Multivariate Gaussian Model” ,2009 Proceedings of International Workshop Sequential methodologies
- **Edgard M. Maboudou-Tchao**, “Algorithm for Sequential Estimation of the Covariance Matrix and some Applications”, 2009 Proceedings of International Workshop Sequential methodologies
- **Edgard M. Maboudou-Tchao**, “Multivariate control chart for Monitoring the Covariance Matrix”, 2009 Proceedings of New Researchers Conference.

Research Grant Support

- RI: Medium: Social Learning in Mixed Human-Robot Communities for People with Disabilities.
 PI: Aman Behal
 co-PI: Peter Hancock, Ladislau Boloni, **Edgard M. Maboudou-Tchao**
 Agency: National Science Foundation
 Grant Number: ID: 1056475
 Total Award: \$1,034,143.00
 Beginning and End Dates: 07/01/2014 to 06/30/2017
 Dollar Amount credited: \$42,481.72

Status: Funded

- **Title:** Bladder Tumor Study Data Collection and Analysis
 - Principal Investigator: Morgan Wang
 - Co-Principal Investigators: Thomas Wan, **Edgard M. Maboudou-Tchao**
 - Status: Approved. Funded for the period of 09/01/2010 - 08/31/2013
 - Sponsor Agency: MD Anderson Cancer Center
 - Research ID: 1051558
 - Percent: 45%

Conference Presentations

Invited Talks

- International Symposium on Statistical Process Monitoring (ISSPM), Padua, Italy, July 7 – July 9, 2015, “Covariance Matrix Control Chart using Support Machines Methods”
- Annual meeting of the Brazilian Region of the International Biometric Society (RBras), Ouro Preto, MG, Brazil, May 19 – May 21, 2014, “Smoothness and Roughness Penalties in Linear Models”
- Spring Research Conference 2012 (SRC), Harvard University, MA, June 13 – June 15, 2012, “Monitoring the Covariance Matrix with Fewer Observations than Variables”
- Department of Statistics, University of Florida, Gainesville, FL, September 17, 2009, “Self-Starting Multivariate Control Charts for Location and Scale.”
- University of Northern Colorado, Greeley, CO, July 14, 2005, “A self-starting MEWMA for Location”

Contributed Talks

- Joint Statistical Meetings (JSM) San Diego, FL, August 2, 2012, “Hypothesis Testing for the Mean Vector in High Dimension”
- Eastern North American Region Spring Meeting (ENAR), Miami, FL, March 22, 2011, “Monitoring the Covariance Matrix in High Dimension.”
- 3rd International Workshop in Sequential Methodologies (IWSM), Stanford University, Palo Alto, CA, June 16, 2011, “Sequential Change Detection in the

Covariance Matrix of a High Dimensional Process”

- Joint Research Conference on Statistics in Quality, Industry, and Technology. NIST, Gaithersburg, MD, May 26, 2010, “Self-Starting Multivariate Control Charts for Location and Scale.”
- IMS New Researchers Conference, Baltimore, MD, July 29, 2009, “Some Theoretical Properties of the Multivariate Exponentially Weighted Moving Covariance Matrix”
- IWSM 2009, Troyes, France, June 17, 2009, “Algorithm for Sequential Estimation of the Covariance Matrix and some Applications”
- IWSM 2009, Troyes, France, June 17, 2009, “Fitting Multiple Change-Point Models to a Multivariate Gaussian Model”
- Quality and Productivity Research Conference, Yorktown Heights, NY, June 5, 2009, “Fitting Multiple Change-Point Models to a Multivariate Gaussian Model”
- ASA Joint Statistical Meetings, Minneapolis, August 2005, “A self starting MEWMA for Location”
- INFORMS annual conference, Denver, October 2004, “A self starting Multivariate Exponentially Weighted Moving Average Control Charting” (Joint with Douglas M. Hawkins)

Teaching

- Applied Time Series (STA 6857)
- Statistical Computing (STA 6106)
- Linear Models (STA 6246)
- Stochastic Processes and Applied Probability Theory (STA 5825)
- Categorical Data Analysis (STA 4504)
- Applied Nonparametric Statistics (STA 4502)
- Sample Survey Methods (STA 4222)
- Statistical Methods III (STA 4164)
- Statistical Methods I (STA 2023)
- Principles of Statistics (STA 2014)

- Applied Multivariate Statistics (STA 6707)

Professional Memberships

- American Statistical Association (ASA)
- Institute for Operations Research and Management Sciences (INFORMS)
- American Statistics for Quality (ASQ)
- Society for Industrial and Applied Mathematics (SIAM)

Journal reviews

- Computational Statistical and Data Analysis (CSDA)
- Journal of Multivariate Analysis (JMVA)
- Technometrics
- Quality Technology & Quantitative Management (QTQM)
- IIE Transaction
- Communication in Statistics -- Theory & Methods
- Communication in Statistics -- Simulation and Computation.
- Quality and Reliability Engineering International (QREI)
- Computers and Industrial Engineering Journal (CAIE)
- Statistical Papers (STPA)

Other Professional Activities

- 2009 – Present: Member of the College of Sciences Undergraduate Curriculum and Standards Committee
- 2009 – 2014: Representative of the Statistics department with the UCF library
- 2009: Member of the organizing committee of the ASA Florida Chapter in Orlando
- 2006 – Present: Faculty advisor of the Statistical Computing Club

Honors, Awards

2005: Winner of American Statistical Association Student Scholarship Award to attend the Quality & Productivity Research Conference in Minneapolis, MN

1996: Distinguished Instructor Award; ENSI, Lome-Togo