Curriculum Vitae

Name: Desale Habtzghi

CONTACT

Office:
Statistics Department,   Phone: 330-972-8636 (Office)
College of Art and Science   706-614-9633 (Cell)
University of Akron   E-mail: dh52@uakron.edu
Akron, OH 44325

EDUCATION:

Doctoral Degree in Statistics, The University of Georgia, Athens, GA, May 2006.

Dissertation: *Nonparametric Maximum Likelihood Estimation of Hazard Function under Shape Restrictions.*
Advisors: Somnath Datta and Mary Meyer

Master of Science in Statistics, the University of Georgia. Athens, GA, August 2003.

Masters of Science in Mathematics, Southern Illinois University, Carbondale, IL, August 2001.

Bachelor of Science in Mathematics (with distinction), University of Asmara, Eritrea**,** June 1996.

Bachelor of Divinity, St. Athanasius Theological Seminary, FL, August, 2014.

WORK EXPERIENCE:

Associate Professor: Associate Professor (**Tenured**), Department of Statistics, The University of Akron, 2004- present.

Assistant Professor: Assistant Professor, Department of Statistics, The University of Akron, 2008-2014.

Assistant Professor: Assistant Professor, Department of Mathematics, Georgia College and State University, August 2006- July 2008.

Visiting Assistant Professor: Department of Statistics, The University of Georgia, June 2006- August 2006.

Graduate Instructor: Department of Statistics, The University of Georgia, 2004-2006 .

Graduate Teaching Assistant: Department of Statistics, The University of Georgia, 2001-2004 .

Graduate Teaching Assistant: Department of Mathematics, Southern Illinois University, 1999-2001**.**

Teaching Assistant: Department of Mathematics and Statistics, University of Asmara, Eritrea, 1996-1999.

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AWARDS:

1. Travel award to New Researchers in Statistics and Probability conference sponsored by IMS, 2010.

2. R.L. Anderson student paper award in SRCOS/ASA summer conference, in Clemson, South Carolina, June 2005.

3. Outstanding Teaching Assistant Award, the University of Georgia, Athens, Georgia, 2003.

4. Graduate Student Travel Award, University of Georgia (2005, 2006).

5. Emanuel Family Scholarships University of Asmara, Eritrea, 1992-1996.

6. United Nations Scholarship, University of Asmara, Eritrea, 1993-1996.

7. Three commendation letters from College Dean, University of Asmara, 1994-1996.
8. Government of Eritrea Undergraduate Scholarship, 1991-1996.

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PUBLICATIONS:

A) Peer Reviewed Publications

1. Habtzghi, D., Midha, C. K., and Das, A. (2014). Modified Clopper-Pearson Confidence Interval for Binomial Proportion. *Journal of Statistical Theory and Applications*, *13*(4), 296-310.

2. Habtzghi, D. and Park, J. H. (2013). Estimation of regression model using a two stage nonparametric approach, Journal of Applied Mathematics, **4**, 1189-1198.

3. Einsporn, R. and Habtzghi, D. (2013). Combining paired and two-sample data using a permutation test, Journal of Data Science, **11 (4)**, 767-779.

4. Tekeste, M., Habtzghi, D. and Koolen, J. (2013) . Cap-hardening parameters of Cam-clay model variations with soil moisture content and shape-restricted regression model, Agricultural and Biosystem Engineering: CIGR Journal, **15(2),** 10-24.

5. Habtzghi, D. and Datta, S. (2012). One sample goodness of fit tests in presence of shape restrictions on the hazard rate function, Sankhya : **74-B(2),** 171-194.

6. Ghebremichael, M., Habtzgi, D. and Paintsil, E. (2012). Deciphering the epidemic synergy of herpes simplex virus type 2 (HSV-2) on human immunodeficiency virus type 1 (HIV-1) infection among women in sub-Saharan Africa. *BMC research notes*, **5(1)**, 451.

7. Srivastava, P., Dey, A., Habtzghi, D and Frankwick, G. L. (2012). NPD Project portfolio, environment, and performance," (Peer reviwed proceeding, Association of Collegiate Marketing Educators' 39th Annual Conference, New Orleans, LA, March 2, 2012.

8. Meyer, M. C. and Habtzghi, D. (2011). Nonparametric estimation of density and hazard rate functions with shape restrictions. *Journal of Nonparametric Statistics*, **23(2),** 455-470.

9. Meyer, M.C. and Habtzghi, D. (2010). Estimation of Hazard Functions with Shape Restrictions using Regression Splines, *Nonparametric Statistics and Mixture Models: A Festschrift in Honor of Thomas P. Hettmansperger*, pp 252-266. Editors Donald Richards, James L. Rosenberger, and David Hunter.

10. Tekeste, M., Habtzghi, D. H., and Stroosnijder, L. (2007). Soil strength assessment using threshold probability approach on soils from three agro-ecological zones in Eritrea. *Biosystems Engineering*, **98(4),** 470-478.

11. Bhattacharya, B., and Habtzghi, D. (2002). Median of the p value under the alternative hypothesis. *The American Statistician*, **56(3),** 202-206.

B) Non Refereed Publications

12. Habtzghi, D., Midha, C. and Das, A. (2010). Model based confidence interval for binomial proportion, section on Nonparametric Statistics, Proceedings Joint Statistical Meetings 4546-4559.

C) Under Review

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13. Habtzghi, D. and Borowiak, D. (2012). Nonparametric Estimation of Optimal Retention for Reinsurance under Tail Risk Criterion, under review.

14. Srivastava, P., Dey, A., Habtzghi, D and Frankwick, G. L. (2012). The effect of radical innovation mix on new product development program performance, under review.

D) In Progress (*indicates student collaborator)

15. Habtzghi, D, Stefanove, D, Midha, C and Das (2013). Cancer Mortality US 1999-2010: A review and Inter-state Comparisons, under review.

16. Habtzghi, D. and Einsporn. R. (2013). R package for *correlated means in the presence of incomplete data, under preparation*.

17. Embaye, A. and Habtzghi, D. (2014). Estimation of household gasoline demand using shape restricted regression, under preparation.

18. Habtzghi, D. and Datta, S. (2012). Estimation of hazard rate function in the presence of dependent censoring via the IPCW approach, under preparation.

19. Habtzghi, D and Midha, C. (2014). Estimation of Mean Residual Life using a shape restricted regression, under preparation**.**

20. Habtzghi, D., Anim-Koranteng*, E. and Srivastava, P. (2014). Analyzing performance of New Product Development via Desirability, under preparation.

21. Habtzghi, D. and Russo*, A. (2013). Statistical Method to find the top NBA Player from 1979 to 2011, under preparation.

22. Park, J. H. and Habtzghi, D. (2012). Nonlinear regression model by central mean subspace and shape restriction, under preparation.

23. Fridline, M. and Habtzghi, D. (2012). Construction of confidence interval for binomial proportion using ASCLT, under preparation.

24. Tekeste,M., Habtzghi, D. and Koolen, A. (2013). A Sensitivity analysis of Critical State Soil Parameters For Unsaturated Soil Conditions, under preparation.

25. Datta, S and Habtzghi, D. (2013). Distribution-free detection of differential gene expression, under preparation.

E. Grants

1. PI, A Framework to Enable Near-Real-Time Operation of Probabilistic Models joint with N& R engineering company (March, 2013) Resubmitted to US. Army Research Grant, status of the project under review. Rejected and will be resubmitted

2. PI, Surviving Sustained Attention (July, 2013) joint with P. Allen from Psychology Department and W. Ahmed from Educational Foundations & Leadership submitted to Spencer Foundation, status of the project under review.

3. Co-PI, Clinical Utility of Neural Tissue Deformation Assessment in Chiari Malformation (Nov, 2014) joint with Martin, B., Luciano, M., Loth, F., Lowe, M. and Sakai, K. R15 NIH, status of the project under review.

BOOK REVIEWS:

Pre-calculus and college algebra, First Edition, by Ghidei Zedingle, Adulis printing press, , Asmara, Eritrea, 1998. Prepared solution for the manuscripts for Pre-calculus and college algebra.

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PRESENTATIONS:

Invited

1. Comparing correlated means in the presence of incomplete data using a Permutation test, 2nd International Conference and Exhibition on Biometrics & Biostatistics, Chicago, Il, June 10-12, 2013.

2. One sample goodness of fit tests under shape restricted alternative, the University of Louisville, Louisville, KY, March 2012.

3. Model base confidence interval for binomial proportion, Department of Mathematics, Charleston College, Charleston, SC, November, 2010.

4. Goodness of Fit Tests for Hazard Function under Shape Restrictions, Thirteenth Meeting of New Researchers in Statistics and Probability (NRC 2010), University of British Columbia, BC, Canada, July 2010.

5. Estimation of Hazard Rate Function under Shape Restrictions, Central Michigan University, MI, February 2008.

6. Introduction to Shape Restricted Regression, Georgia College and State University, November 2007.

7. Estimation of Hazard Rate Function under Shape Restrictions, MAA Southeastern Sectional Meeting, Georgia Southern University, Statesboro, GA, March, 2007.

8. Estimation of Hazard Rate Function under Shape Restrictions, Department of Biostatistics, ,University of Alabama, Birmingham, Al, June 2007.

9. Estimation of Hazard Rate Function under Shape Restrictions, Department of Mathematics, Georgia College and State University, Milledgeville, GA, March 2006.

Contributed

10. Poster presentation on Nonparametric estimation of optimal retention for reinsurance under tail Risk criterion, (JSM), Montreal, CA, August 4-8, 2013.

11. Nonparametric Estimation of Hazard function in the presence of dependent censoring (JSM), San Diego, CA, August 2012.

12. One sample goodness of fit tests under shape restricted alternative when the censoring time and failure time are independent, The University of Akron, Feb 2012.

13. Nonparametric Estimation of Linear Regression, Joint Statistical Meeting (JSM), Miami, FL, August 2011.

14. Model based confidence Intervals for binomial proportion.   Joint Statistical Meeting (JSM), Vancouver, BC, Canada, August 2010.

15. Goodness of Fit Tests for Hazard Function under Shape Restrictions, Joint Statistical Meeting (JSM), Washington, DC, August 2009.

16. Testing for Shape Restricted Functions, Eastern North American Region/International Biometric (ENAR), Arlington, VA, March 2008.

17. Estimation of Hazard Rate Function under Shape Restrictions, Joint Statistical Meeting (JSM), Seattle, WA, August 2006.

18. Graduate Student Seminar on 'Nonparametric Maximum Likelihood Estimation of Hazard Rate Function under Shape Restrictions ', The University of Georgia, Athens, GA, November 2005.

19. Poster presentation on "Nonparametric Maximum Likelihood Estimation of Hazard Rate Function under Shape Restrictions " At SRCOS Annual Research Conference in Statistics, Clemson, SC, June 2005.

20. P-values as Random Variables: Expected and Median P-values, Joint Statistical Meeting (JSM), Minneapolis, MN, August 2005.

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TEACHING EXPERIENCE
- **Department of Statistics, The University of Akron**

Stat 450/550, Probability , Fall 2014.
Stat 260,   Basic Statistics, Fall 2014.

Stat 667,   Nonparametric statistics, Summer 2014.
Stat 461/561, Applied Statistics, Summer 2014.

Stat 689,   Advanced Statistical Computing , Spring 2014.
Stat 260, Basic Statistics, Spring 2014.

Stat 689,   Capstone Course , Fall 2013.
Stat 450/550, Probability , Fall 2013.
Stat 260, Basic Statistics, Fall 2013.
Stat 670, Indv. Reading Statistics, Fall 2013.
Stat 692, Statistics Masters Paper, Fall 2013.
Stat 666, Nonparametric Statistics, Spring 2013.

Stat 260, Basic Statistics, Spring 2013.
Stat 692, Statistics Masters Paper, Spring 2013.
Stat 689,   Capstone Course, Fall 2012.
Stat 450/550, Probability, Fall 2012.
Stat 260, Basic Statistics, Fall 2012.
Stat 692, Statistics Masters Paper, Fall 2012.
Stat 450/550, Probability, Summer 2012.
Stat 250, Statistics for Everyday Life, Summer 2012.
Stat 401, Theoretical Statistics II, Spring 2012.
Stat 250, Statistics for Everyday Life, Spring 2012.
Stat 692, Statistics Masters Paper, Spring 2012.
Stat 689,   Capstone Course, Fall 2011.
Stat 401, Statistics and probability for Engineers, Fall 2011.
Stat 250, Statistics for Everyday Life, Fall 2011.
Stat 692, Statistics Masters Paper, Fall 2011.
Stat 689, Survival Analysis, Spring 2011
Stat 692, Statistics Masters Paper, Spring 2011.
Stat 689, Advanced Statistical Computing, Fall 2010.
Stat 401, Statistics and probability for Engineers, Fall 2010.
Stat 250, Statistics for Everyday Life (2 sections), Fall 2010.
Stat 692, Statistics Masters Paper, Fall 2010.
Stat 250, Statistics for Everyday Life, Summer 2010.
Stat 481/581, Applied Statistics, Summer 2010.
Stat 670, Biostatistics, Spring 2010.
Stat 401, Statistics and probability for Engineers, Spring 2010.
Stat 250, Statistics for Everyday Life, Spring 2010.
Stat 692, Statistics Masters Paper, Spring 2010.

Stat 250, Statistics for Everyday Life (2 sections), Fall 2009.
Stat 692, Statistics Masters Paper, Fall 2009.
Stat 666, Nonparametric Statistical Methods, Summer 2009.
Stat 250, Statistics for Everyday Life, Spring 2009.
Stat 260, Basic Statistics, Spring 2009.
Stat 689/589, Advanced Statistical Computing, Spring 2009.
Stat 250, Statistics for Everyday Life, Fall 2008.
Stat 689, Survival Analysis, Fall 2008

- **Georgia College and State University**

Math 2600, Statistics and Probability (2 sections), Summer 2008.
Math 2600, Statistics and Probability (2 sections), Spring 2008.
Math 1261 Calculus I, Spring 2008.
Math 2600, Statistics and Probability (2 sections), Fall 2007.
Math 1261, Calculus I (2 sections),   Fall 2007.
Math 4999, Undergraduate research, Spring 2007.
Math 5620/4620, Mathematical Statistics II, Spring 2007.
Math 2600, Statistics and Probability (2 sections), Spring 2007.

Math 5600/4600, Mathematical Statistics I, Fall 2006.
Math 2600, Statistics and Probability (2 sections), Fall 2006.

- **The University of Georgia**

    Stat 6230/4230 Applied Regression Analysis, Summer 2005.
    Stat 6230/4230 Applied Regression Analysis, Spring 2005.
    Stat 6230/4230 Applied Regression Analysis, Summer 2006.
    Stat 4210, Statistical Methods I, Spring 2004.

- **Southern Illinois University**
    Math 113 Intro Contemporary mathematics, Fall 2000.

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MASTER'S THESIS OR PAPERS DIRECTED:

A) Advisor: Masters Degree Paper

1. **Pradeep Sharma (Spring 2009),** Analyzing Time Series Data using Shape Restricted Regression.

2. **Samikisha Gupta (Spring 2010),** Statistical Quality Control for the Six Sigma.

3. **Whitney K. Hunag (Summer 2010),** Markov Chain Monte Carlo in Practice.

4. **Alniemi,Fearase A** (**Fall 2010),** Interval Estimation for a Binomial Proportion and Comparison of Several Methods.

5. **Guo, Yun (Fall 2010),** A Random Coefficients Model for Longitudinal Gaussian Data.

6. **En, Rong (Spring 2011),** Linear Mixed Model and its Application in Clinical Trials.

7. **Wilhem Gyassah (Spring 2011),** Analysis of Cluster and Correlated Data.

8. **Wen Zhang (Spring 2011),** Customer Lifetime Analysis using Cox Proportional Hazard Model.

9. **You, Bin (Summer 2011),** Meta Analysis of different Studies.

10. **Guo, Na (Fall 2011),** Devising a prediction model using the surgeon's estimate and characteristics of the surgical team, the operation room and the patient situation.

11. **Vittesh, Sahni (Spring 2012),** Analysis of multivariate data using principal component, factor analysis and dimension reduction.

12. **Enoch, Anim-Koranteng (Fall 2012),** Analysis of new product development program performance using desirability method.

13. **Leandro Venturina (Spring 2013),** Estimation of tests reliability.

14. **Nicholas Larson (Fall 2013),** Most commonly used algorithms in data mining.

15. **Collins Agyekum (Spring 2014)**, Application of data mining techniques in healthcare data.

16. **Emma Gunu (Spring 2014)**, Application of generalized linear model in e-commerce field.

17. **Michael McGrievy (Fall 2014)**, The Expectation Maximization Algorithm.

18. **Hassan Alsuhabi (Expected completion, Spring 2014)**, Inverse Probability and Corrosion

19. **David Kuhajda (Expected completion, Spring 2014)**, Failure analysis and how to perform

    some predictions of the time for future failures and estimate probability of failures as time moves

    forward and the anesthesia machines get older.

20. **Hang Zhu (Expected completion, Spring 2014)**, Data Mining using R- Packages.

B) Faculty Reader: Masters paper reader,   for the following 15 students:
1.Gurpreet Kohli, **2**. Tasha . L Preissler, **3**. Rochack Vig, **4**. Guang Sun, **5**. Zachary Legg, **6**. Fangyuan Zuo, **7**. Hongyan Chen, **8**. Megan Mellinger, **9**. Brandon Rodgers, **10**. Nicole Knapp, **11**. Adam Russo, **12**. Daniel Beyn, **13**. Kristin Yeager, **14**. Hera Kamali ,**15**. Mahider Mosissa Kitil, Peng Liu, **16**. Ya Qian Lin and **17**. Steven Metzger

C) Ph.D. Dissertation Committee Member
1.Danielle Shaw, Sociology (Expected , Spring 2015).
2. Arthur Godwin, Civil Engineering (Dec, 2014).
3. Abdisa Musa, Civil Engineering (Dec, 2014)
4. Flix Blebo, Civil Engineering (Expected, Spring, 2015)

- **Georgia College and State University**

  Brandon Walker and Thomas Lewis, undergraduate students
  Topic: Fitting Exponentiated Weibull distribution and generating samples using lower level languages such as C++.

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STATISTICAL CONSULTANT:

1. June-August 2013, Michael Shott, An Analysis and Application of the Size Distribution of Waste Flakes from the Manufacture of Bifacial Stone Tools. Responsibility: Formulate Statistical model using R and explain analyses.

2. November 2011, Seng Tan, Juay, Cumulative Multiple Freeze-Thaw Cycles and Testing Does Not Affect Subsequent Within Day Variation in Intervertebral Flexibility of Human Cadaveric Lumbosacral Spine. Responsibility: Formulate Statistical model using SAS and explain analyses.

3. October 2010- Decmber 2010, Asoke Dey and Debmalya Mukherjee Buyer -supplier partnership quality and firm performance: moderating role of risks, and environmental uncertainty. Responsibility: Formulate Statistical model using SPSS, explain analyses and write report for the statistics section of their project.

4. Jan 2010- Feb 2010, Jennifer Deck Bibevski, DVM, Ohio Veterinary Surgery and Neurology Metropolitan Veterinary Hospital. Project: A prospective study of computed tomography as the primary diagnostic modality in chondrodystrophic breeds presenting with acute neurologic signs. Responsibility: Formulate Statistical model using SAS and explain analyses.

5. February 2003-May 2003, Dr. Brewis, Alexandra , Department of Anthropology, University of Georgia. Project How does Marriage Pattern Affect the Life Course Trajectory of Coital Rate? Responsibility: Formulate Statistical model using SAS, explain analyses and write a report.

6. May 2001, PhD student in Agricultural Engineering. Acoustic Compaction Layer Detection. Responsibility: Formulate Statistical model using Matlab and Maple, and explain analyses.

7. May 1997- August 1997, UNICEF, Eritrea. Project: Schools rehabilitation and curricula development. Responsibility: Tabulation and data analysis.

8. May 1995-Aug 1995, Office of the President of University of Asmara, Asmara, Eritrea. Responsibility: Tabulation planning, data analysis and administer tabulators.

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PROFESSIONAL SERVICE:

   a) **Referee for:**
   - Journal of Applied Statistics
   - Lifetime Data Analysis
   - Journal of Applied Probability and Statistics
   - Journal of Data Science
   - Communications in Statistics - Simulation and Computation

   b) **Conference Sessions Chaired**

- Chaired a session titled " Computational Issues in Survival Models, Biology, and Medicine" Section on Statistical Computing **,** at Joint Statistical Meetings (JSM), San Diego, CA, July 2012.
- Chaired a session titled " Bootstrapping, Resampling, and Ranking"

  Section on Statistical Learning and Data Mining , JSM, San Diego, CA, August 2012.
- Chaired a session titled 'Time to Event Data Analysis', at Thirteenth Meeting of New Researchers in Statistics and Probability (NRC 2010), University of British Columbia, BC, Canada, July 2010.

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INSTITUTIONAL SERVICE:
Current Institution:
- Search Committee for Biostatistics positions, 2010-2011, 2012-2013, University of Akron.
- Program Review Committee, Department of Statistics 2010, University of Akron.
- Consulting Committee, Department of Statistics, 2009- present, University of Akron.
- Department of Statistics Technology Committee, 2009-present
- Department of Statistics Assessment Committee, 2009-present
- Participated in two commencement graduation ceremony events (Fall 2008, Summer 2011).

Previous Institutions:

- Sara Nelson Scholarship Committee, fall 2006 –2008, Georgia College and State University.
- Georgia College and State University Men Soccer club faculty advisor, fall 2007—2008.
- 2003-2005, private tutor for different statistics courses at private owned tutorial service .
- May 2004 Volunteer for the IISA (*International Indian Statistical Association*) Conference, Athens, GA.
- 1997-1999, Staff member, graduate assistant and student advisor, Department of statistics, University of Asmara, Eritrea.

Community Service
- Serve as volunteer coordinator, responsible for translating English books to Tigrinya (Eritrean official language).
- Serve as volunteer once in every month on Saturday at the Salvation Army Harbor Light Complex, Cleveland, service involves helping the Chef with preparing and serving lunch to people who live at the Salvation Army Harbor Light Complex.

RESEARCH INTERESTS:

- Survival analysis, Biostatistics, Constrained regression, Statistical Inferences (nonparametric and parametric), Clustered/Correlated data, Statistical computing, Mixed models, and also their Applications to problems in Biomedical Sciences and Behavioral Sciences.

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COMPUTER PROFICIENCY:
- Familiar with Minitab, Latex, Maple, JMP, and Mathematica
- Excellent large data management skills using SAS, S-plus, Matlab and SPSS

- Knowledgeable in the programming of C/C++, Java and Pascal
- Utilized Fortran 90 and R extensively.
- Platform Sun Solaris, Hp-Ux, IBM mainframe, Linux, and Ms-windows.

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TEACHING INTERESTS:

- Courses in Biostatistics, Statistics, Statistical Computing and Mathematics.

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PROFESSIONAL MEMBERSHIP:

- IMS (Institute of Mathematical Statistics)
- ASA (American Statistical Association)
- American Statistical Association – Cleveland Chapter
- American Mathematical Society (1999-2002)
- Member, Kappa Mu Epsilon, National Mathematics Honor Society, inducted, 2007

PERSONAL:

Hobbies: Soccer, cycling, Table Tennis and Running.
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REFERENCES:

Somnath Datta, Professor & Vice Chair. Department of Bioinformatics and Biostatistics, University of Louisville, Louisville, KY, 40292. http://louisville.edu/~s0datt03/ somnath.datta@louisville.edu, (502)-852-6376 (O).

Mary Meyer, Professor, Department of Statistics, *Colorado State University, Fort Collins, CO 80523,*meyer@stat.colostate.edu , 970-491-5762(O).

Lila Roberts, Professor and dean. College of Information and Mathematical Sciences, Clayton State University, Marrow, GA, 30260, lilaroberts@clayton.edu , (678) 466-4400 (O).

John Stufken, Charles Wexler Professor in Statistics, School of Mathematical and Statistical Sciences , Arizona State University, Tempe, AZ 85287, jstufken@asu.edu , 706-542-8218 (O).