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## EDUCATION

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- A.B., Harvard College** 1989  
*Cambridge, MA*  
Major: Mathematics  
Senior Honors Thesis: "Penrose Tiling of the Plane"
- M.S., University of North Carolina at Chapel Hill** 1991  
*Chapel Hill, NC*  
Major: Biostatistics  
Masters Theses: "Likelihood Estimation of Genetic Linkage"
- Ph.D., University of North Carolina at Chapel Hill** 1996  
*Chapel Hill, NC*  
Major: Biostatistics  
Title of Dissertation: "Power for a Generalization of the General Linear Multivariate Model Allowing for both Fixed and Random Predictors"
- Postdoc, Agency for Health Care Policy and Research** Sept 1996-June 1998  
*Piscataway, NJ*  
Robert Wood Johnson Medical School  
University of Medicine and Dentistry of New Jersey  
Grant Number T32HS00058-04

## ACADEMIC APPOINTMENTS

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- University of North Carolina at Chapel Hill, Chapel Hill, NC** 1990  
**Teaching Assistant**
- Taught weekly lab session
  - Presented two lectures for the main class
  - Provided review sections and homework assistance
  - Prepared grading keys and coordinated grading

- University of North Carolina at Chapel Hill, *Chapel Hill, NC*** 1990-1991  
**Graduate Research Assistant**
- Performed linkage analysis and managed pedigree data for the Genetic Markers for Hypercholesterolemia Study: Sandoz Pharmaceuticals
- University of North Carolina at Chapel Hill, *Chapel Hill, NC*** 1992-1994  
**Trainee and Graduate Research Assistant**
- Public Health Service Training Grant in Environmental Biostatistics
- University of North Carolina at Chapel Hill, *Chapel Hill, NC*** 1994-1996  
**Graduate Research Assistant**
- Medical Imaging Project (NCI/NIH P01)
  - Analyzed studies on mammographic image processing methods for improving breast cancer detection
  - Responsible for study design, power analysis, data analysis, graphics preparation, research data management, archiving, and writing papers
- University of Medicine and Dentistry of New Jersey, *Piscataway, NJ*** 1996-1998  
**Post-Doctoral Fellow, Robert Wood Johnson Medical School**
- Fellowship in Health Services Research Agency for Health Care Policy and Research
  - Grant Number T32HS00058-04
- University of Colorado, *Denver, CO*** 1999-2008  
**Assistant Professor, Department of Preventative Medicine and Biometrics**  
 Division of Biometrics  
 University of Colorado School of Medicine  
 University of Colorado Health Sciences Center
- Principal investigator of four NIH funded grants on power and sample size methods for cancer screening, bias correction for cancer screening, software for power and sample size selection, and oral cancer screening.
- University of Colorado, *Denver, CO*** 2008-2010  
**Assistant Professor, Department of Biostatistics and Informatics**
- University of Colorado, *Denver, CO*** 2010-2018  
**Associate Professor (tenured), Department of Biostatistics and Informatics**  
 Colorado School of Public Health
- University of Colorado, *Denver, CO*** 2014-2016  
**Associate Professor (secondary appointment), Department of Radiology**
- University of Colorado, *Denver, CO*** 2015-2018  
**Academic Leadership Council Member, Center for Bioethics and Humanities**
- University of Colorado School of Medicine** 2018-2019  
**Visiting Professor, Department of Pediatrics**

**University of Colorado School of Medicine**  
**Professor (tenured), Department of Pediatrics**

2019-present

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## PROFESSIONAL POSITIONS

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**Phillips Academy, Andover, MA** 1988

**Instructor, Math and Science for Minorities**

- Taught algebra and calculus to high school students

**AT&T Headquarters, Basking Ridge, NJ** 1990-1991

**Statistical Consultant (summer intern)**

- Worked on strategies for marketing PRO WATTS
- Modeled demand for business long distance based on size and type of company
- Analyzed 800 services customer satisfaction surveys

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## HONORS AND AWARDS

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**Joseph E. Pogue Fellowship** 1989

*University of North Carolina at Chapel Hill*

The fellowship is one of a group of privately funded named University Fellowships offered to exceptional new graduate doctoral students. The Pogue Fellowship offers mentoring by senior faculty, interdisciplinary learning and leadership development opportunities.

**Excellence in Faculty Mentoring Award** 2008

*Colorado School of Public Health*

In recognition of outstanding commitment to student learning and professional development through advising and mentoring that have clearly contributed to the outstanding development of a Colorado School of Public Health Graduate.

**Dean's Mentoring Award**

*University of Colorado Denver Graduate School*

2013

This award recognizes and honors excellence in mentoring by the graduate faculty.

**Faculty Excellence in Teaching Award**

2016

*Colorado School of Public Health*

This award recognizes excellence in teaching by the faculty of the School of Public Health.

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## MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

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**American Statistical Association, 1993-2001**

Member

**American Society of Preventive Oncology, 2006-Present**

Member

**Program Committee of the American Society of Preventive Oncology, 2007-2015**

Member

**Executive Committee American Society of Preventive Oncology, 2014-2016**

Member

**Executive Committee American Society of Preventive Oncology, 2014-2016**

Member

## **MAJOR COMMITTEE AND SERVICE RESPONSIBILITIES**

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### **Department of Preventive Medicine and Biometrics**

- (2007-2011) Admissions and Faculty Affairs Committee for Biometrics
- (2007-2008) Organized recruiting for Masters and Ph.D. program in Biostatistics
- (2008-2009) Coordinator of first year theory exam for comprehensive exams
- (2008) Mentor John Brinton in consulting class (spring semester)

### **Colorado School of Public Health Faculty Affairs Committee**

- (2007-2008) Responsible for drafting the School of Public Health Faculty Handbook

### **Department of Biostatistics, Colorado School of Public Health**

- (2016-2017) Department of Biostatistics Admission Committee
- (2016-2018) Departmental Appointments and Promotions Committee

### **Colorado School of Public Health**

- (2008-2010) School of Public Health Scholarship and Awards Committee
- (2009-2013) Faculty Council Member
- (2013-2015) Research Committee

### **School of Medicine**

- (2005-2008) Senator, School of Medicine Faculty Senate
- (2006) School of Medicine Women in Medicine Committee
- (2013-2016) Research Committee Department of Radiology

### **University**

- (2007) Faculty Council Women's Committee
- (2008-2009) Colorado School of Public Health representative on Women's Issues
- (2009) Ad-Hoc Honor Code Committee
- (2016) Graduate school committee to select best faculty mentoring award
- (2016) Graduate school committee to select best dissertation
- (2016-2017) Search committee for Director of Research, Center for Bio-ethics and humanities
- (2015-2018) Academic Leadership Council Center for Bioethics and Humanity, University of Colorado Denver
- (2016-2018) University of Colorado Research & Creative IT Governance Committee

## National

- (1998) Organizer: American Statistical Association Section on Statistical Consulting. Invited Paper Session: Practical Power Analyses for Statistical Consulting. Speakers were Jonathan Shuster, Ralph O'Brien, Guanghan Liu, and Deborah Glueck. American Statistical Association, Joint Statistical Meetings, August, 1998
- (2008) American Society of Preventive Oncology. Co-Organizer (with Mira Katz, Ph.D., MPH): Career Development Session for Junior Faculty, Junior Researchers and Trainees. "It's All About Grants", covering top 10 tips for writing a successful grant proposal, writing successful career awards (with examples), and interdisciplinary collaboration: opportunities and challenges. American Society of Preventive Oncology. March 17, 2008
- (2008) American Society of Preventive Oncology. Co-Organizer (with Mary Reid, Ph.D.): Symposium- Lessons from Three Diseases: What Evidence is Needed for Guidelines? Speakers Debbie Saslow, American Cancer Society, Tim Byers, UCHSC, Claudia Henschke, Cornell, Peter Lance, University of Arizona. March 17, 2008
- (2008) Session Chair: Session 520. Joint Statistical Meetings. American Statistical Association. Denver, CO. July 8, 2008
- (2009) American Society of Preventive Oncology. Co-Organizer (with Shannon Lemrow, Shagufta Yasmeen, Michael Sheurer, Brenda Birman) NCI Cancer Prevention and Control Workshop. Moderator: Financing your research career: obtaining money from all types of sources. Mary Reid and Ed Trapido, speakers. 2009
- (2009) American Society of Preventive Oncology. Moderator: Advice on overcoming the challenges of institutional policy, NIH policy, and receiving good career advice and mentoring. Steve Taplin, Jonathan Wiest, and Keith Muller, speakers
- (2010) American Society of Preventive Oncology. Organizer and Discussant: Symposium. Oral Cancer Screening. Speakers Henrietta Logan, University of Florida, and Mark Lingen, University of Chicago, Speakers. Bethesda North Hotel Bethesda, Maryland. March 21-23, 2010
- (2011) American Society of Preventive Oncology. Chair: Screening Interest Group Breakfast, with Speakers Christine Berg, MD, National Cancer Institute, "The National Lung Screening Trial: Initial Results and What Next?", Erin Kobetz, PhD, MPH, University of Miami, "Disparities in Breast Cancer Screening: One Size Does Not Fit All" Andrea Burnett-Hartman, PhD, MPH, Fred Hutchinson Cancer Research Center, "Sigmoidoscopy and Colonoscopy are Inversely Associated with Both Left- and Right-sided Advanced Adenomas"
- (2011) Co-Organizer, with Polly Newcomb. American Society of Preventive Oncology Symposium: Cancer Screening through the Lifecourse: When and How Often – the Example of Colon Cancer, Wendy Atkin, MPH, PhD, Imperial College London, "Flexible Sigmoidoscopy Screening for Colorectal Cancer – Results of the UK Randomized Trial." Christine Berg, MD, National Cancer Institute, "Colorectal Cancer Screening: The PLCO and a Brief Discussion on Virtual Colonography and

Radiation Risk.” Al Neugut, MD, PhD, Columbia University, “Colonoscopy vs. Sigmoidoscopy: Getting it Right”

- (2013) Faculty: New Investigators Workshop. American Society of Preventive Oncology
- (2014) Faculty New Investigators Workshop. American Society of Preventive Oncology.
- (2014-2016) Co-chair: Screening Interest Group American Society of Preventive Oncology
- (2015) Reviewer for the American Society of Preventive Oncology of the American Cancer Society Guidelines for Breast Cancer Screening
- (2015) Faculty: New Investigators Workshop. American Society of Preventive Oncology
- (2016) Faculty: New Investigators Workshop. American Society of Preventive Oncology
- (2017) Faculty: New Investigators Workshop. American Society of Preventive Oncology. Presenter: American Society of Preventive Oncology Junior Members Career Development Seminar. A Roadmap to Academic and Research Environments: Identifying and Choosing the Best Fit for Your Career Goals. Organizers: Scherezade Mama and Maria C. Swartz
- (2018) Faculty: New Investigators Workshop. American Society of Preventive Oncology.
- (2019) Faculty: New Investigators Workshop. American Society of Preventive Oncology.
- (2020) Director: New Investigators Workshop. American Society of Preventive Oncology.

### **Community Service**

- (2013-present) Outdoor Emergency Care technician and National Ski Patrol member, Bryan Mountain Ski Patrol, Devil’s Thumb Ranch Resort, Tabernash, Colorado and riding medic for Pedal the Plains and Ride the Rockies

### **REVIEW AND REFEREE WORK**

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#### **Peer Journal Review:**

- (2007) Biometrics: Book Reviewer
- (2007) Academic Radiology: Reviewer
- (2007) Annals of Behavioral Medicine: Reviewer
- (2008) Communications in Statistics, Theory and Methods: Reviewer
- (2008) The International Journal of Biostatistics: Reviewer
- (2008) The American Statistician: Reviewer
- (2008) Medical Decision Making: Reviewer
- (2008) Annals of Behavioral Medicine: Reviewer
- (2012-2014) BMC Medical Research Methodology: Associate Editor
- (2019-2020) Diabetologia: Statistics Reviewer

### **Grant Review: National Institutes of Health Study Section**

- (2008) Ad Hoc Reviewer: Subcommittee J- Population and Patient-Oriented Training, National Cancer Institute Initial Review Group. Bethesda, Maryland. February 13, 2008. June 27, 2008
- (2015-2016) Ad Hoc Reviewer: Cancer, Heart, and Sleep Epidemiology Study Section B October 2015, February 2016, October 2016
- (2017) Ad Hoc reviewer: BCHI Study Section, February 2017
- (2017-2023) Member, Biomedical Computing and Health Informatics Study Section, Center for Scientific Review, National Institutes of Health, July 1, 2017-June 30, 2023
- (2020) Ad hoc member and interim chair, NIH ZDK1 GRB-K M1 1, the Consortium for the Study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer Clinical Centers Special Emphasis Panel Meeting, CPDPC,4/2/2020.
- (2020) Ad hoc member, NIH IRAP (Infectious, Reproductive, Asthma and Pulmonary Conditions) study section, 11/5/2020-11/6/2020.

### **INVITED EXTRAMURAL LECTURES**

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#### **Invited Extramural Lectures: Local**

1. Bodkin AW, Carollo JJ, **Glueck DH**. Home-based treadmill training in ambulatory children with cerebral palsy: A randomized controlled trial. 19<sup>th</sup> Annual Jerome W. Gersten MD Memorial Lectureship. University of Colorado School of Medicine Department of Physical Medicine and Rehabilitation. Denver, Colorado. June 16 (2006).
2. Brinton JT, Freivogel M, Barke L, Jackson S, O'Donnell CI, **Glueck DH**. "Women Are Rarely Screened in Accordance with American Cancer Society Guidelines: Only One in Six Women at High Risk for Breast Cancer Get an MRI as an Adjunct to Mammography". Public Health Exchange. School of Public Health, University of Colorado, Aurora, CO. September 6, 2013.
3. **Glueck DH**. Careers in Biostatistics. Women in Science Technology Engineering and Math Careers Luncheon. East High School. Denver, Colorado. May 7, 2015.
4. Shaw JR, Muller KE, Ritzhaupt AD, **Glueck DH**. Writing the sample size section for your proposal. Invited lecture. Epidemiology 7912: Grant Writing. Colorado School of Public Health. October 22, 2018, Aurora, Colorado.

#### **Invited Extramural Lectures: Regional**

1. **Glueck DH**. Confidence intervals for multivariate power. Invited Seminar. Air Force Academy, October 19 (2000).

2. **Glueck DH**, Muller KE, Karimpour-Fard A, and Hunter L. Exact power under independence for the false discovery rate in gene expression array experiments. Invited Talk. Graybill Conference on Microarrays, Bioinformatics and Related Topics, June 18-20 (2003).  
<http://www.stat.colostate.edu/graybillconference2003/Speakers.html>
3. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. Department of Statistics, Colorado State University. Fort Collins, Colorado. October 28 (2008).
4. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. Colorado/Wyoming American Statistical Association Chapter, Boulder, Colorado. April 24 (2009).
5. Kreidler SM, Sakhadeo UR, Akula VC, Ringham BM, Muller KE, **Glueck DH.** Using the Java web services architecture to select sample size for biomedical studies. Invited lecture. Department of Computer Science. University of Denver. Denver, Colorado. April 27, 2012.

#### **Invited Extramural Lecture: National**

1. **Glueck DH**, Muller KE, Karimpour-Fard, A, and Hunter, L. Exact power under independence for the false discovery rate in gene expression array experiments. Invited Talk. Biostatistics-Epidemiology Seminar Series. Dartmouth-Hitchcock Medical Center, July 2 (2003).
2. **Glueck DH**, Lamb MM, Lewin JM and Muller KE. Why two mammograms may be better than one: The science and the statistics. Invited lecture. Division of Biostatistics, Department of Epidemiology and Health Policy Research, University of Florida. Gainesville, Florida. March 12 (2008).
3. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. National Cancer Institute, Bethesda, Maryland. November 3 (2008).
4. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. Moffitt Cancer Center, Tampa, Florida. March 10 (2009).
5. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. University of Florida, Gainesville, Florida. March 12 (2009).
6. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. University of Arizona, Tucson, Arizona. March 25 (2009).

7. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. University of California San Francisco. Biostatistics Seminar Series. October 28 (2009).
8. **Glueck DH.** Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality. Invited lecture. Stanford University. October 2009 Meeting of the San Francisco Bay Area Chapter of the American Statistical Association (ASA). October 29 (2009).
9. **Glueck DH,** Brinton JT, Kreidler SM, Ringham BM, Hendrick RE, Muller KE. “Getting the Team across the Finish Line: Mentored Research in Cancer Biostatistics.” Maximizing Access to Research Careers (MARC) Program. University of Arizona. Tucson, Arizona, April 28, 2014.
10. **Glueck DH,** Kreidler SM, Ringham BM, Munjal A, Muller KE. Selecting a Valid Sample Size for Longitudinal and Multilevel Studies in Cancer Research: Software and Methods. Tucson, Arizona, April 28, 2014.
11. Ringham BM, Kreidler SM, Muller KM, **Glueck DH.** Approximating power for multilevel and longitudinal studies with missing data. Joint Statistical Meetings (JSM). Boston, Massachusetts. August 4, 2014.
12. **Glueck DH,** Kreidler SM, Ringham BM, Munjal A, Muller KE. Selecting a Valid Sample Size for Longitudinal and Multilevel Studies in Cancer Research: Software and Methods. University of New Mexico Cancer Center, Albuquerque, New Mexico, April 7, 2015.

### **Invited Extramural Lecture: International**

1. **Glueck DH.** Penrose tilings of the plane. Invited lecture. Japan-America Mathematical Society Seminar. Komagane, Japan. Summer (1989).
2. Ringham BM, Alonzo TA, Brinton JT, Muller KE, **Glueck DH.** Reducing decision errors in the paired comparison of the diagnostic accuracy of continuous screening tests. Radiation Effects Research Foundation. Invited lecture. Hiroshima, Japan. September 2012.

### **PRESENTATIONS**

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#### **Competitive National Presentations**

1. **Glueck DH,** Lamb MM, Lewin JM, Pisano, ED. [Two-modality mammography may confer an advantage over either full-field digital mammography or screen-film mammography.](#) Competitive Podium Presentation. American Society of Preventive Oncology. Houston, Texas. March 2-4 (2007).

2. Thams M and **Glueck DH**. [Business needs and graduate school offerings in marketing](#). Podium presentation, Marketing Educators Association Meeting, Houston, Texas, April 26-28 (2007).
3. Brinton JT, Freivogel M, Barke L, Jackson S, **Glueck DH**. *Improving Compliance with American Cancer Society Recommendations for Breast Cancer Screening in Women at Elevated Lifetime Risk*. Presentation. New Investigators Workshop. American Society of Preventive Oncology. Washington, D.C. March 3-March 6 (2012).
4. Harrod CS, Crume T, Brinton JT, Reynolds R, Glueck D, Sheffield S, Buti A, Dabelea D. "[Maternal Smoking during Pregnancy and Neonatal Body Composition: The Healthy Start Study](#)". Platform Presentation, Pediatric Academic Societies Annual Meeting 2013, Washington, DC.
5. Dabelea D, Brinton JT, **Glueck DH**, Crume TL, Harrod C, Galan H, Kohn M. "[Gestational Weight Gain Is Associated with Increased Neonatal Fat Mass: The Healthy Start Study](#)". American Diabetes Association 72<sup>nd</sup> conference, 2012, Philadelphia.
6. Landsbaugh, J., Crume, T., Brinton, J., Buti, A and Dabelea D. "[The effects of gestational weight gain control on the relationship between maternal obesity and offspring outcomes: the EPOCH study](#)". American Diabetes Association 73rd Scientific Sessions, Chicago, IL, June 21st – 25th, 2013, Oral abstract 76-OR.
7. Harrod CS, Chasan-Taber L, Reynolds RM, Fingerlin TE, **Glueck DH**, Brinton JT, Dabelea D. "[Physical Activity during Pregnancy and Neonatal Fat Mass: The Healthy Start Study.](#)" *American Diabetes Association 2014*. San Francisco CA. 157-OR.
8. Brinton JT, Hendrick RE, Ringham BM, **Glueck DH**. "[Improving the Diagnostic Accuracy of a Stratified Screening Strategy by Identifying the Optimal Risk Cutoff. Concept, Theory, and Applications for Personalized Breast Cancer Screening](#)" *American Society of Preventive Oncology 2014*. Arlington, VA
9. Starling AP, Shapiro AL, Kaar J, Sauder KA, Crume T, **Glueck DH**, Ringham BM, Siega-Riz AM, Dabelea D. Diet quality during pregnancy and risk of gestational diabetes: the Healthy Start study. Poster presentation at the American Diabetes Association 75th Scientific Sessions, Boston, MA. June 5-9, 2015.
10. Sauder KA, Starling AP, Kaar JL, Shapiro AL, Ringham BM, **Glueck DH**, Dabelea D. Multivitamin supplementation during pregnancy and offspring adiposity: the Healthy Start study. Abstract publication at the American Diabetes Association 75th Scientific Sessions., Boston, MA. June 5-9, 2015.
11. Sauder KA, Starling AP, Shapiro AL, Ringham BM, **Glueck DH**, Leiferman J, Siega-Riz AM, Dabelea D. Multiple healthy behaviors and risk of prenatal dysglycemia: the

Healthy Start Study. Poster presentation at the American Diabetes Association 75th Scientific Sessions, Boston, MA. June 5-9, 2015.

12. Shapiro AL, Kaar J, Crume A, Starling AP, Ringham BM, **Glueck DH**, Siega-Riz AM, Dabelea D. Maternal diet quality and obesity in pregnancy jointly influence neonatal adiposity: The Healthy Start Study. Presentation at the American Society of Nutrition Scientific Sessions at Experimental Biology, Boston, MA. March 28-April 1, 2015.

### Contributed Peer-Reviewed National Presentations

1. **Glueck DH**, Muller KE. Contributed Poster. Sample size issues in measuring compliance with guidelines. Association for Health Services Research. June (1997).
2. **Glueck DH**, Muller KE and Poretz R. Contributed Paper. Power for the full model in every cell. Eastern North American Region of the International Biometric Society. March (1997).
3. **Glueck DH** and Muller KE. Contributed Paper. Unconditional power for a general linear model with fixed and random predictors: an example from a clinical trial on bone density. Eastern North American Region of the American Statistical Association. March (1996).
4. **Glueck DH** and Muller KE. Contributed Paper. Power for tests of Gaussian predictors in general linear multivariate models. American Statistical Association. Health Policy Statistics Section. International Conference on Health Policy Research. December 5-7 (1997).
5. **Glueck DH** and Muller KE. Contributed Paper. Confidence bounds for power in the general linear multivariate model. Eastern North American Region of the American Statistical Association. March (1998).
6. Zhang L, Webb T, **Glueck DH**, Baron A, Murphy J, Cagnoni P. Contributed Paper. Death and power: calculating sample size for trials where the treatment can be fatal. Eastern North American Region of the International Biometrics Society, March 19-22 (2000).
7. **Glueck DH**, Glueck CJ. Contributed Paper. Maternal and fetal heritable thrombophilia and their effect on first trimester miscarriages. Eastern North American Region of the International Biometrics Society, March 19-22 (2000).
8. Webb TS, **Glueck DH**, Baron A. Contributed Paper. Exact test size and power for small samples using an internal pilot study for binary outcome case-control data. Eastern North American Region of the International Biometrics Society, March 19-22 (2001).

9. **Glueck DH**, Muller KE, Hunter L. Contributed Paper. Exact power under independence for the false discovery rate in gene expression array experiments. 2003 Western North American Region of the International Biometrics Society, June 22-June 25 (2003).
10. **Glueck DH**, Muller KE, Hunter L. Contributed Paper. Exact power under independence for the false discovery rate in gene expression array experiments. Eastern North American Region of the International Biometrics Society, March 30-April 2 (2003).
11. Bodkin AW, Carollo JJ, **Glueck DH**. Home-based treadmill training in ambulatory children with cerebral palsy: a randomized controlled trial. 2006 Clinical Translational Research Center Annual Spring Pediatrics Poster Session. Contributed Poster. Department of Pediatrics, University of Colorado School of Medicine. May (2006).
12. O'Donnell CI, Glueck CJ, **Glueck DH**. Contributed Talk. A Mendelian model for miscarriage. Western North American Region of the International Biometric Society. Flagstaff Arizona. June 30 (2006).
13. **Glueck DH**, Karimpour-Fard A, Hunter L, Muller KE, Mandel J. The joint cumulative distribution function of arbitrary sets of order statistics. Western North American Region of the International Biometric Society. Contributed Talk. Flagstaff Arizona. June 30 (2006).
14. Bodkin AW, Carollo JJ, **Glueck DH**. Home-based treadmill training in ambulatory children with cerebral palsy: a randomized controlled trial. 60<sup>th</sup> Annual Meeting, American Academy for Cerebral Palsy & Developmental Medicine. Contributed Talk. September 15 (2006).
15. **Glueck DH**, Lamb MM, O'Donnell C, Muller KE, Lewin JM, Pisano, ED. "[Comparing Parallel and Combined Testing Strategies for Mammography and Other Diagnostic Tests](#)" Eastern North American Region of the International Biometric Society. Atlanta, Georgia. March 11-14 (2007)
16. **Glueck DH**, Karimpour-Fard A, Hunter L, Mandel J, Muller KE. [Exact calculations of expected power for the Benjamin-Hochberg procedure](#). Fifth annual rocky mountain bioinformatics conference. Contributed Paper. Snowmass, Colorado. November 30-December 2 (2007).
17. **Glueck DH**, Lamb MM, O'Donnell CI, Muller KE, Lewin JM. Contributed Poster. Extreme verification bias in paired continuous tests may mask the magnitude of the difference between the diagnostic accuracies of screening modalities. Contributed Poster. Eastern North American Region of the International Biometric Society. Arlington, Virginia. March 16-19 (2008).

18. Feser WJ, Fingerlin TE, Strand MJ, **Glueck DH**. Calculating average power for the Benjamini-Hochberg procedure. Western North American Region of the International Biometric Society. University of California Davis, California. June 22-25 (2008).
19. **Glueck DH**, Mandel J, Karimpour-Fard A, Hunter L, Muller KE. [Exact calculations of expected power for the Benjamin-Hochberg procedure](#). In Estimation, Testing, and Clustering in High Dimensions, August 3, 2008 American Statistical Association. Joint statistical meeting. Denver, Colorado. August 3-7, (2008).
20. **Glueck DH**, Karimpour-Fard A, Muller KE. A two-stage adaptive design can increase power for multiple comparisons. Sixth Annual Rocky Mountain Bioinformatics Conference. Snowmass, Colorado. December 5-7, (2008).
21. Ringham BM, **Glueck DH**. Estimates of observed sensitivity and specificity must be corrected when reporting the results of the final test in a screening trial conducted in series. Eastern North American Region of the International Biometric Society. San Antonio, Texas. March 15-18 (2009).
22. Brinton JT, **Glueck DH**. Animated graphics and visual metaphors help explain complex mathematical relationships. Eastern North American Region of the International Biometric Society. San Antonio, Texas. March 15-18 (2009).
23. Brinton JT, Freivogel M, Barke L, Jackson S, O'Donnell CI, **Glueck DH**. Women Are Rarely Screened in Accordance with American Cancer Society Guidelines: Only One in Seven Women at High Risk for Breast Cancer Get an MRI as an Adjunct to Mammography. Podium Presentation. ISP: Health Services, Policy and Research (Evidence-based imaging and guidelines). Radiological Society of North America. Chicago. November 28-December 3. 2010.
24. Brinton JT, Freivogel M, Barke L, Jackson S, O'Donnell CI, **Glueck DH**. Adjunct Breast MRI screening in women with an increased risk for breast cancer: only one in six women comply with American Cancer Society Guidelines when recommendations are made. Poster presentation. The 16<sup>th</sup> Annual Multidisciplinary Symposium on Breast Disease. Amelia Island, Florida. February 10-13, 2011.
25. Ringham BM, Grunwald G, Alonzo TA, **Glueck DH**. Estimates of observed sensitivity and specificity must be corrected when reporting the results of the second test in a screening trial conducted in series. Society for the Advancement of Chicanos and Native Americans in Science National Conference presentation. San Jose, California. October 2011.
26. Brinton JT, Freivogel M, Barke L, Jackson S, O'Donnell CI, **Glueck DH**. Adjunct Breast MRI screening in women with an increased risk for breast cancer: only one in six women comply with American Cancer Society Guidelines when recommendations are made. Poster presentation. The 5<sup>th</sup> Annual Women's Health Research

Day. University of Colorado Anschutz Medical Campus, Aurora, Colorado. September, 20, 2012.

27. Ringham BM, Alonzo TA, Brinton JT, Kreidler SM, Munjal A, Muller KE, **Glueck DH**. **Reducing decision errors in the paired comparison of the diagnostic accuracy of continuous screening tests**. American Association for Cancer Research Conference on the Science of Cancer Health Disparities poster presentation. San Diego, California. October 28, 2012.
28. Sakhadeo U, Munjal A, Kreidler SM, Akula V, **Glueck DH**, Muller KE. “GLIMMPSE Lite: Power and Sample Size Calculations Using Mobile Devices”. Poster presentation. Rocky Mountain Celebration of Women in Computing 2012. Fort Collins, CO. November 1 & 2, 2012.
29. Lamb DA, Jones ES, Glueck DH. A statistically-validated approach to flux emergence identification, American Astronomical Society / Solar Physics Division Meeting, St. Louis, MO. June 2019.

#### **Invited Peer-Reviewed National Presentations**

1. Freivogel ME, Barke LD, Jackson S, **Glueck DH**, Brinton JT. A systematic approach to breast cancer risk assessment: Lessons learned and data gathered. 22<sup>nd</sup> Annual National Interdisciplinary Breast Center Conference. March 10-14, 2012.
2. Kreidler SM, Muller KE, **Glueck DH**. Mixed Model Power Analysis By Example: Using Free Web-Based Power Software. Western North American Region / International Biometric Society (WNAR) conference invited session. Fort Collins, CO. June 20, 2012.
3. Barón AE, Kreidler SM, **Glueck DH**, Muller, KE. Finding Power and Sample Size for the Most Common Hypotheses in Mixed Models. American Psychological Association Annual Meeting, Skill Building Session. Orlando, FL. August 4, 2012.
4. **Glueck DH**, Munjal A, Kreidler SM, Muller KE, Guo Y, Barón AE, Sakhadeo UR. Mixed Model Power Analysis by Example: Using Free Web-based Power Software. American Statistical Association Conference on Statistical Practice Practical Computing Expo. New Orleans, LA. February 23, 2013.
5. Invited Hands On Workshop, International Association of Dental Research General Session, March 2013, Selecting a Valid Sample Size for Longitudinal and Multilevel Studies in Oral Behavioral Health.

Talk A. How Do We Choose Sample Size and Power for Complex Oral Health Designs? Logan HL (presenter), Munjal A, Ringham BM, Barón AE, Guo Y, Kreidler SM, Sakhadeo UR, Muller KE, and **Glueck DH**.

Talk B. Choosing Outcomes, Predictors, and a Hypothesis with Our Free, Web-based Software. Logan HL, Munjal A (presenter), Ringham BM, Barón AE, Guo Y, Kreidler SM, Sakhadeo UR, Muller KE, and **Glueck DH**.

Talk C. Choosing Means, Variances, and Correlations with Our Free, Web-based Software. Logan HL, Munjal A, Ringham BM (presenter), Barón AE, Guo Y, Kreidler SM, Sakhadeo UR, Muller KE, **Glueck DH**.

Talk D. Wrapping it Up: Writing the Grant. Logan HL, Munjal A, Ringham BM, Barón AE, Guo Y, Kreidler SM, Sakhadeo UR, Muller KE, and **Glueck DH** (presenter).

6. Invited Symposium, Society of Behavioral Medicine Annual Meeting and Scientific Sessions, March 2013, Finding Power and Sample Size for Mixed Models in Study Designs with Repeated Measures and Clustering.

Talk A. Power and Sample Size for the Most Common Hypotheses in Mixed Models. Maldonado-Molina MM, Barón AE (presenter), Kreidler SM, Munjal A, **Glueck DH**, Muller KE.

Talk B. Selecting a Covariance Model for Longitudinal and Multilevel Designs. Maldonado-Molina MM (presenter), Barón AE, Kreidler SM, Munjal A, **Glueck DH**, Muller KE.

Talk C. Power Analysis for Mixed Models: Using Free Web-Based Power Software. Maldonado-Molina MM, Barón AE, Kreidler SM (presenter), Munjal A, **Glueck DH**, Muller KE.

7. Logan LL, Munjal A, Ringham BM, Barón AE, Guo Y, Kreidler SM, Sakhadeo U, Muller KM, **Glueck DH**. Selecting a Valid Sample Size for Longitudinal and Multilevel Studies in Oral Behavioral Health. Cyber Seminar. United States Department of Veterans Affairs. October 15, 2013.

8. Ringham BM, Kreidler SM, Muller KM, **Glueck DH**. Non-Central F Power Approximations for Balanced Linear Mixed Models with Missing Data. Department of Biostatistics Seminar invited talk. University of California, Los Angeles, California. January 29, 2014.

9. Ringham BM, Kreidler SM, Muller KM, **Glueck DH**. Power and sample size for multilevel and longitudinal studies with missing data. Special Topics in Health Services: Cancer Prevention and Control Research Seminar invited talk. University of California, Los Angeles, California. February 10, 2014.

10. **Glueck DH**, Ringham BM, Dabelea D, Muller KE. Power and Sample Size for Multilevel and Longitudinal Study Designs. Sample Size and Power Workshop for Basic, Translational and Clinical Studies. Organized by Jessica Minnier, Oregon Health and

Science University. American Association of Cancer Research. Atlanta, Georgia. March, 2019.

### Competitive Peer-Reviewed International Presentations

1. **Glueck DH**, Karimpour-Fard A, Hunter L, Mandel J, Muller KE. [Exact calculations of expected power for the Benjamini-Hochberg procedure](#). Podium presentation at the Fifth International Conference on Multiple Comparisons. Vienna, Austria. July 8-11 (2007).
2. O'Donnell CI, Glueck CJ, Fingerlin TE, **Glueck DH**. [A likelihood model that accounts for censoring due to fetal loss can accurately test the effects of maternal and fetal genotype on the probability of miscarriage](#). Thursday, July 17: Session 14e: Analysis of Genetic Data. XXIVth International Biometric Conference. University College Dublin Ireland. July 13-July 18 (2008).
3. **Glueck DH**. [Bias in trials comparing paired continuous tests can cause researchers to choose the wrong screening modality](#). Invited podium presentation. 4th International Verification Methods Workshop, Helsinki, Finland. June 10 (2009).
4. Ringham BM, Alonzo TA, Brinton JT, Muller KE, **Glueck DH**. Reducing decision errors in the paired comparison of the diagnostic accuracy of continuous screening tests. International Biometric Conference oral presentation. Kobe, Japan. August 2012.
5. Brinton JT, Hendrick RE, Glueck DH. Hypothesis Testing and Power for Partially-Paired, Fully-paired, and Unpaired Screening Trials. International Biometric Conference poster presentation. Barcelona, Spain. July 2018.
6. Comparing statistical and neural network approaches to flux emergence identification", Derek A. Lamb, Emma S. Jones, Andrés Muñoz-Jaramillo, Deborah H. Glueck, September 2019, Machine Learning in Heliophysics Conference, Amsterdam, The Netherlands

### Invited National Presentations

1. Brinton JT, Hendrick R, Ringham B, **Glueck DH**. October 26, 2016. Improving the diagnostic accuracy of a stratified screening strategy by identifying the optimal risk cutoff. Biometry Research Group, Division of Cancer Prevention, National Cancer Institute, Bethesda Maryland.
2. Brinton JT, Hendrick R, Ringham B, **Glueck DH** October 26, 2016. Improving the diagnostic accuracy of a stratified screening strategy by identifying the optimal risk cutoff. Medstar Health Research Institute Biostatistics Core, Georgetown-Howard Universities Center for Clinical and Translational Science. Hyattsville, Maryland.

3. **Glueck DH**, Ringham BM, Muller KE. May 3, 2017. Software for Selecting a Valid Sample Size for Longitudinal and Multilevel Studies in Cancer Research. Statistics Seminar Group. Huntsman Cancer Institute, Salt Lake City, Utah.
4. Brinton JT, Hendrick R, Ringham B, **Glueck DH**. May 4, 2017. Improving the diagnostic accuracy of a stratified screening strategy by identifying the optimal risk cutoff. Huntsman Cancer Institute, Salt Lake City, Utah.
5. Brinton JT, Hendrick R., Ringham B, **Glueck DH**. May 8, 2017. Improving the diagnostic accuracy of a stratified screening strategy by identifying the optimal risk cutoff. Department of Health Outcomes and Policy. University of Florida School of Medicine. University of Florida. Gainesville, Florida.
6. **Glueck DH**, Shaw JR, Litt J, Alaimo K, Coors ME, Muller KE. What Researchers Can Do to Address Disparities: A Data Analytic Approach. Session on Racial, Ethnic, and Gender Disparities in Research: Addressing Ethical and Logistical Challenges. 8th Annual Colorado Clinical and Translational Research Ethics Conference. Denver, Colorado. November 2nd, 2017.

#### **VISITING PROFESSORSHIPS**

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Visiting Professorship funded by a grant from the Lundbeck Foundation. Gæsteprofessor. Biostatistisk Afdeling. Inst. F. Folkesundhedsvidenskab. Københavns Universitet. Copenhagen, Denmark. Summer 2015.

#### **TEACHING RECORD**

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##### **Graduate Students**

<b>Course Name</b>	<b>Course Number/Location</b>	<b>Date</b>	<b>Enrollment</b>	<b>Role</b>
Statistical Methods III	BIOM 6613	Spring 1999	10	Course Director
Statistical Methods III	BIOM 6613	Spring 2000	12	Course Director
Statistical Methods III	BIOM 6613	Spring 2001	11	Course Director

Statistical Methods III	BIOM 6613	Spring 2005	12	Course Director
Statistical Theory I	BIOS 6631	Fall 2006	8	Course Director
Statistical Theory I	BIOS 6631	Fall 2007	9	Course Director
Independent Study in Biostatistics	BIOS 7899	Spring 2008	2 enrolled 1 audit	Course Director
Statistical Theory I	BIOS 6631	Fall 2009	9	Course Director
Statistical Theory I	BIOS 6631	Fall 2010	10	Course Director
Statistical Theory I	BIOS 6631	Fall 2011	11	Course Director
Statistical Theory I	BIOS 6631	Fall 2012	11	Course Director
Statistical Theory I	BIOS 6631	Fall 2013	10	Course Director
Statistical Theory I	BIOS 6631	Fall 2014	10	Course Director
Statistical Theory I	BIOS 6631	Fall 2015	14	Course Director
Power and Sample Size for Multilevel and Longitudinal Studies	CLSC 6585	Spring 2016	28	Co-Director (joint with Keith Muller)
Short Course on Power and Sample Size for Multilevel and Longitudinal Design	Gainesville, University of Florida	May 2016	36	Co-Director (joint with Keith Muller)
Statistical Theory I	BIOS 6631	Fall 2016	14	Course Director
Short Course on Power and Sample Size for Multilevel and Longitudinal Design	Washington DC, Howard and Georgetown Universities	August 28-30, 2017	38	Co-Director (joint with Keith Muller)
Statistical Theory I	BIOS 6631	Fall 2017	15	Course Director

Short course on power and sample size for multilevel and longitudinal design	Boston, Mass, Harvard University and Mass. General Hospital	November 28-30, 2017	55	Co-Director (joint with Keith Muller)
Power and Sample Size for Multilevel and Longitudinal Models	Clinical Sciences Program, University of Colorado Denver CLSC 6585	January 23-25, 2018	21	Co-Director (joint with Keith Muller)
Short course on power and sample size for multilevel and longitudinal design/BIOS 690	Department of Biostatistics, Gillings School of Public Health, University of North Carolina at Chapel Hill	March 13-15, 2018	60	Co-Director (joint with Keith Muller)
Research methods with secondary data sources	EPID 7605/ Department of Epidemiology, Colorado School of Public Health	Spring 2019	12	Co-Director (joint with Kathy James)

BIOM 6613 was a one quarter required course for first year **masters** students in biostatistics which covered linear mixed models. I developed a new curriculum and set of course notes involving programming and theoretical exercises for mixed model.

BIOS 6631 is an introductory one semester required course in probability and statistical theory for first year **masters** students in biostatistics. I developed a new curriculum and set of course notes.

BIOS 7899 is an advanced statistical theory seminar for **doctoral** students. We covered multiple comparisons methods. I developed a new curriculum and set of course notes.

CLSC 6585 was a short course funded by R25 GM111901 (Muller and Glueck). The course covered power and sample size for multilevel and longitudinal models. It was offered both for 2 credit hours through the clinical sciences graduate program and as a paid short course for participants from outside the university community. A revised version of the course was offered at the University of Florida May - June 2016 as a paid short course. It was offered a total of six times, sometimes for credit, and sometimes as a workshop.

I am the proud mother of three children. Gap years in my teaching history reflect maternity leave in 2002 and 2004. In 2005 I taught while on maternity leave. In 2003, I was released from teaching during one year of my mentored career award.

EPID 7605 is a required one semester course for doctoral students in epidemiology. It provides training on methodology for analyzing data from secondary data sources. With Kathy James, we revised the curriculum so that students developed an idea, chose a journal, conducted a literature review, identified and got permission from co-authors, found a secondary source, wrote an analysis plan, analyzed the data, wrote a results section, produced tables and figures, wrote a draft, went through co-author review, and submitted the manuscript.

### Teaching for House Officers

Course Name	Course Number/Location	Date	Enrollment	Role
Non-interpretive skills for radiology residents		Fall 2014	15-20	Biostatistics design and analysis sub-unit director (joint with Sarah Kreidler)
Non-interpretive skills for radiology residents		Fall 2015	15-20	Biostatistics design and analysis sub-unit director
Department of Radiology Brown Bags	“How to search for research funding” “Resiliency in the face of grant failure” “Interaction and effect modification”	Spring 2016	15-20	Lecture writer/instructor

The non-interpretive skills for Radiology residents were given as a series of seven lectures to radiology residents (R1-R4). The lectures covered study design, analysis, and screening methods.

The brown bag lectures for the Department of Radiology are informal talks for post-doctoral fellows, residents, junior and senior faculty designed to assist in methods, analysis, grant submission, and manuscript preparation.

## MENTORING

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### Primary Mentor

- 2001 Lening Zhang. Masters in Biostatistics 2001. Power and death: sample size calculations and survival after potentially toxic treatment. Dr. Zhang is now Assistant Professor, Department of Biostatistics, National Jewish Medical and Research Center.
- 2002 Dongmei Pan. Masters in Biostatistics 2002. Choosing sample sizes for mammography studies with multiple readers. Ms. Pan is now a biostatistician, Infants in Foster and Kinship Care program, The Kempe Center for the Prevention and Treatment of Child Abuse and Neglect.
- 2007 Andrea Masias. Masters in Biostatistics 2007. Using Newcombe's confidence interval provides a better comparison of digital versus film mammography for the detection of breast cancer. Ms. Masias is now a biostatistician, University of Colorado Cancer Center.
- 2007 Colin O'Donnell. Masters in Biostatistics 2007. A likelihood model that accounts for censoring due to fetal loss can accurately test the effects of maternal and fetal genotype on the probability of miscarriage. Mr. O'Donnell is now a professional research assistant with the Colorado Tobacco Prevention project.
- 2008 William Feser. Masters in Biostatistics 2008. Calculating exact average power for the Benjamini-Hochberg false discovery rate procedure for  $\chi^2$  tests and general linear multivariate models. Mr. Feser is now a biostatistician at the University of Colorado Cancer Center.
- 2009 Brandy Ringham. Masters in Biostatistics August 2009. "Estimates of observed sensitivity and specificity must be corrected when reporting the results of the final test in a screening trial conducted in series". Dr. Ringham now is a postdoctoral fellow at UCLA.
- 2011 Sarah Kreidler. Masters in Biostatistics June 2011. "GLIMPSE: Online Power Computation for Linear Models with and without a Baseline Covariate". Dr. Kreidler now works as director of the software effort for the Mixed Model Power and Sample Size Grant.
- 2013 Brandy Ringham. Ph.D in Biostatistics August 2013. "Reducing decision errors for repeated measures studies with missing data". Dr. Ringham holds a Research instructor position in the Department of Biostatistics at UC Denver.

- 2014 John Brinton. Ph.D in Biostatistics, May 2014. “Statistical Methods for Cancer Screening.” Dr. Brinton now holds an Assistant Research Professor title in the Department of Pediatrics, at UC Denver.
- 2014 Sarah Kreidler. Ph.D in Biostatistics, May 2014. “Calculating Power for the General Linear Multivariate Model and the General Linear Mixed Model.” Dr. Kreidler is now a consultant at Neptune, Inc.
- 2017 Kevin P. Josey. MS in Biostatistics, December 2017. “Power for balanced linear mixed models with complex missing data processes.” Mr. Josey is now a Ph.D. candidate in Biostatistics.
- 2018 Michaela P. Palumbo. MS in Biostatistics, May 2018. Recommendations for enhancing reproducibility of models with trajectories as predictors. Ms. Palumbo is now working at the LEAD center.

### Committee Member

- 2003 Timothy S. Webb, Ph.D. in Biometrics
- 2006 Amy Bodkin, Ph.D. in Clinical Science
- 2006 Elizabeth Regan, Ph.D. Clinical Science
- 2007 Patrick Blatchford, Ph.D. in Biometrics
- 2007 Teresa Aly, Ph.D. in Human Medical Genetics
- 2010 (Chair), Betsy Siewart, Ph.D. in Biostatistics
- 2012 Curtis Harrod Stewart, Ph.D. in Epidemiology
- 2015 Allie Buti Shapiro, Ph.D. in Epidemiology

### Mentored career award mentoring

<b>Mentee</b>	<b>Dates</b>	<b>Award</b>	<b>Current position</b>
Brianna Moore	9/16-present	K award	Post-doctoral fellow LEAD Center, UCD, and Assistant Professor UT Austin
Traci Bekelman	9/18-present	ECHO OIF	Post-doc, LEAD center
Kate Smith	9/19-present	ECHO OIF	Mentor/co-investigator
Wei Perng	10/19-present	KL12	Mentor
Jenalee Doom	10/19-present	K award	Mentor

## GRANT SUPPORT

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### Active

#### *Understanding Near-Surface Magnetic Structures from the Statistical Properties of Flux Emergence*

NASA Heliophysics Supporting Research (Lamb)

3/9/2017 - 3/8/2020

1.0 calendar months

Total Budget: \$747,621

UC Denver Budget: \$158,040

This project uses statistical approaches to evaluate and compare three models for small scale flux emergence, which are tiny sunspot analogues. The sun is a major source of radiation and cosmic rays, which can affect human health.

#### *Methods and Software for Lifecourse Epidemiology Data and Sample Size Analysis*

9R01 GM121081-05 (Glueck, Muller, Dabelea)

08/15/2016-06/30/2020

2.7 calendar months

NIH/NIGMS

\$508,075

Lifecourse epidemiology is the study of chronic disease risk associated with the long-term effects of exposures occurring throughout the life course. When repeated measurements of risk factors over time are used to predict disease outcomes, the complex study designs require new data and sample size methods and software. We propose to create new methods and software for risk factor trajectories, and broadly disseminate them to a wide audience of scientists.

#### *The Early Life Exposome and Childhood Health – The Healthy Start 3 Cohort Study*

1UG3OD023248-01 (Dabelea)

09/21/2016 – 08/31/2018

0.6 calendar months

NIH/OD

\$869,968

This proposal is in response to FOA OD16-004 “Environmental Influences on Child Health Outcomes (ECHO) Pediatric Cohorts”. The overarching goal of this project is to leverage an existing, ongoing pre-birth cohort (Healthy Start, R01DK076648, PI Dabelea) to determine the early life “exposome” across a wide range of exposures (social, lifestyle, nutritional,

chemical, physical), and to conduct integrative analyses with child health outcomes that are informed by biological pathways and account for postnatal factors.

Community Activation for Prevention: A Randomized Controlled Trial

130091-RSG-16-169-01-CPPB (Litt)  
01/01/2017 – 12/31/2020  
0.12 calendar months  
American Cancer Society  
\$34,833 (subcontract)

This is a randomized controlled clinical trial of community gardening. The aims are to 1) Determine whether community gardening leads to increased intake of fruits and vegetables and thus increased intake of fiber, lower total energy intake, and higher Healthy Eating Indices; 2) Determine whether community gardening leads to reduced sedentary time, increased moderate-to-vigorous physical activity (MVPA), and reduced age-associated weight gain; 3) Elucidate the mechanisms underlying the differences found in diet, activity, BMI and waist circumference between gardeners and non-gardeners.

**Completed Grant Funding**

**Title:** Novel Mechanism for tamoxifen induced endometrial atypia  
**PI:** Kimberly Leslie  
**Role:** Statistician  
**Funding Source:** NIH  
**Grant Number:** NIH R21 CA76508 1998-2001  
**Project Dates:** 7/1/98 – 6/30/01  
**Percent Effort:** 14%  
**Direct Costs** \$200,000

*The goals of this grant were to perform a prospective trial in women taking tamoxifen for breast cancer. These patients underwent endometrial biopsies and ultrasonographic evaluation of the endometrium. These results were correlated with pathologic and molecular markers for endometrial growth disorders.*

**Title:** Adult Clinical Research Center  
**PI:** Richard Krugman  
**Role:** General Clinical Research Center Statistician  
**Funding Source:** NIH  
**Grant Number:** 3 M01 RR00051-39S1

**Project Dates:** 12/1/98 – 11/30/01  
**Work Dates:** 1/1/00 – 9/30/01  
**Percent Effort:** 17%  
**Direct Costs:** \$3,017,001

*This grant provided funding and research infrastructure to many research projects at UCHSC, National Jewish, and Boulder.*

**Title:** University of Colorado Cancer Center Biostatistics Core  
**PI:** Paul Bunn  
**Role:** Statistician  
**Funding Source:** NIH  
**Grant Number:** 5 P30 CA46934-13  
**Project Dates:** 3/1/98 -5/30/00  
**Work dates:** 2/1/00 – 5/30/00  
**Percent Effort:** 17%  
**Directs:** \$105,266.43

*This grant provides funding to the University of Colorado Cancer Center. I served as a statistical reviewer for cancer center protocols.*

**Title:** University of Colorado Cancer Seed Grant  
**PI:** Deborah Glueck  
**Funding Source:** University of Colorado Cancer Center  
**Project dates:** 1/1/00-12/31/00  
**Percent effort:** 20%

*This grant provided funding for initial work on power and sample size methods for covariates, and led to the funding of my mentored career award.*

**Title:** Power and sample size methods for mammography trials  
**PI:** Deborah Glueck  
**Funding Source:** National Cancer Institute, NIH  
**Grant Number:** 5K07CA088811-05  
**Project Dates:** 7/1/2001- 8/31/2011  
**Total Costs:** \$679,853

*The research involves development of statistical methods for finding power and sample size for mammography trials, and by extension, for all cancer screening trials.*

**Title:** Power and sample size methods for mammography trials  
American reconstruction and recovery act supplement  
Easy-to-use free software for sample size selection  
**PI:** Deborah Glueck  
**Funding Source:** National Cancer Institute  
**Grant Number:** 3K07CA088811-06S1  
**Project Dates:** 09/01/2009 – 02/31/2011  
**Total Costs:** \$54,000

*The research involves development of a web-based system. The software will allow clinicians to use a web-based, graphical interface to calculate power and sample size for screening trials. The software will be based on our published methods for power and sample size determination (Glueck, 2003).*

**Title:** Bias correction optimizes the choice of screening test for early cancer detection  
**PI:** Deborah Glueck (with Todd Alonzo, co-PI)  
**Funding Source:** National Cancer Institute  
**Grant Number:** R 03 CA136048  
**Project Dates:** 9/1/09-8/31/11  
**Total Costs:** \$171,167

*The research will define study designs that control bias for comparing the new and existing cancer screening tests. The study designs will enable researchers to choose the best screening tests for early cancer detection.*

**Title:** Evaluation of the efficacy of oral cancer screening adjunctive techniques  
**PI:** Mark Lingen  
**UCD Site PI:** Deborah Glueck  
**Funding Source:** National Institute of Dental and Craniofacial Research  
**Grant Number:** RC2DE020779-01  
**Project Dates:** 9/1/09-8/31/11  
**Total Costs:** \$947,648

*The funding is to plan a 33,000 patient, 200 dentist, three arm randomized controlled trial that will compare the diagnostic accuracy of standard oral and tactile examination to a standard examination + auto-fluorescence, and to standard examination + tissue reflectance.*

**Title:** Multilevel and Longitudinal Study Sample Size Tools for Behavioral Scientists  
**PI:** Keith Muller  
**Funding Source:** National Institutes of Health (NIH) – National Institute of Dental and Craniofacial Research (NIDCR)  
**Grant Number:** 3R01DE020832-01A1S1  
**Project Dates:** 9/1/2011 - 8/31/2013  
**Total Costs:** \$149,134

*The grant was a supplement to the parent grant of the same name, grant number NIDCR1 R01 DE020832-01A1. The supplement was part of the NIH Research Supplements to Promote Diversity in Health-Related Research and supported Brandy Ringham's doctoral research in power and sample size for multilevel and longitudinal behavioral science studies.*

**Title:** Improving Stratified Cancer Screening Strategies  
**PI:** Deborah Glueck  
**Funding Source:** Lundbeck Foundation  
**Grant Number:** R1423-2015-226  
**Project Dates:** 06/15/2015-8/15/2015  
**Total Costs:** \$32,140

*The research will help people at risk, doctors, and public health officials make choices about cancer screening that balance benefits and risks, and improve population health.*

**Title:** Multilevel and Longitudinal Study Sample Size Tools for Behavioral Scientists  
**PI:** Keith Muller  
**UC Denver site PI** **Deborah Glueck**  
**Funding Source:** National Institute of Dental and Cranio-Facial Research, NIH  
**Grant Number:** 1 R01 DE020832-01A1  
**Project Dates:** 12/09/10-11/30/15  
**Total Costs:** \$2,908,600  
Percent Effort 25%

*The research involves development of statistical methods for finding power and sample size for multilevel and longitudinal designs for behavioral scientists, including new statistical methods, new software, and new training courses.*

**Title:** Diversity supplement for Brandy M. Ringham  
**PI:** Keith Muller  
**UC Denver site PI** **Deborah Glueck**  
**Funding Source:** National Institute of Dental and Cranio-Facial Research, NIH  
**Grant Number:** R01DE20832A1S1  
**Project Dates:** 12/09/2011 – 11/30/2013  
**Total Costs:** \$74,567  
Percent Effort 0%

*This was a pre-doctoral diversity supplement for Brandy M. Ringham. Dr. Ringham completed her degree.*

**Title:** Power and Sample Size for Multilevel and Longitudinal Designs in Health Research  
**MPI:** Muller & **Glueck**  
**Funding Source:** NIH/NLM  
**Grant number** G13 LM011879  
**Project dates** 9/28/2014-09/27/2017  
**Total Cost** \$25,000 (subcontract)

Two experts on study design propose to create a book-length, peer-reviewed, scholarly work, entitled *Guidebook to Power and Sample Size for Linear Models with Applications to Health Sciences*. The aims of the *Guidebook* are to: 1) Review what scientists need to know before starting a power and sample size analysis; 2) Create templates for sample size analyses using examples from funded studies; 3) Give guidance for selecting reasonable inputs for sample size analysis; 4) Illustrate how to write a power and sample size justification; 5) Employ an expert review panel and a technical writer to ensure accuracy and clarity.

**Title:** Exploring the Role of Early Life Vitamin D Intake on Childhood Vascular Health  
**PI** Sauder  
**Funding Source** American Heart Association  
**Grant number** 16MCPRP2971005 (Sauder)  
**Project dates** 07/01/2016 – 06/30/2018  
**Effort** 0.6 calendar months  
**Total costs** \$70,000

The major goals of this project are to examine the association of (1) vitamin D intake in pregnancy and infancy and (2) bioavailable 25OHD at birth with offspring blood pressure, pulse wave velocity (PWV), and adiposity (percent fat mass) at 4-6 years of age.

**Title** Exploring the Fuel-Mediated Programming of Neonatal Growth (Healthy Start)  
**PI** Dabelea  
**Funding Source** NIDDK  
**Grant number** R01 DK076648-08  
**Project dates** 12/01/2006-07/31/2019  
**Effort** 1.56 calendar months  
**Total costs** \$432,086

This project will explore a timely public health problem by testing the hypothesis that maternal obesity programs neonatal growth, fatness and metabolism, and by identifying specific mediators of these effects that can be targeted by future interventions. We will enroll 1,920 pregnant women before 15 weeks of gestation and follow them prospectively through delivery in order to explore the relationships between maternal body size and behaviors during pregnancy, intra-partum fuels, markers of inflammation and insulin resistance, and infant body size and fatness.

**Title** A Master Course on Power for Multilevel and Longitudinal Health Behavior Studies  
**PI** Muller, Glueck  
**Funding source** NIH/NIGMS  
**Grant number** R25 GM111901 (Muller, Glueck)  
**Project dates** 08/25//2014-6/30/2019  
**Effort** 2.7 calendar months

**Total costs** \$64,173 (subcontract)

This project will develop, implement, evaluate, and disseminate a short course entitled "A Master Course on Power for Multilevel and Longitudinal Health Behavior Studies," which will provide training for scientists in innovative power and sample size methods for multilevel and longitudinal studies. Good sample size analysis will ensure that studies are the right size to achieve good results, while minimizing the exposure of research participants to harm. In turn, better biomedical studies will improve the health of Americans.

## **BIBLIOGRAPHY**

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A grey background indicates a publication with a student for whom I was a mentor, either formally and academically, or as an employer, or both.

### **Published, Peer-Reviewed Abstracts**

1. **Glueck DH**, Lamb MM, Lewin JM, Pisano ED. [Two-modality mammography may confer an advantage over either full-field digital mammography or screen film mammography.](#) in Abstracts of the 31<sup>st</sup> Annual Meeting: American Society of Preventive Oncology, Houston Texas, March 2-4, 2007. Cancer Epidemiology Biomarkers and Prevention; 16(2), 359, February (2007). Selected on the basis of being one of the 20 highest scoring abstracts of those submitted for presentation.

### **Peer-Reviewed Journal Articles**

1. Shugars DC, Smith MS, **Glueck DH**, Nantermet PV, Seillier-Moiseiwitsch F, Swanstrom R. [Analysis of human immunodeficiency virus type 1 nef gene sequences present in vivo.](#) Journal of Virology, Volume 67, Number 8, p. 4639-4650, August (1993) PMID: 8043040.
2. Beard DV, Molina PL, Muller KE, Denelsbeck KM, Hemminger BM, Perry JR, Braeuning MP, **Glueck DH**, Bidgood WD, Mauro M, Semelka RC, Willms AS, Warshauer D, Pisano ED. [Interpretation time of serial chest CT examinations with stacked-metaphor workstation versus film alternator.](#) Radiology. 197(3): 753-8, December (1995) PMID:7480751.
3. Pisano ED, Chandramouli J, Hemminger BM, DeLuca M, **Glueck DH**, Johnston RE, Muller K, Braeuning MP, Pizer S. [Does intensity windowing improve the detection of simulated calcifications in dense mammograms?](#) Journal of Digital Imaging 10(2): 79-84, (1997).
4. Pisano ED, Chandramouli J, Hemminger BM, **Glueck DH**, Johnston RE, Muller K, Braeuning MP, Puff D, Garrett W, Pizer S. [The effect of intensity windowing on the detection of simulated masses embedded in dense portions of digitized mammograms in a laboratory setting.](#) Journal of Digital Imaging. 10(4):174-182, November (1997).

5. Rich DQ, Yiin L-M, Rhoads GG, **Glueck DH**, Weisel C, Liroy PJ. A field comparison of two methods for sampling lead in household dust: the LWW sampler and the HUD dust wipe. [Journal of Exposure Analysis and Environmental Epidemiology](#). 9(2):106-12, Mar-Apr; (1999) PMID:10321350.
6. **Glueck DH** and Muller KE. On the expected values of sequences of functions. *Communications in Statistics: Theory and Methods*, 30(2), 363-369 (2001).
7. Kosmiski LA, Kuritzkes DR, Lichtenstein KA, **Glueck DH**, Gourley PJ, Stamm ER, Scherzinger AL, Eckel RH. Fat distribution and metabolic changes are strongly correlated and energy expenditure is increased in the HIV lipodystrophy syndrome. *AIDS* 15:1993-2000, (2001) PMID: 11600828.
8. Horton TJ, Miller EM, **Glueck DH**, and Tench K. No effect of menstrual cycle phase on glucose kinetics and fuel oxidation during moderate-intensity exercise, *American Journal of Physiology, Endocrinology and Metabolism*, 282:E752-E762, (2002).
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