

## CURRICULUM VITAE

### PERSONAL DATA

Name: Alison Anne Motsinger-Reif  
Work Address: Biostatistics and Computational Biology Branch  
National Institute of Environmental Health Sciences  
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Research Triangle Park, NC 27709  
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ResearcherID: I-4167-2018

### EDUCATION

2003-2007 Vanderbilt University, PhD (Human Genetics)  
2004-2006 Vanderbilt University, MS (Applied Statistics)  
2000-2002 Vanderbilt University, B.S. (Biological Sciences)

### POSITIONS

2018-current Branch Chief  
Senior Investigator  
Biostatistics and Computational Biology Branch  
National Institute of Environmental Health Sciences  
2018 Professor  
Department of Statistics  
North Carolina State University  
2016-2017 Founding Core Director  
Statistical Service Core  
North Carolina State University  
2014-2018 Member  
Comparative Medicine Institute  
North Carolina State University  
2013-2017 Assistant Department Head  
Department of Statistics  
North Carolina State University  
2012-2018 Core Director  
Bioinformatics Consulting and Service Core  
North Carolina State University  
2012-2018 Associate Professor  
North Carolina State University  
Department of Statistics  
Bioinformatics Research Center  
2011-2014 Core Director

Biostatistics Core  
 Center for Comparative Medicine and Translational Research  
 College of Veterinary Medicine  
 North Carolina State University  
 2008-2014 Associate faculty  
 North Carolina State University  
 Department of Genetics  
 2008-2012 Member  
 Center for Quantitative Sciences in Biomedicine  
 Department of Statistics  
 North Carolina State University  
 2008-2014 Member  
 Center for Comparative Medicine and Translational Research  
 College of Veterinary Medicine  
 North Carolina State University  
 2007-2012 Assistant Professor  
 North Carolina State University  
 Department of Statistics  
 Bioinformatics Research Center  
 2007-current Adjunct Professor  
 University of North Carolina at Chapel Hill  
 Institute for Pharmacogenomics and Individualized Therapy  
 Center for Pharmacogenomics and Individualized Therapy  
 Department of Pharmacology  
 2006 Adjunct Professor  
 Department of Biology  
 Nashville State Technical College  
 2003-2007 Graduate Research Assistant  
 Vanderbilt University  
 Center for Human Genetics Research  
 Marylyn Ritchie, PhD. (Advisor)  
 2000-2003 Research Assistant  
 Vanderbilt University  
 Department of Microbiology & Immunology  
 Derya Unutmaz, MD. (Advisor)  
 1997-2000 Lab Technician  
 Wake Forest University  
 Department of Physiology & Pharmacology  
 James Smith, PhD. (Advisor)

**LEADERSHIP TRAINING**

2016-2018 Food Sciences Leadership Institute  
 Cohort #12  
 fsli.org  
 2013 Leadership for a Diverse Campus  
 North Carolina State University

## HONORS, AWARDS

- 2012-2018 University Faculty Scholar  
*A midcareer endowed honor*
- 2010 Travel Bursary  
8th European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics
- 2009 Special Contribution Award,  
The International Conference on Genomics and Bioinformatics for Clinical Application and Risk Assessment
- 2008 University Nominee, Searle Fellowship
- 2008 Travel Award for the ENAR Young Investigators Workshop
- 2006 NIH Travel Grant  
Pacific Symposium on Biocomputing  
Wailea, HI
- 2006 Young Investigator Award  
13<sup>th</sup> Conference on Retroviruses and Opportunistic Infections Denver, CO
- 2006 Vanderbilt University Graduate School Travel Grant  
European Conference on Genetic Programming  
Budapest, Hungary.
- 2006 Travel bursary for EuroGP-EvoCOP-EvoWorkshops2006  
European Conference on Genetic Programming  
Budapest, Hungary.
- 2006 Vanderbilt University Graduate School Travel Grant  
IEEE Symposium on Computational Intelligence in Bioinformatic and Computational Biology  
Toronto, Canada
- 2005 Vanderbilt University Graduate School Travel Grant  
Pacific Symposium on Biocomputing  
Kona, Hawaii
- 2005 Scholarship to attend Genetic Analysis of Complex Human Diseases  
Duke University  
Durham, NC
- 2005 Best Poster Award  
Department of Molecular Physiology and Biophysics Retreat  
Dickson, TN
- 2005 Vanderbilt University Graduate School Travel Grant  
Meeting of the American Society of Human Genetics  
Salt Lake City, UT
- 2004-2006 NIH Training Grant in Human Genetics
- 2003 Director's Award  
Vanderbilt University Interdisciplinary Graduate Program
- 2003 NIH Undergraduate Fellowship  
Blood Diseases and Pathogens

2000	National Advanced Placement Award
2000	Montague Medal Winston-Salem/Forsyth-County School System
1999	National Merit Finalist

## REVIEWER FOR

Annals of Oncology  
PLOS Genetics  
IEEE Transactions in Computational Intelligence in Bioinformatics and  
Computational Biology  
Bioinformatics  
Genetic Epidemiology  
BMC Bioinformatics  
Information Sciences  
Molecular Psychiatry  
American Heart Association  
Swiss National Science Foundation  
American Journal of Human Genetics  
Multiple Sclerosis Research Australia  
Crop Science  
BMC Genomics  
BMC Genetics  
Annals of Human Genetics  
IEEE Congress on Evolutionary Computation  
Pharmacogenomics  
Journal of Biomedical Informatics  
Journal of Artificial Evolution and Applications  
Human Heredity  
NeuroComputing  
Journal of Infectious Diseases  
The 3rd International Symposium on Bio- and Medical Informatics and  
Cybernetics  
8th European Conference on Evolutionary Computation, Machine Learning and  
Data Mining in Bioinformatics  
Plos ONE  
BMC BioDatamining  
Pharmacogenetics and Genomics  
Trends in Pharmaceutical Research  
Molecular Diagnosis & Therapy  
Biostatistics  
African Journal of Biotechnology  
Statistical Applications in Genetics and Molecular Biology  
Annals of Applied Statistics  
Environmental Health Perspectives  
Pharmacogenetics and Genomics

Transactions on Information Technology in BioMedicine  
Science  
Nature Genetics  
Nature Communications

## TEACHING ACTIVITIES

### Full Semester Courses

2018 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*  
North Carolina State University

2018 Instructor, *Genomic Sciences Journal Club (PP810/PP610)*  
North Carolina State University

2017 Instructor, *Genomic Sciences Journal Club (PP810/PP610)*  
North Carolina State University

2017 Instructor, Experimental Statistics for Biological Sciences (*STAT 511*)  
*Spring Section 002*

2017 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*

2016 Instructor, *Genomic Sciences Journal Club (PP810/PP610)*  
North Carolina State University

2015 Instructor, Experimental Statistics for Biological Sciences (*STAT 511*)  
*Spring Section 001*

2015 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*

2014 Instructor, *Genomic Sciences Journal Club (PP810/PP610)*  
North Carolina State University

2014 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*

2013 Instructor, *Genomic Sciences Journal Club (PP810/PP610)*  
North Carolina State University  
*Fall Section 001 and 002*

2013 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*

2012 Instructor, *Readings (PP810/PP610)*  
North Carolina State University  
*Fall Section 001 and 002*

2012 Instructor, *Readings (PP810/PP610)*  
North Carolina State University  
*Spring Section 001 and 002*

2012 Instructor, Bioinformatics Consulting (*STAT 610/ STAT 810*)  
*Spring Section 002*  
North Carolina State University

2011 Instructor, *Readings (PP810/PP610)*  
North Carolina State University

2011 Instructor, Statistical Genetics Practicum (*STAT 498, ST489*)  
*Summer Sessions 001 and 002*

2011 Instructor, Bioinformatics Consulting (*STAT 610/STAT 810*)  
*Spring Section 002*  
 North Carolina State University

2010 Instructor, *Readings (STAT 635)*  
 North Carolina State University

2010 Instructor, Statistical Genetics Practicum (*STAT 498, ST489*)  
*Summer Section 001 and 002*

2010 Instructor, Bioinformatics Consulting (*STAT 610/STAT 810*)  
*Spring Section 002*  
 North Carolina State University

2009 Instructor, *Introduction to Statistics (STAT 311)*,  
*Fall Section 010*  
 North Carolina State University

2009 Instructor, *Introduction to Statistics (STAT 311)*,  
*Spring Section 003*  
 North Carolina State University

2008 Instructor, *Readings (STAT 635)*  
 North Carolina State University

2007 Instructor, *Introduction to Statistics (STAT 311)*,  
*Fall Section 007*  
 North Carolina State University

2006 Course Director and Lecturer, *General Biology I & II*  
 Nashville State Technical College

2006 Course Director and Lecturer, *General Biology Laboratory*  
 Nashville State Technical College

### Lectures

2019 Biostatistics I  
 2019 Biostatistics and Bioinformatics Short Courses  
 National Institute of Environmental Health Sciences

2017 Instructor, *Advanced Datamining (AA503)*  
 Institute for Advanced Analytics  
 North Carolina State University  
 Lectures: “Feature Selection”, “Model Aggregation”, “Factor Analysis”

2016 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy

2016 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”

2016 Guest Lecturer, *Osher Lifelong Learning Institute*  
 “Personalized Medicine”

2016 Instructor, *Advanced Datamining (AA503)*  
 Institute for Advanced Analytics

North Carolina State University  
 Lectures: “Feature Selection”, “Cross-Validation”, “Bootstrapping”,  
 “Model Aggregation”, “Introduction to Weka”  
 2015 Guest Lecturer, *Veterinary Medicine Program*  
 “Association Mapping Study Design and Analysis”  
 North Carolina State University  
 2014 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy  
 2014 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”  
 2014 “Resampling for Predictive Modeling”  
 Institute for Advanced Analytics  
 North Carolina State University  
 2013 Speaker, *21st Century Science Encore Series*  
 “Personalized Medicine”  
 2013 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy  
 2013 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”  
 2012 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy  
 2012 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”  
 2012 Instructor, *Advanced Datamining (AA503)*  
 Institute for Advanced Analytics  
 North Carolina State University  
 Lectures: “Feature Selection”, “Cross-Validation”, “Bootstrapping”,  
 “Model Aggregation”, “New Methods for Interactions”, “Introduction to  
 Weka”  
 2011 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy  
 2011 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”  
 2011 Guest Lecturer, Master in Analytics Program  
 “Gene Mapping: Analytics in Personalized Medicine”  
 2011 Guest Lecturer, *Genetic Data Analysis (ST721)*  
 “Linkage Disequilibrium”  
 2010 Guest Lecturer, *Bioinformatics I (ST590A)*  
 “Association Study Design and Analysis”  
 2010 Guest Lecturer, *Introduction to Statistics (ST311)*  
 “Correlation and Regression”  
 North Carolina State University

2010 Guest Lecturer, *Introduction to Statistics (ST311)*  
 “Inference for Regression”  
 North Carolina State University

2010 Guest Lecturer, *Statistical Methods (ST305)*  
 “Introduction to Inference with Confidence”

2010 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Hardy-Weinberg Equilibrium and How to Test”  
 University of North Carolina at Chapel Hill, School of Pharmacy

2010 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistical Genetics for Clinicians”  
 University of North Carolina at Chapel Hill, School of Pharmacy

2009 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Statistics in Genetics”  
 University of North Carolina at Chapel Hill, School of Pharmacy

2009 Guest Lecturer, *Pharmacogenomics (DPET 832)*  
 “Introduction to Statistics”  
 University of North Carolina at Chapel Hill, School of Pharmacy

2009 Guest Lecturer, *Introduction to Statistics (STAT 311),*  
*Spring Section 005*  
 North Carolina State University

2008 Guest Lecturer, *Statistical Methods for Genetic Epidemiology*  
 North Carolina State University

2006 Guest Lecturer, *Machine Learning*  
 Vanderbilt University

#### Research Program Participation and Direction

2014-2018 Associate Director  
 “Biostatistics Training in the Omics Era”  
 NIH Training Grant

2013-2014 Bursary Award Mentor  
 Benjamin Glicksberg  
 4th Short Course of Statistical Genetics and Genomics  
 Section on Statistical Genetics  
 University of Alabama, Birmingham

2012-2013 Bursary Award Mentor  
 Elizabeth Hibler, PhD  
 3<sup>rd</sup> Short Course of Statistical Genetics and Genomics  
 Section on Statistical Genetics  
 University of Alabama, Birmingham

2011-2012 Bursary Award Mentor  
 Hongying Dai, PhD  
 2<sup>nd</sup> Short Course of Statistical Genetics and Genomics  
 Section on Statistical Genetics  
 University of Alabama, Birmingham

2011-2012 Faculty Mentor



2010-2011 *Computation for Undergraduates in Statistics Program*  
National Science Foundation, PI: Sujit Ghosh  
Faculty Mentor

2009 *Computation for Undergraduates in Statistics Program*  
National Science Foundation, PI: Sujit Ghosh  
Faculty Mentor

*Industrial Mathematical & Statistical Modeling Workshop for Graduate Students*  
Center for Research in Scientific Computation  
Statistical and Applied Mathematical Sciences Institute (SAMSI), RTP, NC

#### Undergraduate Students Mentored

2016-2017 Gloria Regalado, North Carolina State University  
2016-2017 Dingkun Yang, North Carolina State University  
2009-2012 Chong Wang, North Carolina State University  
2008 Kimberly Spence, North Carolina State University  
2006 Theresa Fanelli, Vanderbilt Summer Science Academy (VSSA)  
Pennsylvania State University

#### Masters Students Mentored

2015 Hillary Chaney, Statistics Graduate Program  
2013-2018 Kyle Roell, Statistics Graduate Program  
2011-2012 Minyue Wang, Bioinformatics Graduate Program  
2010-2014 Siddharth Roy, Statistics Graduate Program  
2009-2011 Andrew Beam, Statistics Graduate Program  
2009 Andrew Slater, Bioinformatics Graduate Program  
2008-2013 Keven Kunz, Bioinformatics Graduate Program  
2008-2009 Sushamna Deodhar, Computer Science  
2008-2010 Weiben Shen, Statistics  
2008-2010 Alexandre Lockhart, Bioinformatics Graduate Program  
2008 Stacey Wood, Statistics Graduate Program  
2008 Sandeep Oberoi, Computer Science Graduate Program  
2007-2011 Nicholas Hardison, Bioinformatics Graduate Program

#### PhD Students Mentored

2017-current Jonathan Leirer, Statistics Graduate Program  
2016-current Farida Akhtari, Genetics Graduate Program  
2016-current Jun Ma, Bioinformatics Graduate Program  
2016-current Tao Jiang, Bioinformatics Graduate Program  
2015-2017 Siamak Mahmoudian Dehkordi, Bioinformatics Graduate Program  
*Currently a Research Scientist at Duke University*  
2014-2018 Kyle Roell, Bioinformatics Graduate Program

- 2012-2017 Ravi Marthur, Bioinformatics Graduate Program  
*Currently a Bioinformaticist at RTI*
- 2011-2014 Skylar Marvel, Bioinformatics Graduate Program  
*Currently a Research Scientist at NCSU*
- 2010-2013 Ronglin Che, Bioinformatics Graduate Program  
*Currently an analyst at Capital One*
- 2010-2012 Chad Brown, Statistics Graduate Program  
*Currently a Staff Scientist at OmicSoft*
- 2009-2012 Gunjan Hariani, Bioinformatics Graduate Program  
*Currently a Staff Scientist at Quintiles (formerly Expression Analysis)*
- 2008-2012 Noffisat Oki, Bioinformatics Graduate Program  
*Currently a Post Doctoral Fellow at the U.S. Environmental Protection Agency*
- 2008-2011 Stacey Winham, Statistics Graduate Program  
*Currently an Associate Professor at the Mayo Clinic*

#### Post-Doctoral Fellows Mentored

- 2012-2013 Chad Brown, PhD North Carolina State University  
*Currently a Staff Scientist at OmicSoft*
- 2013-2016 Daniel Rotroff, PhD University of North Carolina at Chapel Hill  
*Currently a Research Scholar at NCSU*

#### Junior Faculty Mentored

- 2013-2018 Emily Griffith, PhD, Research Assistant Professor

### **RESEARCH FUNDING**

#### Past Extramural Funding

National Institute of Health

09/01/2017 – 08/31/2022

“Topological Mapping of Immune, Microbiota, Metabolomic and Clinical Phenotypes to Reveal ME/CFS Disease Mechanisms”

Role: PI of Subcontract (PI: Unutmaz)

\$335,859

National Cancer Institute

3/01/2012 – 2/28/2022

“Genetic Etiology of Cancer Drug Response”

Role: PI

\$3,809,251

Award #: R01CA161608

National Institute of Health

08/01/2017 – 07/31/2019

“Identification of human imprint regulatory regions associated with obesity in children”  
Role: Co-investigator (PI: Skaar)  
\$418,000

Research Triangle Institute (RTI)  
02/01/2017 – 01/31/2019  
“GRIP: The NCSU/RTI Program In Genetic Discovery and Prediction (PGDP)”  
Role: Co-Investigator (PI: Wright)  
\$223,906

National Cancer Institute  
04/01/2015 – 03/31/2020  
“Statistical Methods for Clinical Trials”  
Role: Co-Investigator (PI: Davidian)  
\$3,451,391

National Institute of General Medical Sciences (NIGMS)  
8/01/2014 – 7/31/2017  
“Metabolic Networks and Pathway Analysis in Alzheimer's Disease”  
Role: Co-Investigator and PI of Subcontract (PI: Kaddurah-Daouk)  
\$136,350

NCSU Research and Innovation Seed Funding Program  
“Heritability of Boxer T Cell Lymphoma”  
Role: Co-Investigator (PI: Suter)  
\$23,500  
2014-0832

NIH Heart, Lung and Blood Institute  
4/01/2012 – 3/31/2018  
“Exome-Wide Association Study of ACCORD Lipid Trial”  
Role: Co-Investigator and PI of Subcontract (PIs: Buse and Wagner)  
\$386,834

National Institute of Health  
7/05/2011 – 3/31/2017  
“Genetic Basis of GxE Interactions Underlying MetS-Like Symptoms in Drosophila”  
Role: Co-PI (Co-PI: Reed)  
\$276,116  
Award #: R01GM098856

USDA National Institute of Food and Agriculture (NIFA)  
Higher Education National Needs Fellowships Program (NNF)  
6/15/2016 – 6/14/2019  
“Multidisciplinary Graduate Training in Advanced Technologies for High Yield Sustainable Agriculture”

Role: Co-Investigator  
\$238,500  
Award #: 2015-10771

American College of Veterinary Emergency and Critical Care (ACVECC)  
07/01/2014 - 06/30/2015  
“Thromboelastographic Monitoring of the Effect of Unfractionated Heparin in Healthy Dogs  
Role: Co-Investigator (PI: Hanel)  
\$9,450

U.S. Department of Agriculture  
1/01/2011 – 12/31/2015  
“Establishment of a Graduate Training Program to Meet the Future Needs of Food Animal  
Quantitative Genetics”  
Role: Co-Investigator (PI: Miles)  
\$258,000  
NIFA Application #: 2010-03352  
Grants.Gov Tracking #: GRANT10598294

National Institute of Health  
04/15/2012-01/31/2016  
“Mechanisms for Risk of Sulfonimide Hypersensitivity”  
Role: PI of Subcontract (PI: Trepanier)  
\$35,959

Morris Animal Foundation  
10/01/13-09/30/2014  
“Prognostication in Canine Osteosarcoma -- A Molecular Cytogenetic Approach”  
Role: Co-Investigator (PI: Breen)  
\$83,162

5R33AI079798-02  
NIH  
9/15/2010 – 8/31/2013  
HIV Microbicides and the Vaginal Microbiome.  
Role: PI of subcontract (PI: Zeichner)  
\$20,892.00

NCSU Research and Innovation Seed Funding Program  
03/01/2013 – 06/30/2013  
“Viral Etiology of Cardiomyopathy”  
Role: Co-Investigator (PI: Sherry)  
\$14,940

U.S. Environmental Protection Agency  
08/21/2012-08/20/2013

“ORISE Education and Training Program: Parth G. Kothiya”  
Role: PI  
\$53,772

Duke University  
05/16/2012-08/31/2012  
“Metabolomics Network for Drug Response Phenotype”  
Role: PI of Subcontract (PI: Kaddurah-Daouk)  
\$19,874

NCSU Research and Innovation Seed Funding Program  
07/01/2012-06/30/2013  
“Immunogenomics of the Endangered Wyoming Toad”  
Role: Co-Investigator (PI: Yoder)  
\$25,000

The University of North Carolina General Administration  
“Bioinformatics Equipment Funds”  
06/30/2012  
Role: PI  
\$55,000

PO 414994-G / UR 5-25132  
NIH  
7/01/2009 – 8/31/2011  
“Swine Models of Structural Birth Defects”  
Role: Co-investigator (PI: Ackerman)  
\$178,970

The North Carolina Translational and Clinical Sciences Institute  
7/15/2010 – 7/15/2011  
“The Role of the Vitamin D Receptor and Vitamin D Deficiency in Children and Adults with Sickle Cell Disease - Phase I”  
Role: PI of subcontract (PI: Rellings)  
\$4293

Abbot Laboratories  
09/01/2010 – 12/31/2010  
Prognostic significance of select canine chromosomal regions in canine lymphoma patients treated with CHOP-based therapy.  
Role: Co-investigator (PI: Breen)  
\$119,735

W904129  
Lineberger Cancer Center  
01/01/2009 – 12/30/2010

Integrated Molecular Characterization of Naturally Occurring B-Cell Lymphomas in Dogs For Use as a Relevant, Large Animal Model of Human DLBCL.

Role: Co-investigator (PI: Richards)

\$289,134

## INVITED PRESENTATIONS

### International

- 2019      “Gene Set and Pathway Analysis”  
Winter Institute in Statistical Genetics  
Module: Integrative Genomics  
Abu Dhabi, United Arab Emirates (Host: Youssef Idaghdour)
- 2017      “Gene Set and Pathway Analysis”  
Winter Institute in Statistical Genetics  
Module: Network Analysis  
Abu Dhabi, United Arab Emirates (Host: Youssef Idaghdour)
- 2015      “Gene Set and Pathway Analysis”  
Summer Institute in Statistical Genetics  
Module: High Dimensional Omics Data  
Taipei, Taiwan (Host: Chen-Hung Kao)
- 2014      “Supervised Learning”  
Summer Institute in Statistical Genetics, Brazilian Edition  
Module: High Dimensional Omics Data  
Piracicaba, SP, Brazil (Host: Augusto Franco Garcia)
- 2014      “Gene Set and Pathway Analysis”  
Summer Institute in Statistical Genetics, Brazilian Edition  
Module: High Dimensional Omics Data  
Piracicaba, SP, Brazil (Host: Augusto Franco Garcia)
- 2011      “Introduction to Microarray Analysis”  
European Institute of Statistical Genetics  
Module: Microarray Data Analysis Module  
Liege, Belgium (Host: Bruce Weir)
- 2011      “Normalization Methods for Microarrays”  
European Institute of Statistical Genetics  
Module: Microarray Data Analysis Module  
Liege, Belgium (Host: Bruce Weir)
- 2011      “Clustering Approaches”  
European Institute of Statistical Genetics

- Module: Microarray Data Analysis Module  
Liege, Belgium (Host: Bruce Weir)
- 2011 “Pathway and Gene Set Analysis”  
European Institute of Statistical Genetics  
Module: Microarray Data Analysis Module  
Liege, Belgium (Host: Bruce Weir)
- 2011 “Multiple Testing Concerns”  
European Institute of Statistical Genetics  
Module: Microarray Data Analysis Module  
Liege, Belgium (Host: Bruce Weir)
- 2011 “The Power of Quantitative Grammatical Evolution Neural Networks to Detect Gene-Gene Interactions”  
Genetic and Evolutionary Computation Conference 2011  
Bioinformatics, Computational, Systems, and Synthetic Biology Track  
Dublin, Ireland (Host: William Bush)
- 2010 “Association Analysis for High Through-Put Data”  
Summer Institute for Statistical Genetics, Module: Human Association Analysis  
Peking University  
Beijing, China (Host: Zhao-Bang Zeng)
- 2010 “Genetic Association Studies: Study Design and Analysis”  
Summer Institute for Statistical Genetics, Module: Human Association Analysis  
Peking University  
Beijing, China (Host: Zhao-Bang Zeng)
- 2010 “Complex Predictive Modeling: New Methods to Detect Epistasis”  
Summer Institute for Statistical Genetics, Module: Human Association Analysis  
Peking University  
Beijing, China (Host: Zhao-Bang Zeng)
- 2010 “Grammatical Evolution Decision Trees for Detecting Gene-gene Interactions”  
8th European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics  
Istanbul, Turkey (Host: Elena Marchiori)
- 2009 “Grammatical Evolution Neural Networks for Predictive Modeling”  
Joint Symposium of 5th ICT and 2nd TIES  
Seoul, Korea (Host: Weida Tong)

- 2009 “Prediction Accuracy Estimates in Bioinformatics”  
Toxicogenomics and MAQC conference  
Shanghai, China (Host: Weida Tong)
- 2009 “Design and Analysis of Genetic Association Studies”  
European Summer Institute  
Liège, Belgium (Host: Bruce Weir)
- 2009 “Novel Methods to Detect Epistasis in Genetic Association Studies”  
European Summer Institute  
Liège, Belgium (Host: Bruce Weir)
- 2008 “Genetic programming optimized neural network (GPNN) as a method for improved the identification of gene-environment interactions”  
Annual Congress of the European Respiratory Society  
Berlin, Germany (Host: Patricia Haslam)
- 2007 “Linkage disequilibrium in genetic association studies improves the power of Grammatical Evolution Neural Networks”  
IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology  
Honolulu, Hawaii (Host: Daniel Fogel)
- 2007 “The Importance of Epistasis: Looking for Gene-Gene Interactions in Pharmacogenomics Data”  
European Science Foundation Meeting on Pharmacogenomics  
Barcelona, Spain (Host: Michel Eichelbaum)
- 2006 “Comparison of Neural Network Optimization Approaches for Studies of Human Genetics”  
4<sup>th</sup> European Workshop on Evolutionary Computation and Machine Learning in Bioinformatics  
Budapest, Hungary (Host: Jason Moore)
- 2006 “Dissecting the Evolutionary Process of Grammatical Evolution Optimized Neural Networks”  
IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology  
Toronto, Canada (Host: Dan Ashlock)
- 2006 “Gene-Gene Interaction Associated with Drug Response in Unipolar Major Depression Disorder”  
XIV World Congress on Psychiatric Genetics  
Cagliari, Italy (Host: Gambi Valentina)



National

- 2019 “Gene Set and Pathway Analysis”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2018 “Gene Set and Pathway Analysis”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2018 “Genetic Association Mapping in Cell Line Models of Cytotoxic Response”  
OpenTox USA 2018  
Durham, NC (Host: Noffisat Oki)
- 2018 “Genetic Association Mapping in Cell Line Models of Cytotoxic Response”  
Biostatistics and Computational Biology Branch Seminar  
Research Triangle Park, NC (Host: Dale Sandler)
- 2018 “Cell Lines Models for Genome Wide Association Mapping in Cancer Drug Response”  
Genomic and Precision Medicine Forum  
Duke University  
Durham, NC (Host: Rachael Myers)
- 2018 “Genetic Association Mapping in Cell Line Models of Cytotoxic Response”  
THINK BIG Symposium  
HERCULES: Emory’s Environmental Health Research Center  
Atlanta, GA (Host: Gary Miller)
- 2017 “GWAS in Cell Line Models of Cancer Drug Response”  
Genome Sciences Seminar Series  
University of Virginia  
Charlottesville, VA (Host: Steve Rich)
- 2017 “Cell Line Models of Cytotoxic Response - Integration of Statistical Methods Development and Genetic Association Mapping”  
Jackson Laboratory  
Framingham, CT (Host: Derya Unutmaz)
- 2017 “Bioinformatics and Statistical Consulting”  
Consulting Career Advisory Panel

Brown Bag Lunch Series  
National Institute of Environmental Health Sciences  
Research Triangle Park, NC (Host: Gregory Krane)

- 2016 “Methods and Applications for Dose-Response Gene Mapping”  
Symposium on Statistical and Computational Methods for  
Pharmacogenetic Epidemiology of Cancer  
Memorial Sloan Kettering Cancer Center  
New York, NY (Host: Jaya Satagopan)
- 2016 “In Vitro Cytotoxicity Cell Line Models Reveal Novel Findings in  
Monoclonal Antibody Response”  
Moffitt Cancer Center  
Tampa, FL (Host: Howard McLeod)
- 2016 “Drug Response Association Mapping in the ACCORD Clinical Trial”  
University of North Carolina Charlotte  
Charlotte, NC (Host: Cynthia Gibas)
- 2016 “Drug Response Association Mapping in the ACCORD Clinical Trial”  
National Institute of Environmental Health  
Research Triangle Park, NC (Host: Maria Schatz)
- 2015 “Personalized Medicine: How Genetics Impact Treatment Options”  
2015 SACNAS National Conference  
Washington, DC (Host: Gina-Maria Pomman)
- 2015 “Baseline genetics and fenofibrate response in the ACCORD clinical trial”  
South East Lipid Research Conference (SELRC)  
Stone Mountain Park, GA (Host: Greg Graf)
- 2015 “In Vitro Cytotoxicity Cell Line Models Reveal Novel Findings in  
Monoclonal Antibody Response”  
National Institute of Environmental Health  
Research Triangle Park, NC (Host: Jennifer Solomon)
- 2015 "Statistical Challenges and Opportunities in Pharmacogenetics"  
AACR Annual Meeting  
Session: Methods for Pharmacogenomics Discovery and Interpretation  
Philadelphia, PA (Host: Angelique Whitehurst)
- 2015 “Cell Lines Models for Pharmacogenomics Mapping”  
School of Pharmacy  
University of Kentucky  
Lexington, KY (Host: Melody Ryan)

- 2014 “In Vitro Cytotoxicity Cell Line Models for GWAS in Pharmacogenomics and Toxicogenomics”  
National Institute of Environmental Health  
Research Triangle Park, NC (Host: Pierre Bushel)
- 2014 “Pharmacogenomics”  
4<sup>th</sup> Short Course of Statistical Genetics and Genomics  
Section on Statistical Genetics  
University of Alabama, Birmingham  
Birmingham, AL (Host: Hemant Tiwari)
- 2014 “Network and Pathway Analysis: View from 10,000 Feet”  
Summer Institute for Statistical Genetics  
Module 22: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2014 “Pathway and Gene Set Enrichment Analysis”  
Summer Institute for Statistical Genetics  
Module 22: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2014 “Pathway/Gene Set Analysis in Genome-Wide Association Studies”  
Summer Institute for Statistical Genetics  
Module 22: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2014 “Pathway Analysis in the other -omes”  
Summer Institute for Statistical Genetics  
Module 22: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2013 “Multivariate GWAS in Cell Line Models for Pharmacogenomics”  
Impact of Large-Scale Genomic Data on Statistical and Quantitative  
Genetics Conference  
Seattle, WA (Host: Timothy Thornton)
- 2013 “Network and Pathway Analysis: View from 10,000 Feet”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2013 “Gene Set Enrichment Analysis”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)

- 2013      “Bayesian Network Modeling”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2013      “Weighted Co-expression Network Analysis”  
Summer Institute for Statistical Genetics  
Module 19: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2013      “Pharmacogenomics”  
3<sup>rd</sup> Short Course of Statistical Genetics and Genomics  
Section on Statistical Genetics  
University of Alabama, Birmingham  
Birmingham, AL (Host: Hemant Tiwari)
- 2012      “Grammatical Evolution Decision Trees for Trio Designs”  
Undergraduate Paper Workshop  
Genetic and Evolutionary Computation Conference  
Philadelphia, PA (Host: John Reifell)
- 2012      “Pharmacogenomics”  
2<sup>nd</sup> Short Course of Statistical Genetics and Genomics  
Section on Statistical Genetics  
University of Alabama, Birmingham  
Birmingham, AL (Host: Hemant Tiwari)
- 2012      “Modeling Epistasis”  
Summer Institute for Statistical Genetics  
Module 21: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2012      “Multiple Testing”  
Summer Institute for Statistical Genetics  
Module 21: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2012      “Model Aggregation”  
Summer Institute for Statistical Genetics  
Module 21: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)
- 2012      “Feature Selection”  
Summer Institute for Statistical Genetics  
Module 21: Network and Pathway Analyses of Omics Data  
Seattle, WA (Host: Bruce Weir)

- 2012            “Clustering”  
 Summer Institute for Statistical Genetics  
 Module 21: Network and Pathway Analyses of Omics Data  
 Seattle, WA (Host: Bruce Weir)
- 2012            “Weka Software for Data Mining”  
 Summer Institute for Statistical Genetics  
 Module 21: Network and Pathway Analyses of Omics Data  
 Seattle, WA (Host: Bruce Weir)
- 2012            “Computation for Undergrads in Statistics Program”  
 Diverse and Effective Models for Undergraduate Research Session  
 Joint Mathematics Meeting 2012  
 Boston, MA (Host: Angel Pineda)
- 2011            “Ex-Vivo Modeling for Heritability Assessment and Genetic Mapping in  
 Pharmacogenomics”  
 National Institute for Environmental Health Sciences  
 Research Triangle Park, NC (Host: Gregg E. Dinse)
- 2011            “Ex-Vivo Modeling for Heritability Assessment and Genetic Mapping in  
 Pharmacogenomics”  
 Bioinformatics Seminar Series  
 Department of Statistics  
 Perdue University  
 West Lafayette, IN (Host: Rebecca Deorge)
- 2011            “Ex-Vivo Modeling for Heritability Assessment and Genetic Mapping in  
 Pharmacogenomics”  
 2011 Joint Statistical Meetings  
 Beyond Pharmacokinetics: Recent Advances in Science and Methodology  
 — Invited Papers  
 Miami, FL (Host: Donatello Telesca)
- 2011            “Pharmacogenomics”  
 1<sup>st</sup> Short Course of Statistical Genetics and Genomics  
 Section on Statistical Genetics  
 University of Alabama, Birmingham  
 Birmingham, AL (Host: Hemant Tiwari)
- 2011            “Complex Predictive Modeling: New Methods to Detect Epistasis”  
 Summer Institute for Statistical Genetics, Module 14: Human Association  
 Analysis  
 Seattle, WA (Host: Bruce Weir)

- 2011 “Genetic Association Studies: Study Design and Analysis”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2011 “Genome Wide Association Analysis”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2011 “Next Generation Sequencing for Association Mapping”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2011 “Heritability in Dose Response – Putting the Cart Before the Horse”  
Society of Toxicology Annual Meeting and ToxExpo  
Washington, DC (Host: Susan Euling)
- 2010 “Methods for Detecting Interactions in High-throughput Genetic Data”  
Department of Human Genetics Seminar Series  
University of California, Los Angeles  
Los Angeles, CA (Host: Marc Suchard)
- 2010 “The Impact of Retrospective Sampling on Multifactor Dimensionality  
Reduction”  
Women in Genome Sciences Seminar  
University of Washington  
Seattle, WA (Host: Elisabeth Rosenthal)
- 2010 “Association Analysis for High Through-Put Data”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2010 “Genetic Association Studies: Study Design and Analysis”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2010 “Complex Predictive Modeling: New Methods to Detect Epistasis”  
Summer Institute for Statistical Genetics, Module 14: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)

- 2010      “Sorting the Wheat from the Chaff: Statistical Issues on  
Pharmacogenomics”  
American College of Clinical Pharmacology Annual Meeting  
Spring Forum, Conducting Pharmacogenomics Research: A Primer  
Charlotte, NC (Host: Herb Patterson)
- 2009      “Comparisons of Data Mining Methods to Detect Gene-Gene Interactions”  
GlaxoSmithKline  
Research Triangle Park (Host: Meg Ehm)
- 2009      “Grammatical Evolution Neural Networks for Genetic Association  
Mapping”  
Genetics and Genomics Seminar Series  
Department of Genetics, University of Alabama  
Birmingham, AL (Host: Brett McKinney)
- 2009      “Data Mining Methods for Detecting Gene-Gene Interactions”  
Department of Biostatistics, Duke University  
Durham, NC (Host: Kouros Owzar)
- 2009      “Embracing Complexity: Using Systems Level Data for Predictive  
Modeling”  
2009 Annual Meeting of American Association for Cancer Research  
Denver, CO (Host: David Threadgill)
- 2009      “Predictive Modeling in ToxCast Using Grammatical Evolution Neural  
Networks”  
ToxCast Data Analysis Summit, U.S. Environmental Protection Agency  
Research Triangle Park, NC (Host: Robert Kavlock)
- 2009      “Grammatical Evolution Neural Networks for Genetic Epidemiology”  
5th International Symposium on Bioinformatics Research and  
Applications  
Ft. Lauderdale, FL (Host: Andrew Allen)
- 2009      “Genetic Association Studies: Study Design and Analysis”  
Summer Institute for Statistical Genetics, Module 15: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)
- 2009      “Complex Predictive Modeling: New Methods to Detect Epistasis”  
Summer Institute for Statistical Genetics, Module 15: Human Association  
Analysis  
Seattle, WA (Host: Bruce Weir)

- 2008 “Exhaustive SNP Exploration: Filtering for Interactions in Genome-Wide Studies”  
Institute for Pharmacogenomics and Individualized Therapy  
University of North Carolina at Chapel Hill  
Chapel Hill, NC (Host: Howard McLeod)
- 2008 “Neural Networks for Detecting Gene-Gene Interactions”  
National Center for Computational Toxicology, U.S. Environmental  
Protection Agency  
Research Triangle Park, NC (Host: Richard Judson)
- 2008 “Exhaustive SNP Exploration: Filtering for Interactions in Genome-Wide Studies”  
Pharmacogenomics Research Network Analysis Workshop IV  
St. Jude Research Hospital  
Memphis, TN (Host: Coronnea Pleasants)
- 2007 “Grammatical Evolution Neural Networks for the Detection of Gene-Gene Interactions in Genetic Epidemiology”  
Statistics Faculty Candidate Seminar, North Carolina State University  
Raleigh, NC (Host: Spencer Muse)
- 2007 “Neural Networks for Detecting Gene-Gene Interactions”  
Institute for Genome Sciences, Washington University  
St. Louis, MO (Host: Richard Wilson)
- 2007 “Neural Networks for Detecting Gene-Gene Interactions”  
Center for Genome Sciences, Wake Forest University  
Winston-Salem, NC (Host: Gene Blecker)
- 2006 “Computational Approaches for Pharmacogenomics”  
Tutorial at the Pacific Symposium on Biocomputing  
Maui, HI (Host: Russ Altman)
- 2006 “GenomeSim: Data Simulation Software for Whole-Genome Association Studies and Other Studies in Human Genetics”  
Pacific Symposium on Biocomputing.  
Maui, HI (Host: Russ Altman)
- 2006 “Grammatical Evolution Optimized Neural Network Strategy for Case-Control Studies”  
15th Genetics Analysis Workshop  
Tampa Bay, FL (Host: Vanessa Olmo)

Regional



- 2019 “Cancer Drug Response Modeling in LCLs”  
Immunity, Inflammation, and Disease Laboratory Seminar Series  
National Institute of Environmental Health Sciences  
Durham, NC (Host: Steve Kleeberger)
- 2019 “Pharmacogenomics”  
Summer Institute in Biostatistics  
North Carolina State University  
Raleigh, NC (Host: Herle McGowan)
- 2018 “Genetic Association Mapping in Cell Line Models of Cytotoxic  
Response”  
Genetics Program Seminar Series  
North Carolina State University  
Raleigh, NC (Host: Robert Anholt)
- 2015 “Neural Networks for Genetic Epidemiology”  
Statistical Learning Group  
North Carolina State University  
Raleigh, NC (Host: Justin Post)
- 2014 “In Vitro Cytotoxicity Cell Line Models for GWAS in Pharmaco- and  
Toxicogenomics”  
BD2K Workshop  
Research Triangle Park, NC (Host: Fred Wright)
- 2014 “Computing Solutions for Bioinformatics”  
Enabling discovery and product innovation with Dell HPC Solutions  
Chapel Hill NC  
(Host: Anthony Jenkins)
- 2014 “High Throughput Assays for Pharmacogenomics Discovery”  
Genetics Program Retreat  
Rigmor House, Chapel Hill NC  
(Host: Trudy Mackay)
- 2013 “Ex-Vivo Modeling for Heritability Assessment and Genetic Mapping in  
Pharmacogenomics”  
Department of Biostatistics  
University of North Carolina at Chapel Hill  
(Host: Christine Kantner)
- 2012 “Ex-Vivo Modeling for Heritability Assessment and Genetic Mapping in  
Pharmacogenomics”  
Department of Animal Sciences Seminar Series  
North Carolina State University

(Host: Christian Maltecca)

- 2011 “Introduction to Biostatistics for Clinicians”  
School of Veterinary Medicine Grand Rounds  
North Carolina State University  
(Host: Julie Walker)
- 2011 “In vitro modeling for heritability assessment and genetic mapping in  
pharmacogenomics”  
2011 Research Triangle Statistical Genetics Conference  
McKimmon Center, North Carolina State University  
(Host: Fred Wright)
- 2011 “Capturing Knowledge from Large Datasets”  
Monsanto Fellows Professional Development Program  
SAS Campus, Cary NC  
(Host: Catherine Maxwell)
- 2010 “Data Mining Approaches for Detecting Complex Models that Predict  
Complex Traits”  
Monsanto Prospecting Event  
North Carolina State University  
(Host: Kelly Sexton)
- 2010 “Insulin Resistance Predictive Modeling”  
Metabolon Inc.  
Durham, NC (Host: Pam Nakhle)
- 2010 “Personalized Medicine: How genetics impact treatment options”  
Scope Academy  
College of Physical and Mathematical Sciences  
North Carolina State University
- 2009 “Genetic Risk Factor Analysis of Chemotherapy-Induced Neurotoxicity”  
Bioinformatics Research Center, Coffee-Talk Series  
North Carolina State University
- 2009 “Exhaustive SNP Exploration: A Filter Approach for GWAS that  
Considers Interactions”  
Department of Statistics Seminar Series  
North Carolina State University
- 2009 “Grammatical Evolution Neural Networks for Genetic Association  
Mapping”  
Biomathematics Seminar Series, NCSU Department of Statistics  
Raleigh, NC (Host: Kevin Gross)

- 2008 “Exhaustive SNP Exploration: Filtering for Interactions in Genome-Wide Studies”  
Glaxo-Smith-Klein Pharmacogenomics Symposium  
Research Triangle Park, NC (Host: Iris Grossman)
- 2008 “Grammatical Evolution Constrained Neural Networks for Association Studies in Human Genetics”.  
Bioinformatics Seminar Series, NCSU  
Raleigh, NC (Host: Dahlia Nielson)
- 2008 “Exhaustive SNP Exploration: Filtering for Interactions in Genome-Wide Studies”  
Genetic Seminar Series, NCSU Department of Genetics  
Raleigh, NC (Host: Jeff Thorne)
- 2007 “Grammatical Evolution Neural Networks for Genetic Association Studies”  
Institute for Pharmacogenomics and Individualized Therapy  
Chapel Hill, NC (Host: Howard McLeod)
- 2006 “Grammatical Evolution Constrained Neural Networks for Association Studies in Human Genetics”  
Genetics Interest Group Seminar Series, Vanderbilt University  
Nashville, TN (Host: Scott Williams)
- 2006 “Genetic Association Studies in HIV Therapy”  
Center for AIDS Research Works in Progress, Vanderbilt University  
Nashville, TN (Host: Todd Hulgan)
- 2006 “Cross-Validation and Permutation Testing in Multifactor Dimensionality Reduction”  
Center for Human Genetics Research Annual Retreat, Vanderbilt University  
Nashville, TN (Host: Jonathan Haines)
- 2006 “The Performance of GENN in Common Research Scenarios”  
Genetics Interest Group Seminar Series, Vanderbilt University  
Nashville, TN (Host: Scott Williams)
- 2006 “Grammatical Evolution Constrained Neural Networks for Association Studies in Human Genetics”.  
Molecular Physiology and Biophysics Seminar Series, Vanderbilt University  
Nashville, TN (Host: Edwin Weeber)

2002 “Natural Killer T-Cells are Susceptible to HIV-1 Infection”  
Microbiology and Immunology Annual Retreat, Vanderbilt University  
Nashville, TN (Host: Jacek Hawiger)

## **COMMITTEE AND ADMINISTRATIVE SERVICE**

### National Institute of Environmental Health Sciences

2019-current Search Committee Member  
National Cancer Institute Biostatistics Tenure Track Investigator  
2019-current Search Committee Chair  
National Toxicology Program Tenure Track Investigator  
2019-current Search Committee Member  
Scientific Information Officer  
2019-current Search Committee Member  
Chief Information Officer  
2019-current Search Committee Chair  
Clinical Research Branch Tenure Track Investigator  
2019 Ad hoc committee member, EBRP  
Review of 2 CTC cases for Douglas Stewart & Lisa Mirabello  
2019-current Tenure Track Advisory Committee  
2019-current Member, NIH IRP Population Science Working Group  
2019-current Steering Committee Member, Microbiome Interest Group

### North Carolina State University Service

2017-2018 METRIC Mass Spec User Committee  
Molecular Education, Technology, and Research Innovation Center  
2016-2017 Founding Director, Statistical Consulting Core  
Department of Statistics  
2016 Search Committee Member  
Linux and Emerging Technologies IT Position  
College of Sciences  
2016 Search Committee Member  
Clinical Assistant Professor of Biostatistics  
School of Veterinary Medicine  
2014 Search Committee Chair  
Bioinformatics Consulting and Service Center staff hire  
2013-2016 Search Committee Member  
Infectious Disease Cluster Hire Committee  
School of Veterinary Medicine  
2013-2017 Committee Chair  
Department of Statistics Computing committee  
2013-2017 Assistant Department Head, Department of Statistics  
2012 Search Committee

2012	Statistics Department Cluster Hire Position Search Committee Search Committee Chair
2012	Bioinformatics Research Center IT Position Search Committee Chair
2012-2018	Bioinformatics Consulting and Service Core Research Scholar Director, Bioinformatics Consulting and Service Core
2012-2014	Search Committee Bioinformatics Research Center Cluster Hires
2012-2014	Search Committee Environmental Health Science Research Cluster Hires
2012-2013	Search Committee Director of the Center for Comparative Medicine and Translational Research
2011-2012	Search Committee Department of Statistics
2011	Ad Hoc Member, Prelim Exam Committee Department of Statistics
2010	Prelim Exam Committee Department of Statistics
2009-2010	Search Committee Chair High Performance Computing Center
2009	Search Committee Department of Statistics
2009	Admissions Committee Bioinformatics Graduate Program
2009-2012	Student Progress Committee Bioinformatics Graduate Program
2008	Beach Trip Planning Committee Department of Statistics
2007-2012	Organizer Bioinformatics Seminar Series, North Carolina State University

### National and International Service

2019-2020	Program Committee Member Evo*2020
2018-current	Statistical Editor Circulation: Cardiovascular Interventions
2018	FSLI Encore Organization Committee Association of Public and Land Grant Universities 2018 APLU Annual Meeting
2018	Guest Associate Editor PLOS Genetics
2017	Ad Hoc Reviewer 2017/05 ZDK1 GRB-7 (M6) 1 NIDDK High Impact and Interdisciplinary Science (RC2) Review National Institute of Health

2016 Ad Hoc Reviewer  
Special Emphasis Panel 2017/01 ZRG1 AARR-F (02) M  
National Institute of Health

2016 Ad Hoc Reviewer  
Special Emphasis Panel 2016/05 ZMH1 ERB-D (06) R  
National Institute of Health

2016 Ad Hoc Reviewer  
Pathogenesis of Hypoplastic Left Heart Syndrome (HLHS)  
National Health, Lung, and Blood Institute  
National Institute of Health

2015-current Associate Editor  
Frontiers in Pharmacogenetics and Pharmacogenomics

2015 Ad Hoc Reviewer  
Child Health and the Environment Review Committee  
(2015/08 ZES1 LKB-D (CC) 1)  
National Institute of Environmental Health

2015 Ad Hoc Reviewer  
Neurological Sciences and Disorders (2015/05 NSD-C)  
National Institute of Health

2014-current Statistics Board of Reviewing Editors (SBoRE)  
Science

2014-2019 Panel Member  
Big Data Management and Analysis (BDMA) Study Section  
National Institute of Health

2014-current CAT HF Data Safety Monitoring Board  
Statistical Member

2014 Mail Reviewer  
NIH Early Independence (DP5) application  
Genes, Genomes and Genetics

2014-2016 Regional Advisory Board (RAB) Member  
Eastern North American Region of the International Biometric Society

2014-2018 Statistical Editor, *Heart Failure*

2013 Discussant  
Bipolar-Schizophrenia Network for Intermediate Phenotypes -2  
(BSNIP-2)  
Competitive renewal panel  
National Institute of Mental Health

2011-2016 Associate Editor  
Journal of Agricultural, Biological, and Environmental Statistics  
(JABES)

2013-2014 Track Chair  
Biological and Biomedical Applications (BIO) track  
Genetic and Evolutionary Computation Conference (GECCO)

2013 Ad Hoc Reviewer  
BIGDATA Panel  
National Institute of Health/National Science Foundation

2013	Ad Hoc Reviewer Bid Data Management and Analysis (BDMA) Study Section National Institute of Health
2012	Ad Hoc Reviewer Special Emphasis Panel/Scientific Review Group 2013/01 ZRG1 AARR-G (02) National Institute of Health
2012	Ad Hoc Reviewer Bid Data Management and Analysis (BDMA) Study Section National Institute of Health
2012-2013	Track Co-Chair Biological and Biomedical Applications (BIO) track Genetic and Evolutionary Computation Conference (GECCO)
2012	Panelist IGERT 2013 Panel National Science Foundation
2012	Ad Hoc Reviewer BIGDATA Panel National Institute of Health/National Science Foundation
2012	Guest Associate Editor PLOS Genetics
2012	Session Chair Biological and Biomedical Applications (BIO) track Genetic and Evolutionary Computation Conference (GECCO)
2012-2015	External Advisory Board Member Carolina Center for Computational Toxicology
2012-2016	Editorial Board Member Dataset Papers in Bioinformatics
2012	Programming Committee Member 12th International Conference on Parallel Problem Solving from Nature (PPSN 2012)
2012	Programming Committee Member 7th IAPR International Conference on Pattern Recognition in Bioinformatics (PRIB2012)
2012	Workshop Chair Graduate Student Workshop Genetic and Evolutionary Computation Conference (GECCO)
2011-2015	Editorial Board Member Neural Computing and Application
2011	Session Chair The 7th Annual UNCG Regional Mathematics and Statistics Conference
2011-2012	Track Co-Chair Biological and Biomedical Applications (BIO) track Genetic and Evolutionary Computation Conference (GECCO)
2011-present	Editorial Advisory Board Member

Pharmacogenomics

2011-present Editorial Board Member  
Frontiers in Pharmacogenetics and Pharmacogenomics

2011 Programming Committee Member  
6th IAPR International Conference on Pattern Recognition in  
Bioinformatics (PRIB2011)

2010-2011 Program Committee Member  
Genetic and Evolutionary Computation Conference (GECCO)  
Bioinformatics, Computational, Systems, and Synthetic Biology Track

2010-current Review Editorial Board  
Frontiers in Genetics of Complex Traits

2011-2012 Associate Editor for Journal of Agricultural, Biological, and  
Environmental Statistics (JABES)

2010-2011 Program Committee Member  
9th European Conference on Evolutionary Computation, Machine  
Learning and Data Mining in Bioinformatics (EVOBIO)

2010 Faculty Panelist  
CSUMS Student Research Conference  
St. Paul MN (Host: Patrick Van Fleet)

2010-2011 Program Committee  
3rd Toxicogenomics Integrated with Environmental Sciences (TIES)  
Symposium

2010 Programming Committee  
5<sup>th</sup> IAPR International Conference on Pattern Recognition in  
Bioinformatics  
Nijmegen, Netherlands

2010 Session Chair  
"Structural Biology/Proteomics I"  
8th European Conference on Evolutionary Computation, Machine  
Learning and Data Mining in Bioinformatics  
Istanbul, Turkey

2009 Reviewer  
Special Emphasis Panel/Scientific Review Group 2010/01 ZHL1 CSR-Z  
(F2) 1  
National Institute of Health

2009 Session Chair  
Symposium I – MAQC I  
Joint Symposium of 5th ICT and 2nd TIES  
Seoul, Korea

2009-2010 Program Committee Member  
8th European Conference on Evolutionary Computation, Machine  
Learning and Data Mining in Bioinformatics (EVOBIO)

2009 Organizing Committee Member  
The 3rd International Symposium on Bio- and Medical Informatics and  
Cybernetics: BMIC 2009

2009 Session Chair



Pharmacogenomics Research Network Analysis Workshop 2009  
Rochester, MN

2009 Guest Editor, Special Issue  
EURASIP Journal on Bioinformatics and Systems Biology Computational  
approaches to study disease mechanisms

2009 Panelist, Excellence in Government Fellows Program  
“Building Partnerships”, April 29, 2009  
U.S. Environmental Protection Agency

2008 Session Chair  
Pharmacogenomics Research Network  
PGRN-ESP Scientific and Steering Committee Meetings  
From Pharmacogenomics to Function

2008 Panelist  
Center for Disease Control Pharmacogenomics Study Section

2008-2010 Publications Committee Member  
Pharmacogenomics Research Network

2008 Programming Committee Member  
009 IEEE Congress on Evolutionary Computation (CEC 2009)

2008-2015 Member  
International Warfarin Pharmacogenomics Consortium

2008-2009 Workshop Organizing Committee Member  
Pharmacogenomics Research Network Analysis Workshop 2009  
Rochester, MN

2008 Alumni Interviewer  
Vanderbilt University

2007-2010 Co-Investigator  
Pharmacogenomics Research Network, CREATE

2007-2008 Steering Committee Member  
Joint Seminar Sessions in Pharmacogenetics, Glaxo-Smith Kline

2006 Session Chair  
4th European Workshop on Evolutionary Computation and Machine  
Learning in Bioinformatics

## **BIBLIOGRAPHY**

### Peer Reviewed Papers

1. Roell KR, Havener TM, Reif DM, Jack JR, McLeod HL, Wiltshire T, **Motsinger-Reif AA**. Synergistic Chemotherapy Drug Response Is a Genetic Trait in Lymphoblastoid Cell Lines. *Front Genet*, 10;(829) 2019 Oct 15 eCollection 2019
2. Crestani E, Harb H, Charbonnier LM, Leirer J, **Motsinger-Reif AA**, Rachid R, Phipatanakul W, Kaddurah-Daouk R, Chalita TA. Untargeted Metabolomic Profiling Identifies Disease-Specific Signatures in Food Allergy and Asthma. *J Allergy Clin Immunol*, 2019 Oct 25[Online ahead of print]

3. St John-Williams L, Mahkmoudiandehkordi S, Arnold M, Massaro T, Blach C, Kastenmuller G, Louie G, Kueider-Paisley, Han X, Baillie R, **Motsinger-Reif AA**, Rotroff D, Nho K, Saykin AJ, Risacher SL, Koal T, Moseley MA, Tenenbaum JD, Thompson JW, Kaddurak-Daouk R, Alzheimer's Disease Neuroimaging Initiative, Alzheimer's Disease Metabolomics Consortium. Bile Acids Targeted Metabolomics and Medication Classification Data in the ADNI1 and ADNIGO/2 Cohorts. *Sci Data*, 6(1), 212. 2019 Oct 17
4. Fox PR, Keene BW, Lamb K, Schober KE, Chetboul V, Fuentes VL, Payne JR, Wess G, Hogan DF, Abbott JA, Häggström J, Culshaw G, Fine-Ferreira D, Cote E, Trehou-Sechi E, **Motsinger-Reif AA**, Nakamura RK, Singh M, Ware WA, Riesen SC, Borgarelli M, Rush JE, Vollmar A, Lesser BL, Van Israel N, Lee PM, Bulmer B, Santilli R, Bossbaly MJ, Quick N, Bussadori C, Bright J, Estrada AH, Ohad DG, Fernández Del Palacio MJ, Brayley JL, Schwartz DS, Gordon SG, Jung SW, Bove CM, Brambilla PG, Moïse NS, Stauthammer C, Quintavalla C, Manczur F, Stepien RL, Mooney C, Hung YH, Lobetti R, Tamborini A, Oyama MA, Komolov A, Fujii Y, Pariaut R, Uechi M, Ohara VYT. Long-term Incidence and Risk of Noncardiovascular and All-Cause Mortality in Apparently Healthy Cats and Cats With Preclinical Hypertrophic Cardiomyopathy. *J Vet Intern Med*, 33 (6), 2572-2586 Nov 2019
5. Sikdar S, Joehanes R, Joubert BR, Xu CJ, Vives-Usano M, Rezwani FI, Felix JF, Ward JM, Guan W, Richmond RC, Brody JA, Küpers LK, Baiz N, Häberg SE, Smith JA, Reese SE, Aslibekyan S, Hoyo C, Dhingra C, Markunas CA, Xu T, Reynolds LM, Just AC, Mandaviya PR, Ghantous A, Bennett BD, Wang T, The Bios Consortium, Bakulski KM, Melen E, Zhao S, Jin J, Herceg Z, van Meurs J, Taylor JA, Baccarelli AA, Murphy SK, Liu Y, Munthe-Kaas MC, Deary IJ, Nystad W, Waldenberger M, Annesi-Maesano I, Conneely K, Jaddoe VW, Arnett D, Snieder H, Kardina SL, Relton CL, Ong KK, Ewart S, Moreno-Macias H, Romieu I, Sotoodehnia N, Fornage M, **Motsinger-Reif A**, Koppelman GH, Bustamante M, Levy D, London SJ. Comparison of smoking-related DNA methylation between newborns from prenatal exposure and adults from personal smoking. *Epigenomics*. 2019 Oct;11(13):1487-1500. doi: 10.2217/epi-2019-0066. Epub 2019 Sep 19.
6. Ash JR; Kuenemann MA; Rotroff D; **Motsinger-Reif A**; Fourches D. Cheminformatics Approach to Exploring and Modeling Trait-Associated Metabolite Profiles. *Journal of Cheminformatics*. 2019 Jun 24;11(1):43. doi: 10.1186/s13321-019-0366-3.
7. Tang Y, Lenzini PA, Pop-Busui R, Ray PR, Campbell H, Perkins BA, Callaghan B, Wagner MJ, **Motsinger-Reif AA**, Buse JB, Price TJ, Mychaleckyj JC, Cresci S, Shah H, Doria A. A Genetic Locus on Chromosome 2q24 Predicting Peripheral Neuropathy Risk in Type 2 Diabetes: Results From the ACCORD and BARI 2D Studies. *Diabetes*. 2019 Aug;68(8):1649-1662. doi: 10.2337/db19-0109. Epub 2019 May 24.
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