

Curriculum Vitae

Marianne Huebner

Department of Statistics and Probability

Michigan State University

East Lansing, MI 48824

Telephone: (517) 432 3385 (office)

(517) 381 1836 (home)

E-mail: huebner@msu.edu

Web page: <http://www.stt.msu.edu/~huebner>

Associate Professor of Statistics and Probability, Michigan State University

Faculty Member of the interdisciplinary graduate program *Ecology, Evolutionary Biology, and Behavior* (EEBB), Michigan State University

Faculty Member of the graduate program *Genetics*, Michigan State University

Executive Committee Member of the interdisciplinary research program *Quantitative Biology Initiative* (QBI), Michigan State University

Adjunct Associate Professor, Center for Global Change and Earth Observations

Areas of Research:

Statistical genetics and statistical genomics; genetic associations and gene-gene interactions for complex traits (asthma and allergy in childhood, Parkinson's Disease); design and analysis of Rt-PCR and microarray experiments; biological networks; host-parasite systems in mathematical ecology.

Education:

1988-93 University of Southern California (USC), Los Angeles, CA

Ph.D. in Applied Mathematics 1993

Thesis advisor: B.L. Rozovskii

1983-88 Universität Saarbrücken, Germany

Diplom in Mathematics 1988 (comparable to an M.S.)

Thesis advisor: G. Wittstock

Appointments:

2000-present	Associate Professor of Statistics and Probability at MSU
2007-present	Founder and Owner of <i>Bioinformatics Consulting, LLC</i> , Okemos, MI
November 2005	Visiting Scientist at the Center for Human Genomics, Wake Forest University
Fall 2001	Member, Mathematical Sciences Research Institute, Berkeley
2001-2002	Visiting Scientist of Statistics at University of California, Berkeley
1994-2000	Assistant Professor of Statistics and Probability at MSU
1993-94	Assistant Professor of Mathematics at Tufts University
August 1993	Visiting Scientist at the Weierstrass Institut, Berlin, Germany
1988-93	Teaching and Research Assistant at USC
1985-88	Teaching Assistant at Universität Saarbrücken, Germany
1983-84	Track Coach, LSG Quierschied, Germany

Honors and Awards:

Presidential Graduate Fellowship, USC, 1992

Outstanding Teaching Award, Mathematics Department, USC 1993.

Park City Mathematics Institute, Institute for Advanced Studies, Princeton 1996

Nomination for Honors College Teaching Award, MSU, Spring 2000.

Grants and Awards:

- 2008-2011 Multiple Myeloma Research Foundation (pending)
High throughput detection and comparative analysis of phosphoprotein markers in multiple myeloma patients
- 2008-2010 International Research and Training Grant
Deutsche Forschungs Gemeinschaft (DFG) (pending)
- 2005-2010 NIH (PI: S. Ewart) R01 AI061471-01A1. \$ 2,002,066
Role: Co-Investigator (15% effort)
Genetic and epidemiologic cohort study of asthma and allergy
- 2005-2007 NIH (PI: J. Goudreau) R21 NS049057-01A1. \$170,837
Role: Co-Investigator (20% effort)
Neuroprotective factors in hypothalamic dopamine neurons
- 2003-2006 NSF (PI: A. Weber) MCB-0348074. \$578,887
Biomolecular Systems (Metabolic Biochemistry)
Role of Plastidic Dicarboxylate Translocators in Plant Ammonia Assimilation
Role: Co-PI
- 2004-2007 Strategic Partnership Grant Michigan Foundation. \$ 680,000
Quantitative Biology and Modeling Initiative
- 2003-2007 NSF Biocomplexity (Human and Natural Systems) BE/CNH-0308420 \$ 1,750,000
An integrated analysis of regional land-climate interactions
Role: Co-PI
- 2003-2006 NSF (PI: A. Tessier) OCE-0235119 \$ 327,923
Collaborative research: Physical limnology for the parasite ecologist
Role: Co-PI
- Fall 2001 Mathematical Science Research Institute, \$22,500
- 2000-2003 AHCPR \$ 803,741 (PI: J. Gardiner)
- 1997-2000 AHCPR Grant # HS09514 (PI: J. Gardiner), \$ 669,644
Statistical inference for cost-effectiveness analysis
- 1995-1997 NSF (PI: M. Huebner) DMS 9509000, \$ 17,846
Parameter estimation for stochastic partial differential equations
- August 1998 AMS/NSF, \$ 1950
- July 1996 Park City Mathematics Institute, Institute for Advanced Studies, Princeton

Abbreviations

- NIH National Health Institute
NSF National Science Foundation
AHCPR Agency for Health Care Policy and Research
USDA United States Department of Agriculture

Professional Memberships:

- Institute of Mathematical Statistics (IMS)
International Society for Computational Biology (ISCB)
American Association of University Professors (AAUP)
Deutsche Mathematiker Vereinigung (DMV)

Professional Services:

Co-Organizer of the *Science at the Edge Seminar*, Michigan State University, 2004-present
Organizer of the *Statistical Genomics Journal Club*, Michigan State University, 2007-present
Organizer of the multidisciplinary seminars *Bioinformatics* and *Statistical Genetics*, Michigan State University, 2002-2004
Member of the Executive Committee of the Center *Quantitative Biology and Modeling Initiative*, Michigan State University and Co-Coordinator for the Systems Biology Group in this Center, 2003-present.
Participating in the course development of the new quantitative biology program
Faculty member of the *Genetics Program*, Michigan State University
Faculty member of the interdisciplinary graduate program *Ecology, Evolutionary Biology, and Behavior*, Michigan State University
Organizer of the invited paper session *Biological Networks* at the 6th World Congress of the Bernoulli Society, July 26-31 2004, Barcelona, Spain
Co-Organizer of the Symposium *Biological Networks*, Michigan State University, Oct 16-18, 2003
Co-Organizer of the Conference *Dynamical Stochastic Modeling in Biology*, University of Copenhagen, Denmark, January 2003
Co-Organizer of the Conference *Stochastic Partial Differential Equations - Statistical Issues and Applications*, University of Copenhagen, Denmark, January 2001
Panelist or reviewer for some *NSF and NIH programs*, 1994-present.
Referee for the Journal *Journal of the Australian Mathematical Society*, 2000-present
Referee for the Journal *Annals of Statistics*, 1995-present
Referee for the Journal *Statistics and Probability Letters*, 2000-present
Referee for the Journal *Statistical Inference for Stochastic Processes*, 1998-present.
Reviewer for *PLOS Genetics*, 2007-present.
Reviewer for *Mathematical Reviews*, 1996-present.
Reviewer for the publishing company *Duxbury Press*, 1997-present
Reviewer for the publishing company *Academic Press*, 1998-present

Teaching Experience:

1994-present	Various undergraduate and graduate courses in probability, statistics and bioinformatics at MSU
1993-94	Various undergraduate courses in mathematics at Tufts University
1993	Outstanding Teaching Award, Mathematics Department, USC
1985-93	Teaching Assistant to various undergraduate and graduate courses, USC
1983-84	Track Coach at LSG Quierschied, Saarbrücken

Selected Courses:

Undergraduate courses:

Introduction to Statistics (250 students)

Statistics for Engineers

Graduate courses:

Stochastic Spatial Models in Biology

Statistical Analysis of Gene Expression Data

Statistical Genetics

Statistical Bioinformatics

Computational Genomics Laboratory (Co-instructor)

Experimental Design

Stochastic differential equations

Students and “Postdocs:”

1. Lan Tong. Graduated 2005. Master’s thesis: *Statistical methods for identifying genetic associations*. Employer: Health Sciences Institute and the University of Michigan.
2. William R. Swindel. Graduated 2007 from Statistics and Probability at MSU. Ph.D. 2005 in the Biological Sciences from Bowling Green State University. Master’s thesis: *Differential expression analysis of DNA Microarray data with application to the heat shock response of Arabidopsis Thaliana*. Employer: Department of Pathology, University of Michigan (post-doc).
3. Hsueh-Han Yeh. Graduated 2007. Master’s Thesis: *Differences in gene expressions of ecotypes of Arabidopsis Thaliana using random forests*. Employer: Uniminer, Taiwan.

Recent Collaborators:

Susan Ewart, Department of Large Animal Clinical Sciences, Michigan State University.

John Goudreau, Department of Pharmacology and Toxicology, Department of Neurology, Neuroscience Program, Michigan State University.

Marsha Wills-Karp, Department of Pediatrics, Director of the Division of Immunobiology, Children’s Hospital Medical Center, University of Cincinnati.

Hasan Arshad, David Hide Asthma and Allergy Research Centre, Isle of Wight, and University of Southampton, England.

Wilfried Karmaus, School of Public Health, University of South Carolina.

Dong-Yun Kim, Visiting Faculty Member in Statistics, MSU. Accepted Tenure track position at Department of Statistics, Virginia Tech.

Andreas Weber, Plant Biology, Michigan State University, and Biology at the Universität Düsseldorf, Germany.

Frances Trail, Plant Biology, Michigan State University.

Nathan Moore, Center for Global Change and Earth Observations, Michigan State University.

Alan Tessier, National Science Foundation, USA.

Spencer Hall, Biology, Indiana University.

Invited Talks and Presentations:

October 2007	Midwest Systems Biology Conference, East Lansing
July 2007	Mayo Clinic, Rochester
May 2007	American Thoracic Society International Conference, San Francisco
July 2007	USDA 32nd Annual International Herpesvirus Workshop (Presenter: M. Heidari)
August 2006	4th International Workshop on the Molecular Pathogenesis of Marek's Disease Virus (Presenter: M. Heidari)
November 2005	Center for Human Genomics, Wake Forest University
June 2005	Department of Statistics, University of Copenhagen, Denmark
September 2004	Department of Statistics, University of Michigan
July 2004	6th World Congress of the Bernoulli Society, Barcelona
March 2004	Center for Statistical Genetics, University of Alabama, Birmingham
September 2003	Climate-Land Interaction Workshop, Michigan State University
April 2003	Center for Biological Modeling, Michigan State University
March 2003	Mathematics Department, University of Tennessee
January 2003	University of Copenhagen, Denmark
September 2002	Department of Epidemiology, Michigan State University
September 2002	Bioinformatics Seminar, Michigan State University
April 2002	Center of Applied Mathematical Sciences, USC, Los Angeles
December 2001	Mathematical Sciences Research Institute, Berkeley
January 2001	University of Copenhagen, Denmark
May 2000	University Saarbrücken, Germany
July 1999	Summer Probability Program, University of Wisconsin. Presenter: S. Lototsky
October 1998	Meeting of the Society for Medical Decision Making. Presenter: J. Gardiner
August 1998	International Congress for Mathematicians, Germany (contributed)
July 1998	American Society for Engineering Education (ASEE). Presenter: Tom Bieler
September 1997	SPDE Workshop, MSRI, Berkeley (contributed)
July 1997	IMS Annual Meeting, Park City, Utah
January 1997	AMS Annual Meeting, San Diego
October 1996	Workshop Stochastic Analysis, MSU
November 1995	Penn State University, Pennsylvania
November 1995	Bucknell University, Pennsylvania
October 1994	Women in Probability, Cornell University (contributed)
July 1994	SIAM Annual Meeting, San Diego
June 1994	3rd World Congress of the Bernoulli Society, Chapel Hill (contributed)
November 1993	Boston Area Probability Seminar, Tufts University
August 1993	Weierstrass Institut, Berlin, Germany
July 1993	SIAM Annual Meeting, Philadelphia (poster session)
June 1993	University of California at Los Angeles (UCLA)
December 1992	Universität Saarbrücken, Germany
December 1992	University of Oslo, Norway
October 1992	State University of California at Northridge
August 1990	University of Oslo, Norway

Other Conferences Attended:

February 2005	MBI Workshop on Emerging Genomic Technologies and Data Integration Problems
October 2004	MBI Workshop on Gene Expression Data Analysis
June 2004	Symposium on the Evolution of Biomolecular Structure, MSU
October 2003	Symposium on Biological Networks, MSU
September 2003	IMA Workshop on Statistical methods for gene expression: microarrays and proteomics, Minneapolis
May 2003	American Thoracic Society International Conference, Seattle
May 2003	International Symposium on Animal Functional Genomics, MSU
February 2002	Probability conference in honor of Blackwell and Dubins, UC Berkeley
August 2001	Workshop on inverse problems and integral geometry, MSRI
November 2001	Inverse problems and applications, MSRI
June 1998	Great Lakes Shaping the Future Workshop - Teaching, Learning and Assessment in Undergraduate Science, Engineering and Mathematics, MSU
May 1998	Statistics Conference in honor of Jim Hannan, MSU
September 1996	Asymptotic methods in stochastic dynamics and nonparametric statistics, Weierstrass Institut, Berlin, Germany
August 1996	IMS Conference, Chicago
June 1996	Probability Summer Program, Institute for Advanced Studies, Princeton
January 1996	First California Winter Workshop on SPDEs, USC, Los Angeles
November 1995	Norbert Wiener Centenary Congress, MSU
January 1994	US-Japan Bilateral Seminar, Louisiana State University, Baton Rouge
July 1993	AMS Summer Institute on Stochastic Analysis, Cornell University
April 1993	Random Fields for Oceanographic Modeling, USC, Los Angeles
April 1992	Random Fields for Oceanographic Modeling, University of Miami
April 1991	School-Seminar in Stochastic PDEs, University of North Carolina, Charlotte