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## **Education**

**Ph.D. in Statistics**, Colorado State University, Fort Collins, CO, 2005

**M.S. in Statistics**, Colorado State University, Fort Collins, CO, 2001

**B.S. in Math and Physics**, University of Hartford, West Hartford, CT, 1998

## **Academic Experience**

**Assistant Professor**, July 2006 - Present

Department of Statistics and Center for Bioinformatics, Colorado State University

**Post Doctoral Bioinformatics Consultant**, August 2005 - June 2006

Department of Statistics, Colorado State University

Provided statistical consulting and data analysis services for campus researchers working in Bioinformatics.

**Graduate Teaching Assistant**, Fall 1998 - Spring 2005

Department of Statistics, Colorado State University

**Graduate Research Assistant**, June 2000 - June 2003

Department of Statistics, Colorado State University

Statistical modeling of visibility and air quality for the Visibility Project funded by National Park Service.

## **Courses Taught**

STAT 101: Activity Based Statistics

STAT 110: Statistical Thinking: Concepts and Applications

STAT 201: General Statistics

STAT 307: Introduction to Biostatistics

STAT 511: Design and Data Analysis for Researchers I

STAT 580: Design and Analysis for Bioinformatics

## **Publications**

**A. Hess**, A. Prasa, A. Ptitsyn, G. Ebel, K.E. Olson, C. Barbacioru, C. Monighetti, C.L. Campbell, “Small RNA profiling of Dengue virus-mosquito interactions implicates the PIWI RNA pathway in anti-viral defense”, submitted to *BMC Microbiology*.

S. Walmsley, C. Broeckling, **A. Hess**, J. Prenni, N. Curthoys, “Proteomic Analysis of Brush Border Membrane Vesicles Isolated from Purified Proximal Convoluted Tubules”, *Renal Physiology*, 2010, Am J Physiology: Renal Physiology, 298: F1323 - F1331.  
<http://ajprenal.physiology.org/cgi/reprint/00711.2009v1>

C. Mehaffy, **A. Hess**, J. Prenni, B. Mathema, B. Kreiswirth, K. Dobos, “Descriptive proteomic analysis shows protein variability between closely related clinical isolates of *Mycobacterium tuberculosis*”, *Proteomics*, 2010, 10(10):1966-1984.  
<http://www3.interscience.wiley.com/journal/123316225/abstract>

M. Wallenstein, **A. Hess**, M. Lewis, H. Steltzer, E. Ayres, “Decomposition of aspen leaf litter results in unique metabolomes when decomposed under different tree species”, *Soil Biology and Biochemistry*, 2010, 42(3): 484-490.

M. Bruce, **A. Hess**, J. Bai, R. Mauleon, M.G. Diaz, N. Sugiyama, A. Bordeos, G.L. Wang, H. Leung and J. Leach, “Detection of genomic deletions in rice using oligonucleotide microarrays”, *BMC Genomics*, 2009, 10:129.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2666768>

A. Hackstadt and **A. Hess**, “Filtering for Increased Power for Microarray Data Analysis”, *BMC Bioinformatics*, 2009, 10:11.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2661050>

N. Lapitan, **A. Hess**, B. Cooper, A.M. Botha, D. Badillo, H. Iyer, J. Menert, T. Close, L. Wright, G. Hanning, M. Tahir, C. Lawrence, “A comprehensive transcript profile of differentially expressed genes during malting in barley”, *Theoretical and Applied Genetics*, 2009, 118:937-952.  
<http://www.springerlink.com/content/n367882l00253502/?p=0361542dcf3a491f9dc11614b87d9113&pi=8>

C. Campbell, W.C. Black, **A. Hess**, B. Foy, “Comparative genomics of small RNA regulatory pathway components in vector mosquitoes”, *BMC Genomics*, 2008, 9:425.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2566310>

D. van Hoewyk, H. Takahashi, E. Inoue, **A. Hess**, M. Tamaoki, E. Pilon-Smits, “Transcriptome analyses give insight into selenium-stress responses and selenium tolerance mechanisms in *Arabidopsis*”, *Physiologia Plantarum*, 2008, 132(2):236-253.  
<http://www3.interscience.wiley.com/journal/119395386/abstract>

A. Hess and H. Iyer, "Fisher's Combined p-value for Detecting Differentially Expressed Genes from Affymetrix Arrays", *BMC Genomics*, 2007, 8:96.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1854896>

A. Hess, H. Iyer and W. Malm, "Linear Trend Analysis- a Comparison of Methods", *Atmospheric Environment*, 2001, 35:5211-5222.

## **Professional Presentations**

11/10/09, "Design and Data Analysis for Quantitative Proteomics Workshop", Colorado State University, Fort Collins, CO

11/14/08, "Statistical Methods in Bioinformatics", Department of Statistics, University of Wyoming, Laramie, Wyoming

9/3/08, "Genetic Association Analysis with the Barley CAP Marker Data", Busch Agricultural Resources, Inc., Fort Collins, Colorado

8/7/08, "Analysis of Arabidopsis Genome Tiling Arrays to Detect Nuclear Pre-mRNA Processing Events and Differential Gene Expression", Joint Statistical Meetings, Denver, Colorado

3/12/08, "Transcriptional Profiling of Barley Malting", Department of Bioagricultural Science and Pest Management, Colorado State University

11/13/07, "Topics in Microarray Design and Analysis", Department of Animal Science, Colorado State University

7/30/07, "Microarray Analysis: p-values, filtering and multiple testing adjustments", Joint Statistical Meetings, Salt Lake City, Utah

6/13/07, "A Beginner's Guide to BLAST", Graybill Conference VI, Fort Collins, Colorado

12/6/06, "Microarray Experimental Design Workshop", Colorado State University, Fort Collins, Colorado

8/10/06, "The Combined p-value for Detecting Differentially Expressed Genes from High Density Oligonucleotide Arrays", Joint Statistical Meetings, Seattle, Washington

9/26/05 – 9/29/05, "Using BioConductor for the Analysis of Affymetrix Microarray Data", Colorado State University, Fort Collins, Colorado

11/19/02, "Microarray Experiments: Before and After the Fold Change Calculation", Department of Statistics, Purdue University, West Lafayette, Indiana

4/15/02, “A SAS/IML Macro for Computation of Confidence Intervals for Variance Components of Mixed Models”, SUGI (SAS Users Group International) 27, Orlando, Florida

4/30/02, “Statistical Problems in Microarray Experiments – A Case Study”, Fourteenth Annual Kansas State University Conference on Applied Statistics in Agriculture, Manhattan, Kansas

4/30/01, “Enumeration of Mixed Models for Five or Fewer Factors and a SAS Macro for Computation of Confidence Intervals for Corresponding Variance Components”, Thirteenth Annual Kansas State University Conference on Applied Statistics in Agriculture, Manhattan, Kansas

9/14/00, “Trends Analysis - An Intercomparison of Methods”, Conference on Visibility, Aerosols and Atmospheric Optics, Vienna, Austria