

WILLIAM D. BEAVIS, Ph.D.

(a) Professional Preparation

B.S., 1978, Range Management, Humboldt State U, Arcata, CA.

M.S., 1981, Interdisciplinary Biology-Statistics, New Mexico State U, Las Cruces, NM

Ph.D., 1986, Quantitative Genetics, (Plant Breeding Major, Statistics Minor) Iowa State U, Ames, IA

(b) Professional Appointments

Professor, and GF Sprague Chair, Department of Agronomy, Iowa State University, (Sept 2007 - present)

Chief Science Officer, NCGR, Santa Fe, NM (October 2000 - Sept., 2007).

Director of Science Programs, NCGR, Santa Fe, NM (June 1999 to October 2000)

Program Leader for Complex Traits, NCGR, Santa Fe, NM (September 1998-June 1999)

Research Statistician, Pioneer Hi-Bred, Int'l, Johnston, IA (1987-1998)

Data Manager, Sorghum Breeding Department, Pioneer Hi-Bred, Int'l, Plainview, TX (1986-1987)

(c) Recent Relevant Peer Reviewed Publications

Brock, GN, **WD Beavis**, LS Kubatko (2008) Fuzzy logic and related methods as a screening tool for detecting gene regulatory networks. *Informat.Fusion* doi:10.1016/j.inffus.2008.11.008

Huntley, JA, SJ Maleki, MD Gonzales, **WD Beavis** (2008) Bioinformatic tools, resources and strategies for comparative structural studies for food allergens. In Eds. Siantar, DP, MW Trucksess, PM Scott, WM Herman. *Food Contaminants: Mycotoxins and Food Allergens*. American Chemical Society, Washington DC pp 322-356.

Mudge, J, NA Miller, I Khrebtukova, IE Lindquist, GD May, JJ Huntley, S Lu, L Zhang, JC van Velkinburgh, AD Farmer, S Lewis, **WD Beavis**, FD Schilkey, SM Virk, CF Black, MK Myers, LC Mader, RJ Langley, JP Utsey, RW Kim, RC Roberts, SK Khalsa, M Garcia, V Ambriz-Griffith, R Harlan, W Czika, S Martin, RD Wolfinger, NI Perrone-Bizzozero, GP Schroth, SF Kingsmore. (2008) Genomic Convergence Analysis of Schizophrenia. 1. mRNA Sequencing Reveals Altered Synaptic Vesicular Transport in Post-Mortem Cerebellum. *PLoS ONE* (accepted 10-2-08)

Kingsmore, SF, IE Lindquist, J Mudge, DD Gesler, **WD Beavis** (2008) Genome-wide association studies: progress and potential for drug discovery and development. *Nature Reviews* (adv online publication) doi:10.1038/nrd2519

Kingsmore, SF, IE Lindquist, J Mudge **WD Beavis** (2007) Genome-Wide Association Studies: Progress in Identifying Genetic Biomarkers in Common, Complex Diseases. *Biomarker Insights* 2007:2 1-10.

Beavis, WD, FD Schilkey, SM Baxter (2007). Translational Bioinformatics: At the Interface of Genomics and Quantitative Genetics. *Crop Science* 47(s3): 32-43

Gonzales, MD, K Gajendran, AD Farmer, E Archuleta, **WD Beavis** (2007) Leveraging model legume information to find candidate genes for soybean Sudden Death Syndrome using the Legume Information System (LIS). In Ed. Edwards D. *Methods in Molecular Biology*, Humana Press (USA), pp. 245-260

Beavis, W.D. (2005) Architectures for Integration of Data and Applications: Lessons from Integration Projects. In *The Stadler Genetics Symposium XXII*: Springer (eds. Gustafson, Shoemaker and Snape) pp. 31-46.

Munneke, B., K.A. Schlauch, **W.D. Beavis**, and R.W. Doerge (2005). Adding Confidence to Gene Expression Clustering. *Genetics* 170:2003-2011.

Gepts, P. **WD Beavis**, EC Brummer, RC Shoemaker, HT Stalker, NF Weeden, ND Young. (2005) Legumes as a Model Plant Family: Genomics for Food and Feed. Report of the Cross Legume Advances through Genomics Conference. *Plant Physiology* 137: 1228-1235.

Jansen, R.C., J.L. Jannink and **W.D. Beavis**. (2003) Mapping quantitative trait loci in plant breeding populations: use of parental haplotype sharing. *Crop Science* 43: 829-834.

(d) Synergistic Activities

Dr. Beavis is Professor of Agronomy and GF Sprague Chair in Population Genetics at Iowa State University. His academic appointment consists of 75% research and 25% teaching. His Research program is focused on the long term consequences of Marker Assisted Breeding. His approaches consist of simulation modeling, development of statistical methods, utilization of a model plant system and genomic analyses. In collaboration with Dr. Thomas Lubberstedt he is incorporating these approaches into a graduate course in Marker Assisted Breeding that will be delivered to students in both the traditional on-campus venue and through a web enabled distance education program. He is the instructor of record for a graduate course in statistics as part of the distance MS program in Agronomy and the advanced Plant Breeding course required of all PhD candidates. He continues to provide oversight of NCGR as a member of the board of directors and he provides statistical analyses of human genetics projects at the Lovelace Respiratory Research Institute (LRRI).

(e) Other Affiliations

Adjunct Research Scientist, Lovelace Respiratory Research Institute, Albuquerque, New Mexico (January 2004 – present)

Board of Directors, National Center for Genome Resources (NCGR), Santa Fe, NM (July 2001 to present).

Adjunct Professor, Department of Mathematics and Statistics, University of New Mexico (November, 2002 – Sept. 2007)

Adjunct Assistant Professor, Department of Biochemistry and Molecular Biology, School of Medicine, University of New Mexico (January 2003 – December 2006).

Board of Directors, New Mexico Biomedical and Biotechnology Association (January, 2002 – January, 2004).

Board of Directors, New Mexico Technology Research Collaborative (January, 2003 – 2005).

Collaborators: Susan Baxter (San Diego State University), Guy Brock (U Louisville), Mark Cooper (Pioneer), Rebecca Doerge (Purdue U), Jode Edwards (USDA-ARS), Damian Gessler (NCGR), Jeff Gulcher (deCode Genetics), Ritsert Jansen (U of Groenengin), Jean-Luc Jannink (USDA-ARS), Stephen Kingsmore (NCGR), Thomas Lubberstedt (Iowa State University), Rick Lyons (UNM), Greg May (NCGR), Ernie Retzel (NCGR), Jean-Marcel Ribaut (CIMMYT), Mark Salkins (CIMMYT), Laura Kubatko Salter (Ohio State U), Paul Scott (USDA-ARS), Randy Shoemaker (USDA-ARS), Ann-Marie Thro (USDA-CSREES), Julie Wilder (LRRI),

Graduate Students

Reka Howard (2008-), Shreyartha Mukharjee(2008-), Carla Taylor (2008-), Mark Newell (2008-), Franco Asoro (2008-), Kendra Meade (2008-)

Graduate Students (committee)

Guy Brock (UNM-2004), Brian Munneke (Purdue U-2002), Kristina Strandberg (UNM-2006), Brian Scheffler (ISU-1996), Greg Doonan (2008-), Massiel Orellana (2008-), Bryce Lemke (2008-)

Post-Doctoral Mentor

Karen Schlauch (1999-2001), Brian Shiloff (2000-2003), Baohong Guo (2008-)