

# Professional Vitae Christopher J. Malone

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## **Professional Preparation**

Kansas State University, 2002. Ph.D. Statistics

Dissertation: *The Analysis of Location and Dispersion Effects in Unreplicated 2k Factorial Experiments*

Kansas State University, 1997. M.S. Statistics

Winona State University, 1994. B.S. Double Major: Statistics & Mathematics

## **Appointments**

July 2009 – Present.

Associate Professor, Winona State University, Winona, MN.

September 2012 – Present / September 2006 – December 2010.

Co-Director / Director, ISEF affiliated Southeastern Minnesota / Western Wisconsin Regional Science and Engineering Fair, Winona, MN.

September 2011 – Present.

Director, Midwest Undergraduate Data Analytics Competition ([www.MUDAC.org](http://www.MUDAC.org)).

July 2008 – June 2011.

Director, Statistical Consulting Center, Winona State University, Winona, MN.

Summer 2008, Summer 2007.

Visiting Scientist, Mayo Clinic, Rochester, MN.

August 2002 – July 2009.

Assistant Professor (Tenured in 2006). Winona State University, Winona, MN.

## Publications – Refereed

1. Archer, S., Barna, A., Holper, R., Forsyth, D., Ellenbecker, S., Smith, L., Clobes, J., Meiers, S., Malone, C., Lapid, M. (2013). Associations Among Fluid Intake, Cognitive Function, and Length of Stay in Psychogeriatric Inpatients. Submitted to *Perspectives in Psychiatric Care*.
2. Loughin, T., Malone, C. (2013). An Improved Test for Dispersion Effects in Unreplicated Two-Level Factorial Designs When the Location Model May Be Incorrect. Tentatively accepted for *Journal of Quality Technology*.
3. Wilson, T., Baker, S., Freeman, F., Garbrecht, M., Ragsdale, F., Wilson, D., Malone, C. (2012). Relaxation Breathing Improves Human Glycemic Response. In press for *Journal of Alternative Complementary Medicine*.
4. Deming, J., O'Donnell, J., Malone, C. (2012). Scientific Literacy: Resurrecting the Phoenix with Thinking Skills. *Science Educator*. Vol. 21, No. 2, 10-17.
5. Tessema, M., Ready, K., Malone, C., (2012). Effect of Gender on College Students' Satisfaction and Achievement: The Case of a Midsized Midwestern Public University. *International Journal of Business and Social Science*. Vol. 3, No. 10. 1-11.
6. Rorabaugh, J., Singh, A., Sherrell, I., Freeman, M., Vorsa, N., Fitschen, P., Malone, C., Maher, M., Wilson, T. (2011). English and Black Walnut Phenolic Antioxidant Activity In Vitro and Following Human Nut Consumption. *Food and Nutrition Science*, 2011; 2:193-200.
7. Astani, M., Malone, C. (2011). A Preliminary Study of Face-to-Face Versus Online Learning. *Issues in Information Systems*. Vol. XII, No. 2, 287-292.
8. Wangberg, A., Anderson, N., Malone, C., Adamu, B., Bertram, K., Uber, K. (2010). Building a Better Math Tutor System with Tablet PC Technology. *Monograph: Workshop on the Impact of Pen-Based Technology on Education*. Editors: Reed, R., Berque, D. Purdue University Press. 129-140.
9. Malone, C., Gabrosek, J., Curtiss, P., and Race, M. (2010). Resequencing Topics in an Introductory Applied Statistics Course. *The American Statistician*. 64(1): 52-58.

## Presentations

1. 2013, May; Submitted; "Should Pre-Existing Knowledge Gained from the Common Core Change the Way We Teach Introductory Statistics in College?"; Co-presenters: Tisha Hooks and Nicole Williams; United States Conference on Teaching Statistics; Raleigh, NC.
2. 2013, February; "Modifying the undergraduate statistics curriculum to properly train future data scientists"; Poster Presentation; Co-presenters: Brant Deppa, Tisha Hooks, and April Kerby; Conference on Statistical Practice; New Orleans, LA.
3. 2013, January; "Redesign Your Next Hire: A Grassroots Effort to Create the Optimal Data Scientist Degree"; Co-presenter: Brant Deppa; #BigDataMN: Minnesota's Field Guide to Analytics Conference, Minneapolis, MN.
4. 2012, October; "Designing an Experiment to Examine the Effects of Verbal Distraction on Short-Term Memory" and "Don't Let Bad Data Ruin Your Project: Good vs. Bad Measurements"; Co-presenter: Tisha Hooks; Winona Middle School – Project Science Class; Winona, MN.
5. 2012, September; "Training Students to be Successful in the Workforce"; Co-presenters: April Kerby, Brant Deppa, and Tisha Hooks; WSU Department of Mathematics and Statistics Seminar Series; Winona, MN.
6. 2012, August; "Finding an Appropriate Balance Between Simulation-Based and Traditional Methods in the Teaching of Statistical Inference"; Invited; Co-presenter: Tisha Hooks; Joint Statistical Meetings, San Diego, CA.
7. 2012, August; "An Undergraduate Course in Statistical Consulting and Communications"; Invited; Presenter: Tisha Hooks; Joint Statistical Meetings, San Diego, CA.
8. 2012, August; "The Undergraduate Statistics Program of the Future"; Poster Presentation; Co-presenters: April Kerby, Brant Deppa, and Tisha Hooks; Joint Statistical Meetings, San Diego, CA.
9. 2012, August; "Midwest Undergraduate Data Analytics Competition"; Poster Presentation; Co-presenters: Brant Deppa, Tisha Hooks, and April Kerby; Joint Statistical Meetings, San Diego, CA.
10. 2012, May; "A debate of what we know, think we know, and don't know about the use of simulation and randomization-based methods as alternatives to the consensus curriculum of the Stat 101 course"; Co-presenter: Nathan Tintle (Dort College); Electronic Conference on Teaching Statistics (eCOTS).
11. 2012, May; "Involving Undergraduates in Statistical Consulting"; Poster Presentation; Co-presenter: Tisha Hooks; Electronic Conference on Teaching Statistics (eCOTS).

12. 2012, May; "Teaching Statistics with Coins & Playing Cards -- Going Beyond Probabilities"; Workshop; Co-presenters: Tisha Hooks and April Kerby; 2012 WI Math Council; Green Lake, WI.
13. 2012, February; "Practical Applications of Zero-Inflated Models in a Manufacturing Setting"; Poster Presentation; Co-presenters: Brant Deppa and Mike Havener (Benchmark Electronics); Conference on Statistical Practice; Orlando, FL.
14. 2012, February; "A Successful Model for Creating and Sustaining a Statistical Consulting Center at a Mid-sized University"; Poster Presentation; Co-presenter: Tisha Hooks; Conference on Statistical Practice; Orlando, FL.
15. 2012, January; "Using Alternative Forced Choice Models to Introduce the Concepts of Statistical Inference"; Co-presenters: Tisha Hooks and April Kerby; Joint Mathematics Meetings; Boston, MA.
16. 2011, May; "Designing an Undergraduate Statistics Program for the Future"; Poster Presentation; Co-presenters: Brant Deppa, Tisha Hooks, and April Kerby; United States Conference on Teaching Statistics; Raleigh, NC.
17. 2011, May; "Digging Deeper into your Data"; Symposium Presentation; Intel International Science and Engineering Fair; Los Angeles, CA.
18. 2011, April; "M<sup>3</sup>: Manipulatives, Modeling, and Mayhem Sessions I and II"; Co-presenters: Susan Beseler, Tisha Hooks, and April Kerby; MCTM/MinnMATYC Spring Conference; Duluth, MN.
19. 2011, April; "Enhancing the Teaching of Statistics with Consulting Experiences"; Invited AP Webinar; Texas A&M University, College Station, TX.
20. 2011, March; "Digging Deeper into your Data"; Invited Workshop; Minnesota State Science and Engineering Fair; Minneapolis, MN.
21. 2011, January; "Consequences of Resequencing Topics in an Introductory Statistics Course"; Co-presenters: Tisha Hooks and April Kerby; Joint Mathematics Meetings; New Orleans, LA.
22. 2010, November; "Glycemic and Insulin Response to Raisins, Grapes and Bananas in College Aged Students"; Abstract/Poster; Co-authors: J. Anderson, H. Huth, M. Larson, A. Colby, E. Krieg, L. Golbach, K. Simon, S. Wasmundt, C. Malone, T. Wilson. *FASEB Journal*. 2011; 25s:587.1.
23. 2010, October; "Using Your Hair to Understand Descriptive Statistics"; Presenter: Tisha Hooks; CAUSEWeb Activity Webinar Series; CAUSEweb.org.
24. 2010, October; "Introducing Sampling Distributions and Statistical Inference"; MCTM Fall Conference, Maple Grove, MN.

25. 2010, August; "Statistics Degree Programs in a Data-centric World: What Needs to Change"; Invited Panelist; 2010 Joint Statistical Meetings; Vancouver, BC.
26. 2010, May; "Sequencing of Topics in an Introductory Course: Does Order Make a Difference (plus some additional Challenges)"; California Polytechnic State University, San Luis Obispo, CA.
27. 2010, May; "Importance of Statistics in Scientific Research"; Symposium Presentation; Intel International Science and Engineering Fair; San Jose, CA.
28. 2010, April; "Using Coins, Dice, and Playing Cards to Teach Statistical Inference, Sessions I and II", Co-presenters: Susan Beseler, Tisha Hooks, and April Kerby; MCTM/MinnMATYC Spring Conference; Duluth, MN.
29. 2010, March; "Importance of Statistics in Scientific Research"; Invited Workshop; Minnesota State Science and Engineering Fair; St. Paul, MN.
30. 2009, August; "Resequencing Topics in an Introductory Statistics Course"; Roundtable; Joint Statistical Meetings; Washington, D.C.
31. 2009, June; "Using Exact Tests to Bridge the Gap between Sampling Distributions and Inference"; Poster Presentation; Co-presenters: Dason Kurkewic and Tisha Hooks; United States Conference on Teaching Statistics; Columbus, OH.
32. 2009, April; "Breaking Down Sampling Distributions"; Co-presenter: Tisha Hooks; MCTM/MinnMATYC Spring Conference; Duluth, MN.

## **Grants**

1. 2013; National Science Foundation; Working Title: "Broadening the impact and evaluating the effectiveness of randomization-based curricula for introductory statistics"; PIs: Nathan Tintle, Beth Chance, George Cobb, Allan Rossman, Soma Roy, Todd Swanson, Jill VanderStoep; My contribution - Developer; Total amount: Unknown, My amount: \$3,000
2. 2012; WSU Foundation, Winona State University; Title: Midwest Undergraduate Data Analytics Competition (MUDAC.org); Collaborators: Brant Deppa, Tisha Hooks, and April Kerby; Funds to support this competition for three years; Total Amount: \$4,500.
3. 2012; National Science Foundation; Title: "CATALST Project: Change Agents for Teaching and Learning Statistics" (NSF Grant DUE-0814433). PIs: Joan Garfield, Robert delMas, Andrew Zieffler; My contribution - Implementer; Total amount: \$318,290, My amount: \$3,000.
4. 2012; National Science Foundation; Title "Collaborative Research: Enhancing Calculus Learning with WeBWork PREDICTS."; PIs: Aaron Wangberg, Nicole Engelke, Gulden Karakok; My contribution – Senior Personnel; Total amount: \$600,000. Funding status is pending.

5. 2011; WSU Foundation, Winona State University; Title: Regional Data Analysis Competition; Collaborators: Brant Deppa, Tisha Hooks, and April Kerby; Funds to support this inaugural competition; Total Amount: \$1,150.
6. 2011; National Science Foundation; Title: "NSF Cyberlearning Proposal: EXP: Collaborative Research: Enhancing Calculus Learning with Technological Interventions"; Co-PIs: Aaron Wangberg, Nicole Anderson, Gulden Karakok, and Nicole Engelke; Amount: \$533,355. Not funded, but received positive reviews (4 Very Good, 1 Good).
7. 2011; MnSCU: CTL Discipline / Program Workshop Grant; Title: "Twenty-Third Annual MinnMATYC Conference"; Collaborators: Melvern Taylor and Kevin Blanchette. Amount: \$5,120.
8. 2010; MnSCU: CTL Discipline / Program Workshop Grant; Title: "Twenty-Second Annual MinnMATYC Conference"; Collaborators: Melvern Taylor, Kevin Blanchette, Mark Omodt, and Bruce Bordwell. Amount: \$5,000.
9. 2010; MnSCU Center for Teaching and Learning Instructional Development Grant; Title: "Prerequisite Knowledge in Calculus using an open-source Assessment / Practice Tool"; Collaborators: Aaron Wangberg; Amount: \$3,174.
10. 2009, MnSCU Center for Teaching and Learning Instructional Development Grant; Title: "Self-Explanation Tutorials on Pre-requisite Material for Calculus I Students"; Collaborators: Aaron Wangberg; Amount \$10,000
11. 2009, MnSCU Center for Teaching and Learning Instructional Development Grant; Title: "Increasing STEM Enrollment and Math Success through Effective Implementation of WeBWork at Many Institutions"; Collaborators: Aaron Wangberg, Tisha Hooks, Eric Errthum; Amount: \$149,950.58. Not funded.

### **Professional Memberships / Positions**

#### American Statistical Association

Committee Member; Committee on Continuing Education, 2010-2012  
 ISEF Symposium Speaker, American Statistical Association, 2010-2011  
 Member, Section on Statistics Education, American Statistical Association  
 Member, Section on Statistical Consulting, American Statistical Association

#### Consortium for the Advancement of Undergraduate Statistics Education

USPROC Organizing Committee, 2009-2013  
 Poster's and Beyond Organizing Committee, 2009-2013