

**BIOGRAPHICAL SKETCH**

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NAME: Jeffrey D. Dawson, ScD

eRA COMMONS USER NAME (credential, e.g., agency login): DAWSONJD

POSITION TITLE: Professor of Biostatistics

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Brigham Young University, Provo, UT	B.S.	1987	Statistics (Mathematics)
Harvard University, Boston, MA	Sc.D.	1991	Biostatistics (Human Biology)

**A. Personal Statement**

I have worked for more than 30 years collaborating in areas related to this application, including pediatrics, psychiatry, and neurology. I have particular experience in mentoring junior faculty (including K-award recipients), research staff, and students. I served as Director in Graduate Studies in the University of Iowa's Department of Biostatistics for nine years, and I continue to be involved in curricular updates at the departmental and collegiate level. In addition to my broad experience in collaborative research, I also have methodological publications in clinical trials, missing data, longitudinal studies, and time series data. I have worked with Dr. van der Plas in the past and look forward to working with her on this project.

Ongoing neurology-related projects that are relevant to the current application include:

VA IPA/I01RX002987

Uc (PI), Role: Co-Investigator (PI of VA IPA)

07/01/19-06/30/23

Long Term Aerobic Exercise to Slow Progression in Parkinson's Disease

Contract #34-5250-2026-015

Rizzo (PI, at UNMC), Role: Co-Investigator (PI of UI subcontract for analysis)

06/01/19-02/28/23

Real-World Driver Behavior for Classification and Early Prediction of Alzheimer's Disease

**B. Positions, Scientific Appointments, and Honors****Positions and Employment**

2011– Associate Dean for Faculty Affairs, College of Public Health, University of Iowa, Iowa City, IA  
 2009– Professor, Department of Biostatistics, College of Public Health, University of Iowa, Iowa City, IA  
 2003–12 Director of Graduate Studies, Department of Biostatistics, College of Public Health, University of Iowa, Iowa City, IA  
 1999–09 Associate Professor, Department of Biostatistics, College of Public Health (established 1999), University of Iowa, Iowa City, IA  
 1997–99 Associate Professor, Department of Preventive Medicine and Environmental Health, University of Iowa, Iowa City, IA  
 1991–97 Assistant Professor, Department of Preventive Medicine and Environmental Health, University of Iowa, Iowa City, IA  
 1988–89 Research Assistant, Dana-Farber Cancer Institute and Harvard University, Boston, MA

## Professional Memberships

American Statistical Association

International Biometric Society (ENAR)

International Statistical Institute / International Association for Statistical Education

## Honors

2016	Selected as Fellow, American Statistical Association
2013–14	Academic Leadership Program Fellow, Committee on Institutional Cooperation
2013	Inducted into Delta Omega Honorary Society in Public Health
2012–15	American Statistical Association Council of Chapters Governing Board
2008–09	Chair of Faculty Council, College of Public Health, Univ. of Iowa
2004	College of Public Health Faculty Service Award
1999–01	Faculty Mentor for Medical Science Training Program
1994	Elected to Faculty Senate
1987	Phi Kappa Phi Honor Society

## C. Contributions to Science

### 1. Driving Research in Neurologically-Impaired Populations

I have been part of a research team for over 20 years that has been using driving simulators, instrumented vehicles, and “black box” technology to study the safety and performance of drivers with Alzheimer’s disease, Parkinson’s disease, strokes, and obstructive sleep apnea, as well as healthy elderly drivers. We have been able to quantify differences between the disease groups and healthy drivers, and have found off-road cognitive tests that correlate with driving measures and with driving cessation. We have published over 40 papers in this area. Selected references are:

- a. Aksan N, **Dawson JD**, Emerson J, Yu L, Uc EY, Anderson S, Rizzo M. (2013) Naturalistic distraction and driving safety in older drivers. *Human Factors*, 55(4), 841–855. PMID: PMC3880225, PMID: 23964422.
- b. **Dawson JD**, Anderson SW, Uc EY, Dastrup E, Rizzo M. (2009) Predictors of driving safety in early Alzheimer’s disease. *Neurology*, 72(6), 521–527. PMID: PMC2677513, PMID: 19204261.
- c. **Dawson JD**, Uc EY, Anderson SW, Johnson AM, Rizzo M. (2010) Neuropsychological predictors of driving errors in older adults. *Journal of the American Geriatrics Society*, 58(6), 1090–1096. PMID: PMC3204878, PMID: 20487082.
- d. Uc EY, Rizzo M, Johnson AM, Emerson JL, Liu D, Mills ED, Anderson SW, **Dawson JD**. (2011) Real-life driving outcomes in Parkinson disease. *Neurology*, 76(22), 1894–1902. PMID: PMC3115811, PMID: 21624988.

### 2. Cardiovascular Health

I worked for several years in the adult phases of the Muscatine heart study, primarily in projects where we measured the intima medial thickness of carotid arteries and the abdominal aorta (cIMT and aIMT, respectively), which are surrogates for stroke and heart attack risk. We found that childhood cholesterol levels correlated with higher cIMT when measured decades later. We also found several cardiovascular risk factors that correlated with cIMT and aIMT in adolescents and young adults. I also work with collaborators in Pharmacy and Family Medicine to study issues related to the control of hypertension. We have demonstrated that certain types of collaboration between physicians and pharmacists can improve the management of high blood pressure. Overall, I have published 20 articles in the area of cardiovascular health. Examples include:

- a. Carter BL, Levy BT, Gryzlak B, Chrischilles EA, Vander Weg MW, Christensen AJ, James PA, Moss CA, Parker CP, Gums T, Finkelstein RJ, Xu Y, **Dawson JD**, Polgreen LA (2015). A centralized cardiovascular risk service to improve guideline adherence in private primary care offices. *Contemporary Clinical Trials*, 43:25–32. PMID: PMC4522340, PMID: 25952471.
- b. Carter BL, Ardery G, **Dawson JD**, James PA, Bergus GR, Doucette WR, Chrischilles EA, Franciscus CL, Xu Y. (2009) Physician and pharmacist collaboration to improve blood pressure control. *Archives of Internal Medicine*, 169(21), 1996–2002. PMID: PMC2882170, PMID: 19933962.

- c. Davis PH, **Dawson JD**, Riley WA, Lauer RM. (2001) Carotid intimal-medial thickness is related to cardiovascular risk factors measured from childhood through middle-age: the Muscatine study. *Circulation*, 104, 2814–2819. PMID: 11733400.
- d. **Dawson JD**, Sonka M, Blecha MB, Lin W, Davis PH. (2009) Risk factors associated with aortic and carotid intimal-media thickness in adolescents and young adults: the Muscatine offspring study. *Journal of the American College of Cardiology*, 53(24), 2273-2279. PMCID: PMC2747309, PMID: 19520251.

### 3. Longitudinal and Time Series Methodologies

Throughout my career, I have investigated ways of reducing the dimensionality of repeated measures longitudinal data in ways that are simple enough to understand, yet complex enough to capture the intricacies of the data. I have 11 publications in this area. In recent years, this interest has been focused on the high-frequency repeated measures (i.e., time series data) that are obtained in my driving research. We have developed a new model that quantifies the diligence with which drivers return the car back towards the middle of the lane as the car approaches the lane boundaries. Examples of my methodological papers are:

- a. Arndt S, Turvey C, Coryell WH, **Dawson JD**, Leon AC, Akiskal HS. (2000) Charting patients' course: a comparison of statistics used to summarize patient course in longitudinal and repeated measures studies. *Journal of Psychiatric Research*, 34, 105-113. PMID: 10758251.
- b. **Dawson JD**, Cavanaugh JE, Zamba KD, Rizzo M. (2010) Modeling lateral control in driving studies. *Accident Analysis & Prevention*, 42(3), 891-897. PMCID: PMC2910617, PMID: 20380917.
- c. **Dawson JD**, Han SH. (2000) Stratified tests, stratified slopes, and random effects models for clinical trials with missing data. *Journal of Biopharmaceutical Statistics*, 10, 447–55. PMID: 11104386
- d. West CP, **Dawson JD**. (2002) Complete imputation of missing repeated categorical data: one-sample applications. *Statistics in Medicine*, 21(2), 203-217. PMID: 11782060.

#### List of published work in NCBI MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/1zei9c5Qg6556/bibliography/public/>