

David E. Czerwinski

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Current Position

8/14-Present **San Jose State University**, San Jose, CA
Associate Professor, College of Business
8/08-8/14 Assistant Professor, College of Business

Education

9/03-6/08 **Massachusetts Institute of Technology**, Cambridge, MA
PhD in Operations Research.
9/93-6/98 **Stanford University**, Stanford, CA
BS in Mathematical and Computational Science, with distinction.

Publications

Bjarnadottir, M.V., Czerwinski, D. & Onukwugha, E. (2018). Sensitivity of the Medication Possession Ratio to Modelling Decisions in Large Claims Databases. *Pharmacoeconomics* 36: 369. <https://doi.org/10.1007/s40273-017-0597-y>

Onukwugha, E., Bjarnadóttir, M. V., Zhou, S., & Czerwinski, D. (2017). Visualizing Data for Hypothesis Generation Using Large-Volume Claims Data. *Value & Outcomes Spotlight* 3(1), 6-10.

Czerwinski, D., Hartling, X., & Zhang, J. (2016). *The US Transit Bus Manufacturing Industry* (MTI Report WP 12-66). San Jose, CA: Mineta Transportation Institute.

Bjarnadóttir, M. V., Czerwinski, D., & Guan, Y. (2016). The History and Modern Applications of Insurance Claims Data in Health Care Research. In Hui Yang and Eva K. Lee eds., *Healthcare Analytics: From Data to Knowledge to Healthcare Improvement*, John Wiley & Sons.

- Merz, M., Czerwinski, D., & Merz, M. (2013). Exploring the Antecedents for Value Co-Creation during Healthcare Service Provision. *Journal of Business and Behavioral Sciences*, 25(2), 152-166.
- Bertsimas, D., Czerwinski, D., & Kane, M. (2013). Measuring quality in diabetes care: an expert-based statistical approach. *SpringerPlus*, 2(1), 226.
- Bjarnadóttir, M. V., & Czerwinski, D. (2013). Active Vaccine and Drug Surveillance. In *Operations Research and Health Care Policy* (pp. 251-279). Springer.
- Gehrt, K. C., Rajan, M. N., Shainesh, G., Czerwinski, D., & O'Brien, M. (2012). Emergence of online shopping in India: shopping orientation segments. *International Journal of Retail & Distribution Management*, 40(10), 742-758.
- Osland, A., Anderson, E., Brazil, J. M., Curry, M., Czerwinski, D. E., Faeth, P, Johnson, C., Dean, J., & Omweg, S. (2012). *Promoting Bicycle Commuter Safety* (MTI Report No. 11-08). San Jose, CA: Mineta Transportation Institute.
- Czerwinski, D., Merz, M., & Herbst, U. (2011). Creating Online Brand Value through Online Discussion Sites. *Journal of Business and Educational Leadership*, 3(1), 15-28.
- Czerwinski, D. & Geddes, R.R. (2010). *Policy Issues in U.S. Transportation Public-Private Partnerships: Lessons from Australia*. (MTI Report No. 09-15). San Jose, CA: Mineta Transportation Institute.
- Czerwinski, D., Merz, M., & Herbst, U. (2010). Creating Online Brand Value through Online Discussion Sites. *Proceedings of the 17th Annual Conference of the American Society of Business and Behavioral Sciences*. Las Vegas, NV.
- Welch, C., Czerwinski, D., Bertsimas, D., & Ghimire, B. (2009). Depression and Increased Health Care Cost. *Psychosomatics*, 50(4).
- Merz, M., Czerwinski, D., & Amblee, N. (2009). Managing and Measuring Online Brand Value. *Proceedings of the 16th Annual Conference of the American Society of Business and Behavioral Sciences*. Las Vegas, NV.
- Bertsimas, D. & Czerwinski, D. (2008). Large Scale Drug Safety Surveillance Using Insurance Claims Data. *Proceedings of the 3rd INFORMS Workshop on Data Mining and Health Informatics*. Washington, D.C.
- Czerwinski, D. & Barnett, A. (2006). Airlines as Baseball Players: A New Approach to Airline Safety. *Management Science*, 52(9).

Hunt, K. & Czerwinski, D. (2001). Regional Transportation Program for Welfare to Work. *Transportation Research Record*, 1753, 20-28.

Presentations

Czerwinski, D. Teaching Modeling to Undergraduate Business Majors. Presented at the annual meeting of the Western Decision Sciences Institute. Lihue, HI. April 5, 2018.

Czerwinski, D. Understanding the long-term behavior of bus arrival time predictions. Presented at the National Business and Economics Society Annual Conference. Puerto Vallarta, Mexico. March 20, 2017.

Czerwinski, D. Assessing the Accuracy of Bus Arrival Time Predictions. Presented at the Western Decision Sciences Annual Meeting. Lahaina, HI. April 3, 2015.

Czerwinski, D. Bringing Linear Optimization to Life in the Classroom. Presented at the INFORMS Annual Meeting. San Francisco, CA. November 12, 2014.

Czerwinski, D. Assessing the Accuracy of CTA's Bus Tracker. Presented at the INFORMS Annual Meeting. Phoenix, AZ. October 17, 2012.

Czerwinski, D. & Geddes, R.R. Policy Issues in U.S. Transportation Public-Private Partnerships: Lessons from Australia. Presented at the UC Davis Sustainable Transportation Center. June 15, 2011. Webinar.

Czerwinski, D., Merz, M. & Herbst, U. Creating Online Brand Value through Online Discussion Sites. Presented at the 17th Annual Conference of the American Society of Business and Behavioral Sciences. Las Vegas, NV. February 19, 2010.

Czerwinski, D. & Bertsimas, D. An Optimization-based Approach to Drug Safety Surveillance. Presented at the INFORMS Annual Meeting. San Diego, CA. 2009.

Czerwinski, D. The Math of Moneyball (and Airline Safety). Presented at the Santa Clara University Math/CS Department Colloquium. October 27, 2009.

Czerwinski, D. The Math of Moneyball. Presented at the San Jose State University Math Department Colloquium. April 1, 2009.

Bertsimas, D. & Czerwinski, D. Large Scale Drug Safety Surveillance Using Insurance Claims Data. Presented at the 3rd INFORMS Workshop on Data Mining and Health Informatics. Washington, D.C. October 2008.

Bertsimas, D., Czerwinski, D., & Kane, M. Quality in Health Care. Presented at the INFORMS Annual Meeting. Seattle, WA. November 2007.

Bertsimas, D., Czerwinski, D., & Kane, M. Statistical Models to Identify Quality Care. Poster presented at the MIT Operations Research in Health Care Conference. Cambridge, MA. May 2007.

Welch, C., Czerwinski, D., Bertsimas, D., & Ghimire, B. Depression and Increased Health Care Cost. Presented at the INFORMS annual conference. Pittsburgh, PA. November 2006.

Czerwinski, D., Fan, C., Lored, E., Girardini, K., & Riley, C. Using a Mixed Integer Program to Set Army Supply Support Activity (SSA) Inventory Levels. Presented at the INFORMS annual conference. San Francisco, CA. November 2005.

Rahbee, A. & Czerwinski, D. Using Entry-Only Automatic Fare Collection Data to Estimate Rail Transit Passenger Flows at CTA. Presented at Transport Chicago. Chicago, IL. June 2002.

Czerwinski, D. CTA Ridership: It's in the Cards. Presented to the Chicago Area Transportation Model Users Group. Chicago, IL. July 2001.

Hunt, K. and Czerwinski, D. Chicago's Regional Approach to Welfare To Work. Presented at the Annual Meeting of the Transportation Research Board, Washington, D.C. January 2001.

Teaching Experience

8/08-Present **Managerial Decision Analysis.** Instructor, San Jose State University
A core course for the Executive Style MBA program. Covers probability, decision trees, statistics, and optimization. Emphasis is on managerial insight. Incorporates case discussions and student presentations. Makes extensive use of spreadsheet modeling in Excel.

Quantitative Business Analysis. Instructor, San Jose State University
A core course for the undergraduate curriculum covering quantitative methods used in business decision making. Topics include probability theory, decision analysis, optimization modeling, and project analysis techniques.

Business Analytics. Instructor, San Jose State University

A required course for business analytics majors. Covers linear and nonlinear optimization applications such as Data Envelopment Analysis, revenue management and portfolio optimization; integer and binary variable applications such as capital budgeting, supply chain design and facility location problems; inventory control models with deterministic and probabilistic demands; waiting line models, and simulation of inventory and waiting line models.

Spreadsheet Modeling. Instructor, San Jose State University

An elective for business analytics majors. Students develop their analytical modeling skills and learn advanced features of Excel. Focus is on using Excel to model real-world decision-making problems. Covers Excel features including IF functions, lookup tables, date and text manipulation, sorting, filtering, graphing, and VBA.

Data Mining (Undergraduate). Instructor, San Jose State University

An undergraduate elective for business majors covering modern data mining methods using Excel and the R statistical software package. Covers data visualization, classification, clustering, ensemble methods, and anomaly detection.

Data Mining (Graduate). Instructor, San Jose State University

A part of the online certificate program in Business Analytics. Covers data mining methods for classification, numeric prediction, and clustering. Methods include linear regression, logistic regression, trees, k-nearest neighbors, ensemble methods, k-means and hierarchical clustering, and association rules. Makes extensive use of the R statistical environment. Taught online.

Logistics. Instructor, San Jose State University

An undergraduate elective for Marketing majors. The course covers the quantitative models and managerial levers that can be used to improve a company's logistics process.

Introduction to Business Analytics. Instructor, San Jose State University

A part of the online certificate program in Business Analytics. Covers data manipulation, data visualization, and statistical modeling. Makes extensive use of the R statistical environment. Taught online.

9 – 12/09,
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Data Driven Decision Making. Visiting Instructor, Reykjavik University.
A Masters level course constructed around the idea that smart companies use quantitative methods to gain an edge over their competitors. Through case studies, tells the story of some of these companies. In addition,

covers the technical aspects of the modern data mining techniques that they use including classification trees, logistic regression, k-means clustering, SVM, boosting, and bagging. Makes extensive use of the R statistical programming language.

- 6/07-7/07 **Communicating with Data.** Teaching Assistant, MIT
A core course for the Sloan Fellows Program in Innovation and Global Leadership. Covered elementary probability, conditional probability, discrete and continuous distributions, the chi-square test, random sampling, confidence intervals, and linear regression. Conducted weekly recitations, assisted students during office hours, graded assignments, and created the final exam.
- 4/07- 5/07 **Introduction to Operations Management.** Teaching Assistant, MIT
A half-semester course for Sloan MBA students. Covered process flow diagrams, capacity analysis, inventory management, the newsvendor model, risk-pooling, delayed differentiation, production control, quality management, and process design and reengineering. Conducted tutorials, assisted students during office hours, graded problem sets and case write-ups, and helped manage the Littlefield Technologies online factory simulation game.
- 9/06-12/06 **Data, Models, and Decisions.** Teaching Assistant, MIT
A core course for Sloan MBA students. Covered decision analysis, discrete and continuous distributions, simulation, sampling, the t-test, regression, and optimization. Conducted recitations, assisted students during office hours, and graded problem sets, case write-ups, and exams.
- 9/05-12/05 **Data, Models, and Decisions.** Teaching Assistant, MIT
See above. Received a rating of 5.0 out of 5.0 on the course evaluations and was later voted the year's Outstanding TA by the Sloan MBA students.
- 6/04-8/04 **Engineering Probability and Statistics.** Teaching Assistant, MIT
A core course for MBA students in the Leaders for Manufacturing program. Covered probability, quality control, Poisson processes, Markov processes, transform methods, regression, two-sample tests, and design of experiments. Conducted recitations, helped students during office hours, and graded assignments.

Professional Experience

- 5/04-8/04 **Summer Associate**, RAND Corp., Santa Monica, CA
Developed an integer optimization based method for setting spare part inventory levels at the Army's tactical warehouses in Iraq. Improved upon a heuristic algorithm then in use. Three aspects of the problem are particularly challenging: the warehouses are mobile so there are severe constraints on capacity, demand patterns for parts are sporadic, and parts are of differing levels of criticality.
- 3/02-8/03 **Senior Associate**, Transportation Management & Design, Carlsbad, CA
Provided services in transit system optimization, service design and scheduling; operations and fleet management; and short and long range business planning. Developed software using Excel, Visual Basic, and Access to manage, analyze, and visualize transit ridership data.
- 7/00-1/02 **Senior Transit Research Analyst**, Chicago Transit Authority, Chicago, IL
Served as the Planning Department's lead analyst of the ridership data produced by the CTA's Automated Fare Collection (AFC) system. Performed advanced analysis of trip patterns and transfer flows using SAS and Excel. Coordinated and trained staff who produced monthly ridership reports.
- 3/99-7/00 **Transit Research Analyst II**, Chicago Transit Authority, Chicago, IL
Analyzed CTA bus and subway ridership. Studied ridership trends and system usage by time of day and location. Developed ridership reporting systems using SAS, Excel, Access and Visual Basic.
- 6/95-9/96 **Trader and Software Developer**, Kottke Associates, Chicago, IL
Member of a team engaged in an arbitrage trade of the US Dollar Index against a basket of currencies futures. Traded US Dollar Index options. Developed a Visual Basic application to process real-time market data, facilitate trade execution, and analyze trading performance.

Honors and Awards

- SJSU College of Business Master Teacher Award. 2010, 2011, 2012, 2013, 2014, 2015, 2017.
- Invitee, SJSU Deans' Leadership Academy. 2015 - 2016.
- Invitee, INFORMS Teaching Effectiveness Colloquium. 2009.
- Invitee, INFORMS Future Academician Colloquium. 2007.

- Outstanding Teaching Assistant Award, MIT Sloan School of Management. 2005-2006. Based on a vote by the MBA student body.
- Schoepflin International Fellow. The fellowship supported my participation in an internship with a manufacturer in Chennai, India. Summer 2002.

Service

- Faculty Advisor, Spartan Analytics (Student Club). Spring 2018 – Present.
- SJSU Central RSCA Proposal Review Committee. 2018.
- SJSU College of Business Analytics Task Force. 2017 – Present.
- INFORMS Student Affairs Committee. 2017 – Present.
- Faculty Advisor, INFORMS ORMS Tomorrow Student Magazine. 2017 – Present
- Chair, Mineta Transportation Institute Research and Policy Oversight Committee. 2013, 2017 – Present.
- Chair, SJSU Marketing & Decision Sciences Business Analytics Concentration Task Force, 2013 – 2015.
- SJSU Marketing & Decision Sciences RTP Committee. 2014 – 2015, 2017 – 2018.
- Marketing & Decision Sciences Recruiting Committee. 2010 – 2011, 2013 – 2014.
- SJSU Lucas Fellowship Evaluation Committee. 2012, 2014.
- SJSU Marketing & Decision Sciences Curriculum Committee. 2013 – Present.
- SJSU Student Fairness Committee. 2013 – 2015.
- SJSU Marketing & Decision Sciences Chair Review Committee. 2013.
- SJSU Transit, Traffic and Parking Committee. 2012 – 2014.
- SJSU COB Quantitative Skills Task Force. 2011 – Present.
- SJSU COB Research and Development Committee. 2012.
- Lucas Fellowship Evaluation Committee. 2012.
- Marketing & Decision Sciences Faculty Development Committee. 2009 – 2010.
- Marketing & Decision Sciences Student Motivation Committee. 2009.
- SJSU Decision Sciences Committee. 2008 – Present.
- Mineta Transportation Institute RAPOC Committee. 2009 – 2013.
- Judge, INFORMS Annual Case Competition. 2010.
- Chair, INFORMS Undergraduate Research Prize Committee. 2011.
- Member, INFORMS Undergraduate Research Prize Committee. 2010.
- Chair of Community Liaisons, San Francisco Bay Area chapter of the American Statistical Association. 2009 – 2011.
- Referee for *Management Science*, *Operations Research*, *Transportation Science*, *INFORMS Transactions on Education*, and the *Wiley Encyclopedia of Operations Research*.
- Organizer, MIT Operations Research Center student lunchtime talk series. 2007.
- Coordinator, MIT Operations Research Center seminar series. 2006.
- Panelist, MIT Sloan School of Management TA training. 2007.
- Graduate Resident Tutor. McCormick Hall, MIT. 2004 – 2008.

- Treasurer, MIT Student Chapter of INFORMS. 2004 – 2005.
- Steering Committee, Metropolitan Conference on Public Transportation Research. 1999-2002.

Affiliations

- Research Associate, Mineta Transportation Institute.
- Institute for Operations Research and the Management Sciences.