

## ROBERT K. SMIDT

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### EDUCATION

- 1976 **Doctor of Philosophy**, Statistics  
University of Wyoming, Laramie, Wyoming  
Thesis: Ridge Matrix Inversion in Discriminant Analysis and Related Topics
- 1973 **Master of Science**, Statistics  
Rutgers University, New Brunswick, New Jersey
- 1971 **Bachelor of Science**, Mathematics  
Manhattan College, Bronx, New York

### EXPERIENCE

**Professor Emeritus, Department of Statistics, California Polytechnic State University, SLO.** 2013-present  
Half-time teaching.

**Professor and Chair, Department of Statistics, California Polytechnic State University, SLO.** 1978-2013.

*Named "Distinguished Faculty," 2005. Taught various levels of statistics, including Experimental Design, Linear Models, Applied Multivariate Statistics, Non-Parametric Statistics, Survey Sampling, and Statistical Uses of the Computer. Designed and initiated statistical consulting service that provides statistical design and analysis for students, faculty, and staff. Developed Stat 419, Applied Multivariate Statistics; co-developed Stat 217, Statistical Methods; Stat 218, Applied Statistics for the Life Sciences, revamped Bio 542, Multivariate Biometry. Taught short courses to faculty and staff on the use of SAS, BMDP, SPSS, and MINITAB. Presented colloquiums on path analysis and the analysis of messy data. Served as co-investigator or statistician on numerous research projects. Department chair (1996-1998, 2006-2013), chair academic senate's general education and breadth committee, academic senator, chair tenured committee, member of various university and school committees.*

**Statistical Consultant. 1971-present.**

*Provided statistical services on many research projects. Examples of types of projects include analyses of crop yield experiments, environmental impact study of the effects of power plant construction on a rural town, statistical evaluation of a bilingual education program, creation of reporting/prediction system for fuel consumption of the US Armed Forces, evaluation of program attempting to predict future drug abuse, design and analysis of experiments to determine feasibility of extracting oil from oil shale, analysis of data on the possible carcinogenic effects of food colorings, study of relationships between demographic and linguistic skills with job performance, appraisal of a drug efficacy survey, expert opinion on undercover police operations, development of prediction models for student loan defaults, evaluation of a reading recovery program, protocol development for analysis of nitrates in water wells, and analysis of the effects of a power plant's heat discharge on marine life.*

**Statistician, Lawrence Livermore National Laboratory, University of California. 1983, 1986, 1989, 1990.**

*Worked on various projects including: producing functions that discriminated between earthquakes and underground nuclear tests in the USSR as part of the SALT verification program, analyzing and developing protocols for experiments resulting in censored and truncated data, and developing computer algorithms used as parts of Monte Carlo simulations in theoretical physics research.*

**Adjunct Professor, Mathematics Dept., Cuesta College. 1989-1990.**

*Taught introductory courses in statistics and a short course in statistics for faculty members.*

**Adjunct Professor, Mathematics Dept., Chapman College, California Mens Colony. 1988.**

*Taught an introductory course in business statistics.*

**Adjunct Professor, Mathematics Dept., LaVerne College, Vandenberg AFB. 1987-1988.**

*Taught an introductory course in business statistics.*

**Visiting Faculty, Bechtel Power Corporation, San Francisco, California. 1984.**

*Trained and worked in data communications. Acted as statistical consultant on communications survey.*

**Adjunct Professor, Dept. of Public Administration, University of San Francisco. 1984.**

*Taught a Master's level course in applied statistics to students working for a degree in Public Administration.*

**Statistician, Cogimet, Millstone, New Jersey. 1980, 1981.**

*Statistical consultant on a number of projects involving analysis of variance, regression, multivariate analysis, categorical data analysis and life testing.*

**Visiting Associate Professor, Mathematics Dept., Rutgers University. 1980, 1981.**

*Taught courses in applied statistics and calculus.*

**Visiting Assistant Professor, Statistics Dept., Oregon State University. 1978, 1980.**

*Taught courses in multivariate analysis, regression, and experimental design. Served as statistical consultant.*

**Assistant Professor, Department of Statistics, University of Florida. 1976-1978.**

*Taught various levels of statistics and designed several specialized courses. Course coordinator for the psychology and journalism departments. Served on several departmental committees, including assistantships, undergraduate programs and faculty searches.*

**Instructor, Continuing Education Institute (CEI), Gainesville, Fla. 1977, 1979.**

*Designed and taught an intensive short course in applied multivariate statistics.*

**Graduate Assistant, Statistics Dept., University of Wyoming. 1973-1976.**

*Taught statistics courses and laboratories.*

**Statistician, Directorate for Energy, DOD, Pentagon, Washington, D.C. 1975.**

*Provided statistical guidance on long range projects, aided in the creation of a national energy reporting system, and was liaison with several other federal departments.*

**Research Assistant, Division of Business and Economic Research, University of Wyoming. 1974.**

*Conducted interviews, obtained and analyzed data as part of a socioeconomic impact study.*

**Statistician, Fred Streit Associates, Highland Park, New Jersey. 1972-1973.**

*Performed interviews and data analysis on drug studies. Provided statistical analysis for educational evaluations.*

**Adjunct Instructor, Science and Mathematics Dept., Fashion Institute of Technology. 1973.**

*Designed and taught an applied statistics course.*

**Teaching Assistant, Adjunct Instructor, Statistics Dept., Rutgers University. 1971-1973.**

*Taught one statistics course and several labs.*

**Actuarial Trainee, Teacher's Insurance and Annuity Association, New York City, New York. 1970.**

*Part of a team creating a computer based data and information retrieval system.*

### **HONORS AND MEMBERSHIPS**

Cal Poly Distinguished Faculty

Outstanding Instructor - Statistics (1983-84 ACM)

Phi Beta Kappa

Pi Mu Epsilon (Math Honor Society), Former Chapter President

American Statistical Association

A.S.A. Wyoming Fellows Award

## **PUBLICATIONS-RESEARCH**

- "Assessing the validity and reliability of descriptor variables used in scenic highway analysis," Landscape and Urban Planning, February 2004, with Gary R. Clay.
- "Mate Pairing of Monarch Butterflies (*Danaus plesippus* L.) at a California Overwintering Site," Journal of the Lepidopterists' Society, 1998, with D. Frye, K. Leong, E. Pepper, and K. Oberhauser.
- "Evaluating the Effects of Nonresponse and the Number of Levels of a Likert Variable on Survey Samples" with R. Tortora, Statistical Case Studies: A Collaboration Between Academe and Industry, SIAM, 1998.
- "Influences of Adolescent Childbearing and Marital Status at First Birth on Rural Guatemalan Women and Children" with P. Engle, published by the Population Council, International Center for Research on Women, 1996. Translated into Spanish and published in Familias y relaciones de genero en transformacion, Edamex, 1998.
- "More on Mandibular Advancement Surgery," American Journal of Orthodontics and Dentofacial Orthopedics, October 1989, with J. P. DeVincenzo.
- "Sex Differences in Attitudes Toward Newborn Infants Among Woman of Mexican Origin," Medical Anthropology, Spring 1984, with P. Engle, S. Scrimshaw.
- "Discriminant Function Strategies for the Kindergarten Prediction of Reading Achievement," Journal of Clinical Neuropsychology 1, April 1980, with J. Fletcher, P. Satz.
- "A Preliminary Test for Discriminant Analysis Based on Small Samples," Biometrics 32, June 1976, with L. McDonald, V. Lowe, and K. Meister.

## **PUBLICATIONS-EDUCATION RELATED**

- Applied Statistics for Engineers and Scientists with David M. Levine and Patricia Ramsey, Prentice-Hall, 2001
- Statistics: A First Course, Sixth Edition with Donald Sanders, McGraw-Hill, 2000
- Study Guide and Student Solutions Manual to accompany Statistics: A First Course, Sixth Edition with John Banks, McGraw-Hill, 2000
- Instructor's Solutions Manuals for:
- Understanding Statistics, 4<sup>th</sup> Ed., Naiman, Rosenfeld, & Zirkel 1996
  - Statistics, 4<sup>th</sup> Ed., McClave & Dietrich 1989
- Student's Solutions Manuals for:
- Statistics and Probability In Modern Life, 5<sup>th</sup> Ed., Newmark 1996
  - Understanding Statistics, 4<sup>th</sup> Ed., Naiman, Rosenfeld, & Zirkel 1996
- Study Guides for:
- Statistics and Probability In Modern Life, 5<sup>th</sup> Ed., Newmark 1996
  - Statistics: A First Course, 5<sup>th</sup> Ed., Sanders 1995
- Test Banks for:
- Statistics for Managers Using Microsoft Excel, Levine, Berenson, & Pellissier 1997
  - Introductory Statistics for Business, 6<sup>th</sup> Ed., Berenson & Levine 1996
  - Business Statistics for Quality and Productivity, Levine, Ramsey, & Berenson 1995
  - Introduction to Statistics, Salvia 1986

## **REPORTS AND TECHNICAL DOCUMENTS**

"Extending the Alias Monte Carlo Sampling Method to General Distributions" UCRL-JC-104791, Lawrence Livermore National Laboratory, 1991

"The Alias Method: A Fast, Efficient Monte Carlo Sampling Technique" UCRL-JC-105535, Lawrence Livermore National Laboratory, 1990

"Discrimination in the Equal Means Case," Technical Report 109, University of Wyoming, 1976

"Ridge Discriminant Analysis," Technical Report 108, University of Wyoming, 1976

"Ridge Techniques in the Inversion of a Near-Singular Matrix," Technical Report 106, University of Wyoming, 1975

"The Bias in the Roots of a Sample Covariance Matrix," Technical Report 105, University of Wyoming, 1975

## **PRESENTED PAPERS**

"Extending the Alias Monte Carlo Sampling Method to General Distributions". Presented at the 1991 ANS International Topical Meeting, Pittsburgh, Pa., with J. Rathkopf, A. Edwards

"The Alias Method: A Fast, Efficient Monte Carlo Sampling Technique". Presented at the 1990 NE Code Developers' Conference, Monterey, Ca., with J. Rathkopf, A. Edwards

"The Effects of Maternal Employment on Children's' School Attendance in Guatemala". Presented at the 1984 Annual Meeting of the American Anthropological Society, Denver, Colo., with P. Engle

"Ridge Discriminant Analysis". Presented at the 1976 Annual Meeting of the American Statistical Association, Boston, Mass., 1976

## **PROFESSIONAL WRITING**

Author of exam questions for Advanced Placement Statistics Exam.

Author of exam questions for Actuarial Exam 110 (formerly Exam 2), "Probability and Statistics" from 1977 to 1999 and for Actuarial Exam 120, "Applied Statistical Methods" from 1991 to 2002.

## **COMPUTER TOOLS**

Experienced in the use of statistical computer packages including SAS, SPSS, BMDP, and MINITAB.

## **AP STATISTICS**

**Advanced Placement Workshop Consultant, The College Board** 2003-present.

*Developed and taught workshops for high school teachers of AP Statistics.*

### One-day Workshops:

McClelland Park, CA, 2018  
San Diego, CA, (NMSI) 2015  
Lemoore, CA, (NMSI) 2015  
Salt Lake City, UT, 2014, 2011, 2003  
Richmond, CA 2014  
Santa Ana, CA, 2013, 2011, 2010  
Bellevue, WA, 2013, 2011  
San Mateo, CA 2013, 2009  
Columbus, OH 2012  
Los Angeles, CA, 2012  
Colorado Springs, CO, 2012  
Las Vegas, NV, 2011, 2004  
Hercules, CA, 2010  
Alhambra, CA, 2008, 2003  
Phoenix, AZ 2007  
Fresno, CA, 2005

### Weeklong Workshops:

Rice Univ., Houston, TX, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010  
Univ. of Arkansas, Fayetteville, AR, 2016, 2015, 2013, 2012, 2011, 2010  
Meredith College, Raleigh, NC, 2015  
Univ. of Arkansas, Little Rock, AR, 2016, 2015  
Carleton College, Northfield, MN, 2015, 2014, 2013, 2012  
Sacramento State, Sacramento, CA, 2014, 2013, 2012, 2007  
Univ. of Texas, El Paso, TX, 2014  
National Math and Science Initiative, Oklahoma City, OK, 2013  
School District, Plainfield, IL, 2012, 2011, 2010  
Univ. of Texas at San Antonio, San Antonio, TX, 2012  
Pacific Lutheran University, Tacoma, WA, 2010  
School District, Charleston, WV, 2008  
Univ. of Northern Colorado, Greeley, CO, 2008  
School District, Las Vegas, NV, 2006

**Faculty Consultant, Advanced Placement Statistics, Educational Testing Service** 2001-present.

*Refined rubrics, trained graders, and served as reader, table leader, question leader for the national AP Statistics exam.*

AP Statistics Question Leader: 2017, 2016, 2015, 2104, 2013, 2011, 2010, 2009, 2008

AP Statistics Table Leader: 2006, 2005, 2004, 2003

AP Statistics Reader: 2002, 2001

