

Dr. Pallavi Chitturi Ph.D.

Temple University
STATISTICS

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Education

Ph.D. Statistics

The University of Texas at Austin, 1998.
Dissertation Title: Optimal Experimental Design

M.S. Statistics

The University of Texas at Austin, 1994.
Master's Thesis: Parameter Design

B.A. Statistics

University of Delhi, 1989.

Professional Positions

Professor, Temple University. (June 2016 – present).

Director, Center for Statistical Analysis, Temple University (June 2011 – Present)

Associate Director, Executive Doctorate of Business Administration (2015-present)

Associate Professor, Temple University. (June 2010 – May 2016).

Assistant Professor, Temple University. (August 2003 – May 2010).

Lecturer, University of Texas. (August 2001 - June 2003).

TEACHING

Temple University

STAT 1001, Quantitative Methods for Business I

STAT 1102, Quantitative Methods for Business II, Large Section (250 students)

STAT 2103, Statistical Business Analytics, Large Section (250 students)

STAT 2523, Experimental Design and Quality Control, Statistics Minor

STAT 5801, Statistical Analysis for Management, EMBA Philadelphia & Cali, Colombia

STAT 800, Statistical Analysis for Management, EMBA Tokyo, Japan

STAT 8107, Design and Analysis of Experiments, Graduate Level Course

BA 9813, Problem Solving using Quantitative Research Methods, EDBA Program

Doctoral Supervision

Dissertation Committee Chair:

1. Jing Chen (graduated 2011), "Choice experiments for estimating main effects and interactions".
2. Aili Cheng (graduated 2012), "Confidence Region for Optimal Controllable Variables for the Robust Parameter Design Problem".
3. Ke Huang (graduated 2015), "Optimal Reduced Size Choice Sets with Overlapping Attributes".
4. Jing Xiao (graduated January 2016), "Some Results on the Optimality of Choice Sets for 2ⁿ and 3ⁿ Factorial Designs"

Dissertation Committee Member:

1. Jun Cao (2009), "A Random-Linear-Extension Test Based on Classic Nonparametric Procedures".
2. Xiaohua Shu (2011), "Block Designs Under Auto-correlated Errors".
3. Shu Li (2011), "Determining the Cutoff Based on a Continuous Variable to Define Two Populations".
4. Alicia Strandberg (2012), "A Nonparametric Test for Deviations from Randomness."
5. Ying Su (2012), "Designs for Testing Lack of Fit for a Class of Sigmoid Curve Models".
6. Kathleen Campbell (2014), "Extension of Kendall's τ using Rank-Adapted SVD to Identify Correlation and Factions Among Rankers and Equivalence Classes Among Ranked Elements"
7. Yanyan Li (2014), "Adding Extra Points to Test Lack of Fit in Minimal Mixture Experiments".
8. Bu Hyoung Lee (current), "The Use of Temporally Aggregated Data on Detecting a Structural Change of a Time Series Process."
9. Elizabeth Gilbert (current) "The Validity of Summary Comorbidity Measures."
10. Lauren Nicole Spirko (current) "Methods to handle non-proportional hazards in survival analysis".

Department of Electrical and Computer Engineering:

11. Saeedeh Khoshgoftar Ziyabari (current) "Deep Learning in Signal Modeling for Speech and EEG Signals".
12. Meysam Golmohammadi (current) "Seizure Detection Applications of Deep Learning".

Awards and Honors

- Lindback Award for Distinguished Teaching, Temple University (2015)
- Crystal Apple Award for Excellence in Teaching, Fox School (2015)
- Provost's Teaching Academy, Temple University (2014)
- Provost's Leadership Academy, Temple University (2013)
- Founding member of the Provost's Undergraduate Mentors - recognition for exceptional level of support, energy and commitment to student mentoring (2013)
- Teachers' Roundtable, Center for Innovation in Teaching and Learning, Fox School of Business (Fall 2009 – present)
- Andrisani-Frank Teaching Award, Fox School of Business and Management. (May 2008).
- Crystal Apple Award for Excellence in Undergraduate Teaching, Fox School (2008).
- Dean's Teaching Fellow, Fox School Center for Innovation in Teaching and Learning. (2006, 2007).
- Merit Awards, The Fox School of Business (2005 – present).

RESEARCH

Books

Raghavarao, D., Wiley, J. B., Chitturi, P. (2010). *Choice-based Conjoint Analysis Models and Designs*. Chapman & Hall Publishers, Boca Raton.

Book Chapters

Mudambi, S., Chitturi, P. (2009). In C. Baumgarth (Ed.), *B-to-B Brand Management: Fundamentals, Concepts, and Best Practices, 'Building Brand Value in Business Markets'*, Gabler-Verlag, Istanbul.

Journal Articles

Chitturi, P., Carides, A. Experimental Design Issues in Choice Based Conjoint Methods applied to Patient Choice in Healthcare. Working Paper.

Chitturi, P., Spirko, L. The Afghanistan National Drug Use Study: Assessing the Evidence. Working Paper.

Xiao, J., Chitturi, P. (2015). Some Results on the Optimality of Choice Sets for 2^n and 3^n Factorial Experiments. *Sankhya Series B*. Under Review.

Huang, K., Chitturi, P. (2015). Information Per Profile of Reduced Size Choice Sets. *Journal of Statistical Theory and Practice*. Under Second Review.

Chitturi, R., Chitturi, P. (2015) "Aesthetics versus Functionality: Assessing Relative Customer Preference", *Management Review*. Invited to revise & resubmit.

Chitturi, P. (Co-authored with Adiga, R., Ozdemir, A., Carides, A., Wasilewski, M., Yen, W., Ellis, R., Langford, D.) (2014). Changes in PINCH and hpTau levels in the CSF of HIV patients correlate with CD4 count. *Journal of NeuroVirology*. 2014, Volume 20, Issue 4, pp 371-379.

Chen, J., Chitturi, P. (2012). Choice Experiments for Estimating Main Effects and Two Factor Interactions. *Journal of Statistical Planning and Inference*. Vol. 142, Issue 2, 390 – 396.

Cheng, A., Peterson, J., Chitturi, P. (2011). A Confidence Region for Zero-Gradient Solutions for Robust Parameter Design Experiments. *International Journal of Quality, Statistics, and Reliability*. Vol. 2011, 11 pages.

Chitturi, R., Chitturi, P., Raghavarao, D. (2010). Design for Synergy with Brand or Price Information. *Psychology and Marketing*. Vol. 27, Issue 7, 679-697.

Chitturi, P., Gershon, M., Chen, J., Boyarski, J. (2010). Identification and Classification of Intermittent Demand Patterns. *International Journal of Productivity and Quality Management*, Vol. 6, Issue 3, 304-317.

Chitturi, P. (2009). Choice Based Conjoint Analysis of Quality of Life Attributes. *The Journal of Human Resource and Adult Learning*, Vol. 5, Num.1.

Chitturi, P.; John, P.W.M. (2002) Nesting Optimal Main Effects Plans and Optimal Foldover Designs. *Communications in Statistics - Theory and Methods*, Vol.31, Number 10, 1777 - 1793.

Book Reviews

Chitturi, P. (2013). Book review of "Design and Analysis of Experiments in the Health Sciences", First Edition, by Gerald Van Belle and Kathleen F. Kerr, John Wiley & Sons. *Journal of Biopharmaceutical Statistics*, Vol 23(4).

Chitturi, P. (2008). Book Review of "Introduction to Business Statistics" (6th ed) *American Statistician*. Vol. 62, 269.

Conference Proceedings and Technical Reports

Rothenbaum, D., Martin, D., Chitturi, P., Spirko, L. (2015) *Afghanistan National Drug Use Survey*. Technical Report.

Martin, D., Chitturi, P., Spirko, L. Rothenbaum, D., (2014) *Afghanistan Treatment Center Study: Children's Hair, Oral Fluid, and Urine Drug Testing*. Technical Report.

Rothenbaum, D., Martin, D., Chitturi, P. (2012) *Afghanistan National Urban Drug Use Survey*. Technical Report.

Chitturi, P., Gershon, M., Chen, J., Boyarski, J. (2008). *Identification and Classification of Intermittent Demand Patterns*. American Statistical Association Proceedings.

Chitturi, P., Chen, J. (2008). *Choice Experiments for Estimating Main Effects and Two-Factor Interactions Inclusive of One Factor*. American Statistical Association Proceedings.

Presentations

Chitturi, P. (Presenter), "Choice Based Conjoint Analysis: Models & Designs", Pontifica Universidad Javeriana - Cali, Colombia. (June 2015).

Chitturi, P. (Presenter), "Optimal Reduced Size Choice Sets with Overlapping Attributes" International Conference on Advances in Interdisciplinary Statistics and Combinatorics, UNC Greensboro. (October 2014).

Chitturi, P. (Presenter), "Some Results on the Optimality of Reduced Size Choice Sets." C R Rao Advanced Institute of Mathematics, Statistics and Computer Science, Hyderabad, India. (July 2014).

Chitturi, P. (Presenter), Huang, K., "Optimality of Reduced Choice Set Sizes for Factorial Plans," Joint Statistical Meetings, American Statistical Association, Montreal, Canada. (August 2013).

Chitturi, P. (Presenter), "Choice Based Conjoint Analysis with Applications in Healthcare" Fox Chase Cancer Center, Philadelphia. (December 7, 2012).

Chitturi, P. (Presenter), "Choice Based Conjoint Analysis in Healthcare" Temple University School of Medicine Endocrine Grand Rounds, Philadelphia. (May 10, 2012).

Chitturi, P. (Presenter), "Choice Based Conjoint Analysis". Half-day workshop organized by the Center for Statistical Analysis. Temple University, Philadelphia. (April 26, 2012).

Chitturi, P. (Presenter), "The Parameter Design Approach to Quality Assurance" Temple University College of Engineering ECE seminar series, Philadelphia. (December 2011).

Chitturi, P. (Presenter), Chen, J., "Reducing Choice Set Sizes for Factorial Plans," Joint Statistical Meetings, American Statistical Association, Vancouver, BC, Canada. (August 2010).

Chitturi, P. (Presenter), Raghavarao, D., Chitturi, R., "Estimating the Tradeoff Exchange Rate in Conjoint Analysis: An Application of Fieller's Theorem," Joint Statistical Meetings, American Statistical Association, Washington, DC. (August 2009).

Chitturi, P., Gershon, M., Chen, J. (Presenter), "The Identification and Classification of Intermittent Demand Patterns," Joint Statistical Meetings, American Statistical Association, Denver, CO. (August, 2008).

Chitturi, P. (Presenter), Chen, J., "Strategies for Smaller Choice Sets for Factorial Experiments," Joint Statistical Meetings, American Statistical Association, Denver, CO. (August, 2008).

Chitturi, P., (Presenter) "25 Years of Taguchi - A Review of Parameter Design and the Mahalanobis-Taguchi System," National Quality Symposium, Pennsylvania State University, PA. (2005).

Teaching Presentations:

Chitturi, P., "Engaging Business Majors in Quantitative & Data Analytic Classes: Using Concept Maps to Help Students Learn". Teaching and Learning Center Workshop, Temple University, (2016).

Chitturi, P., Manaka, B. "Engaging Students in Data Based Decision Making: Building, Strengthening and Assessing Data Analytic Skills in Non-Math Classes," Teaching and Learning Center Winter Conference, Temple University, (2015).

Chitturi, P., "Excel for the Teaching of Business Statistics," Statistics Department Seminar, Temple University, Philadelphia, PA. (2005).

Grants and Sponsored Research

Chitturi, Pallavi "Customer Segmentations and Scoring Models for Insurance Products" Global Indemnity Group. **\$35,000**. (2014 - 2015).

Chitturi, Pallavi "Afghanistan National Drug Abuse Study (ANDUS)" JMJ Technologies. Funded by U.S. State Department. **\$60,000**. (2012 - 2015).

Chitturi, Pallavi "Sustainability Investment and Loss Ratios" Enterprise Management Consulting, Sponsored by the XL Group. **\$15,000.** (2013).

Chitturi, Pallavi (Co-PI), "Comprehensive Neuro Aids Center" Temple University School of Medicine. Funded by National Institute of Mental Health, **\$20,000.** (2012).

Chitturi, Pallavi (Co-Principal), Gershon, Mark (Co-Principal), Sponsored by Naval Logistics Readiness Research Center, Federal, **\$100,000.** (January 2009 - December 2009).

Chitturi, Pallavi (Co-Principal), Gershon, Mark (Co-Principal), "Temple University Bridge Grant," Sponsored by Office of the Vice President for Research, Temple University, **\$37,000.** (July 2007 - April 2008).

Chitturi, Pallavi (Co-Principal), Gershon, Mark (Co-Principal), "Analysis of Spare Parts Demand Forecasting System," Sponsored by Naval Logistics Readiness Research Center, **\$100,000.** (2006).

Chitturi, Pallavi (Co-Principal), Gershon, Mark (Co-Principal), "Readiness-Based Sparing (RBS) Tools and Processes," Sponsored by Naval Logistics Readiness Research Center, **\$55,000.** (2005).

Other

Chitturi, P. (2008) Supplements and Power Point Lecture Slides for Introduction to The Practice of Statistics, 6/e (Moore). W.H. Freeman, New York.

Chitturi, P. (2008) Supplements and Power Point Lecture Slides for The Practice of Business Statistics, 2/e (Moore). W.H. Freeman, New York.

TEACHING EXPERIENCE

STAT 1102, Calculus for Business

Undergraduate Large Section (250+ students)

This course provides an introduction to differential and integral calculus. Topics include functions and graphs, differentiation of polynomial, logarithmic, exponential, and rational functions. Higher order derivatives with applications, maximum and minimum, break-even analysis and market equilibrium are covered. Topics in integration include the anti-derivative and the definite integral with applications to marginal analysis, and other problems in business and economics.

STAT 2103, Statistical Business Analytics

Undergraduate Large Section (250+ students)

Statistical Business Analytics provides students with the fundamental concepts and tools needed to understand the role of statistics and business analytics in organizations. It covers basic descriptive statistics, probability, and statistical inference. Topics include probability distributions, random sampling and sampling distributions, point and interval estimation, and hypothesis testing. The course also covers hypothesis testing for several populations,

correlation, simple linear regression, and multiple regression. Excel is used for data analysis and inference.

STAT 2523, Experimental Design and Quality Control

Statistics Minor

The first part of this course provides students with insight into statistically designed experiments and related topics. The course covers the fundamental statistical concepts required for designing efficient experiments to answer real questions. The fundamental concepts of replication, blocking, and randomization are examined. Topics covered include block designs, balanced incomplete block designs, and Latin Square designs. Additional topics include factorial experiments, fractional factorial designs, and orthogonal arrays. The course also introduces students to response surface methodology, mixture designs, and conjoint analysis. Quality improvement can be accomplished using experimental design principles. The second part of the course covers the core principles of the management of quality in the production of goods and services. Statistical quality control techniques are used in the implementation of these principles. Topics covered include control charts, cusum procedures, and Taguchi methods.

STAT 5801, Statistical Analysis for Management

EMBA Philadelphia & Cali, Colombia

Statistical analysis provides a competitive edge to organizations by extracting information from data and helping understand risky and random events. Statistical analysis is an important part of the decision making process, allowing managers to make informed strategic decisions that combine executive intuition with a thorough understanding of data. Using statistical methods to extract information from data, and providing an indication of the quality of that information, adds value to an organization's strategic decision making process. This course is designed to develop strong skills in data analysis, modeling, and decision making under uncertainty. It is designed to train executives to use valid inferences from data and make informed decisions. The course will aim to provide a sound understanding of statistical methods and their applications. You should be able to integrate statistical analyses in your business decision-making.

STAT 8107, Design and Analysis of Experiments

Ph.D. Level Course

This course covers the fundamental concepts in the design of experiments, including topics such as factorial experiments, fractional factorials, and confounding. The course teaches experimental design methods useful in practice in the areas of product and process design and development, process troubleshooting, and quality improvement. Topics covered include block designs, Latin square designs, incomplete block designs, and nested designs.

BA 9813, Problem Solving using Quantitative Research Methods

EDBA Program

Quantitative research applies statistical techniques to test new theory and hypotheses. This course teaches students how to investigate problems through the design and execution of quantitative research as it applies to experiments, surveys and the analysis of secondary data. Students will learn to apply and evaluate these methods through examples of theoretical and applied research papers that employ quantitative methods. Students will learn the fundamental statistical techniques to develop and test research hypotheses, such as the t-test, correlation and regression analysis. Students will prepare data for analysis and understand how to interpret the results.

SERVICE

Department Service

Director, Center for Statistical Analysis (Aug 2010 – Present)

Successfully launched the new Center for Statistical Analysis with the mission to provide professional statistical consulting support and training to Temple University faculty and researchers, and to external clients in business, industry, and government sectors.

Statistics 2103 Core Course Coordinator, (2008 - Present).

In 2007, designed the new four-credit course Stat 2103. I was responsible for designing and writing the syllabus and supplementary materials for this course. I taught pilot sections of this course for the first time in 2007 and 2008. Since Fall 2008, the department has been offering multiple sections of 2103 and I serve as the Stat 2103 Course Coordinator. I hold regular meetings of Stat 2103 instructors to discuss course objectives, GPA guidelines, course assessments, etc.

Committee Chair, Statistics Department Merit Committee. (2014 - 2015).

The merit committee involved several days of work reviewing and evaluating merit applications, and summarizing merit award recommendations.

Co-organizer of Conference, High Dimensional Statistics Conference. (2013).

Assisted in the organization of the Statistics Department conference held in Spring 2013. The conference was highly successful with over 120 participants from all over the US.

Committee Member, Statistics Department Executive Committee. (2007 - 2010).

The Executive Committee developed a detailed assessment of the department, and wrote a report with specific, actionable, and measurable goals for the strategic development of the department. I worked closely with the department chair and the committee chair in writing this report. The Statistics Department strategic report assigned specific responsibilities to committee members. I was responsible for developing a statistics minor.

Committee Member, Statistics Department Recruiting Committee. (2007 - present).

Helped set up and maintain the statistics department's hiring site on Blackboard. This involves posting all applicants' vitas, reference letters, and related materials on Blackboard, and responding to applicants via e-mail on behalf of the chair. I keep minutes at the hiring committees meetings and updated committee members. I personally interview and evaluate all visiting candidates.

Committee Member, Program Review Committee - Self Study Report. (2007 & 2015).

Wrote the Statistics Department Program Review (Self Study Report) for the review team that visited the department in 2007. A committee of four faculty provided information and input, however, I was primarily responsible for researching and writing this document. Also collaborated on the Self Study Report for 2015.

Co-organizer of Conference, Statistical Modeling in Finance Conference. (2006).

Assisted in the organization of the Statistics Department Conference titled 'Statistical Modeling in Finance' held in Spring 2006. The conference was successful in its goals, with approximately 100 participants and speakers attending from around the world.

College Service

Associate Academic Director, Fox School Executive Doctorate in Business Administration program (EDBA) (2015 - Present).

Department Representative & Committee Member, Master's Program Committee (MPC). (2015 - Present).

Committee Member, BBA Core Committee. (2005 - Present).

The goal of the BBA Core Course Committee is to coordinate efforts between departments and courses in the BBA core and share pedagogical and administrative issues in administering the BBA core courses.

Committee Member, Fox School NTT Promotions Committee (2011 - 2014).

Committee Member, Fox School MBA Regeneration Committee. (2011 – 2012).

Department Representative & Committee Member, Undergraduate Program Committee (UPC). (2009 - 2014).

The UPC agenda includes preparing for AACSB visits, preparing for Middle States visits for university accreditation, rolling out new curriculum, and working on Vision 20/20 priorities.

Committee Member, Center for Innovation in Teaching and Learning (2009 – 2011)

Member of the Center for Innovation in Teaching and Learning (CITL) Roundtable.

Responsibilities include moderating CITL events and making teaching presentations.

Committee Member, Re-accreditation Review Task Force, Merit and P&T Subcommittee. (2007- 2008).

This committee undertook a fundamental evaluation of existing policies and processes, to benchmark practices against peer and aspirant schools, and to recommend revisions.

Committee Member, Marketing Department Hiring Committee. (2007 - 2011).

I interviewed and evaluated several candidates for tenure-track positions in the Marketing department.

Committee Member, Fox School Merit Committee. (2006).

The merit committee involved several days of work reviewing and evaluating merit applications, attending committee meetings, and allocating merit awards.

University Service

Committee Member, Student Scholarship Committee. Temple University Study Abroad Program – Rome (2013)

Faculty Mentor, Diamond Peer Teacher Program Mentor. (2006 - Present). I nominate two undergraduate students every semester for the Diamond Peer Teaching Program, and serve as their faculty mentor.

Professional Service

National Science Foundation Review Panel, evaluated proposals submitted to the Division of Mathematical Sciences (DMS) in response to the Research Experiences for Undergraduates (REU) Solicitation. November 2015.

Organizer of Workshop, titled "Data Analysis & Computing using R," at Global Indemnity Group, Bala Cynwyd, June 2014

Organizer of Workshop, titled "Design and Analysis of Experiments with Applications," at the Temple University Fox School of Business on April 4 & 11, 2014.

Organizer of Workshop, titled "Design and Analysis of Experiments," at Asahi Glass Company in Exton, November 2013.

Co-organizer of Conference, titled "High-Dimensional Statistics," at the Temple University Fox School of Business on April 12, 2013.

Organizer of Workshop, titled "Statistical Methodology and JMP Software," at the Temple University School of Dentistry in March, 2013.

Organizer of Workshop, titled "Choice Based Conjoint Analysis," at the Temple University Main Campus on April 26, 2012.

Organizer of Workshop, titled "Statistical Methodology in Medicine and Biological Sciences," at the Temple University School of Medicine on October 21, 2011.

Ad-hoc Reviewer for the American Statistician, Academy of Marketing Science, Statistics in Biopharmaceutical Research, and the Journal of Biopharmaceutical Statistics.

Co-organizer of Conference, "Statistical Modeling in Finance Conference". (2006).