

Shyamal D. Peddada
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Biostatistics Branch, NIEHS
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Education

BSc (HONS MATH)	1977	University of Delhi, Delhi, INDIA
MSc	1980	Indian Agricultural Research Institute, New Delhi, INDIA
MA	1981	University of Pittsburgh, Pittsburgh, PA
PhD	1983	University of Pittsburgh, Pittsburgh, PA [Dissertation advisor: Professor C. R. Rao]

Brief Chronology of Employment

1983 – 1986: Assistant Professor, Department of Mathematics, Central Michigan University, MI.

1986 -- 1989: Assistant Professor, Department of Mathematics & Statistics, University of Nebraska, NE.

1989 -- 1993: Assistant Professor, Department of Statistics, University of Virginia, VA.

1993 -- 1999: Tenured Associate Professor, Department of Statistics, University of Virginia, VA.

1999 -- 2004: Tenured Full Professor, Department of Statistics, University of Virginia, VA.

2000 -- Present: [Tenured Senior Investigator, 2007] Biostatistics Branch, National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC.

Adjunct Appointments

2004 – Present: Adjunct Full Professor of Biostatistics, Department of Biostatistics, University of North Carolina, Chapel Hill, NC.

2013 – Present: Adjunct Full Professor of Statistics, Department of Statistics, North Carolina State University, Raleigh, NC.

Research and Professional Interests

- **Theory and Methods:** Analysis of High Dimensional Data, Bioinformatics, Constrained Inference, Linear & Nonlinear Regression models.
- **Applications:** Cell Biology, Environmental Health, Fibroid Growth in Women, Microbiome, Toxicology.

Professional Memberships

American Statistical Association
Institute of Mathematical Statistics

Awards & Honors

- **Indian Society of Agricultural Statistics P.V. Sukhatme Gold Medal Award**
- **Elected Member of the International Statistical Institute**
- **Elected Fellow of the American Statistical Association**

“For broadening the scope of applications in statistics through excellence in consulting and innovative methodological research in order restricted inference, tracking of Arctic sea ice and gene expression microarrays.”

- **American Statistical Association’s Outstanding Statistical Application Award (1997)**

“For representing excellent statistical work applied to two important natural phenomena, namely, problems of interest to polar scientists investigating the motion of the ice pack in the north pole, questions encountered by geoscientists studying the motion of tectonic plates.”

- **Nominated for the Excellence in Teaching Award, Central Michigan University, 1985**
- **Indian Agricultural Statistics Research Institute, Junior Research Fellow, 1977-1979**

Funded Research

- **October 1991 - September 1994:** Statistical Methods for the Estimation of the Motion of Rigid Bodies: Office of Naval Research Grant N 00014-92-J1009 (joint with T. Chang)
- **October 1994 - September 1997:** Statistical Methods for the Estimation of the Motion of Rigid Bodies: Office of Naval Research Grant N 00014-92-J1009 (joint with T. Chang)

Editorial and review work

- **Academic Editor** (2012 -): *PLOS One*.
- **Associate Editor** (2013 - 2015): *Test*.
- **Associate Editor** (2005-2011): *J. Amer. Statist. Assoc. – Theory & Methods*.
- **Editorial Board Member** (2012-2015): *Toxicologic Pathology*.
- **Associate Editor** (2008 - 2013): *Statistics and Probability Letters*.
- **Associate Editor** (2008 -): *Sankhya – Ser. B*.
- **Associate Editor** (2008 -): *J. Ind. Soc. Ag. Statistics*.

- **Guest Editor:**
 - (Joint with) Khattree R. (2001). *Commun. in Stats., Theory & Methods*, **30**, No. 8-9, 1497-1968.
 - Assistant Guest Editor (2002). *Journal of Statistical Planning and Inference*, **103**, No. 1-2, 1-472.
 - (Joint with) Prasad R, Crossa J. (2010). *J. Indian Soc. Ag. Stat.* **64**(1).
- **Book Review Editor** (1998- 2000): *Journal of Statistical Planning and Inference*.
- **Reviewer of manuscripts**
 - **Statistics and mathematics journals:** American Mathematical Monthly, American Mathematical Reviews, American Statistician, Annals of Institute of Statistical Mathematics, Annals of Statistics, Biometrics, Canadian Journal of Statistics, Communications in Statistics, Environmetrics, Journal of American Statistical Association, Journal of Indian Soc. of Ag. Stat., Journal of Multivariate Analysis, Journal of Biopharmaceutical Statistics, Journal of Royal Statist. Society- C, Mathematical Methods of Statistics, Metrika, Metron, Sankhya, Statistica Sinica, Statistics and Decisions, Statistics in Medicine, Statistics and Probability Letters.
 - **Non-statistics journals:** Amer. J. Epidemiology, Bioinformatics, BMC Bioinformatics, BMC Systems Biology, Chemosphere, Developmental and Reproductive Toxicology, J. of Biomedical Informatics, J. Proteomics and Bioinformatics, Physiol. Genomics, PLOS-One, Toxicologic Pathology.
- **Reviewer of research grant proposals submitted to:**
 - National Science Foundation (NSF).
 - National Security Agency (NSA).
 - National Science and Engineering Research Council (NSERC) - Canada.
 - Israel Science Foundation.

Other Professional Activities

- **Virginia Chapter of the American Statistical Association**
 - Vice-President, 1996 – 1997.
 - President, 1997 - 1998.
- **Member of the Regional Advisory Board, ENAR, International Biometric Society**
January 1, 2006 to December 31, 2008.
- **Chairman, Current Index to Statistics Management Committee**
January 1, 2011 to December 31, 2013.
- **Member of JASA (Theory & Methods) Editor Search Committee (2012)**

- **Sessional President, Indian Society of Agricultural Statistics**
January 1, 2012 to December 31, 2012.
- **Conferences and Workshops Organized**
 - Co-organizer of an international conference entitled *Statistics: Reflections on the past and visions for the future*, in honor of Professor C. R. Rao on his 80th birthday. San Antonio, TX, 2000.
 - Co-organizer of special invited session and a 2-day workshop on Bioinformatics at the *International Conference on the Future of Statistical Theory, Practice and Education*. This conference was co-sponsored by the American Statistical Association, the Institute of Mathematical Statistics and IISA. Hyderabad, India. December, 2004.
 - Instructional Workshop in Bioinformatics and Drug Discovery at Univ. of Hyderabad, India. December, 2007.

Trainees

A. Ph.D. dissertation advisees

- Todd A. Smith (University of Virginia, May, 1994). “Statistical Inference in Linear Models under Heteroscedasticity.”
- Robert J. McDevitt (University of Virginia, May, 1996). “Automated Tracking of the Ice Floes Using Nonhomologous Regression and Local Geometric Information.”
 - **Recipient of the American Statistical Association’s Outstanding Statistical Application Award (1997).**
- Juan Zhang (University of Virginia, May, 1997), “Analysis of Nonlinear Fixed and Random Effects Models with Applications to Statural Growth and Hormonal Changes in Boys at Puberty.”
 - **Recipient of ENAR travel Award (1997).**
- Xiaofeng Tan (University of Virginia, May, 1997), “Statistical Inference for Parameters Subject to Order Restrictions.”
- Carol Hoferkamp (University of Virginia, May, 1999), “Analysis of Fixed and Mixed Effects Linear Models under Heteroscedasticity.”
- Katherine Prescott (University of Virginia, May, 2000), “Tests for Ordered Alternatives in Generalized Linear Models.”
- Stephanie Velez (University of Virginia, PhD. May, 2000), “Order Restricted Inference with an Application to Phase I Studies in Oncology.”
- Josh Betcher (University of Virginia, May 2004), “Statistical Inference Under Order Restrictions With Applications.”

- Changwon Lim (University of North Carolina, Chapel Hill, May, 2009). “Statistical Theory and Robust Methodology for Nonlinear Models with Application to Toxicology.”
- Laura Farnan (University of North Carolina, Chapel Hill, December, 2011), “Estimation and testing of parameters under constraints for correlated data.”
- Siddhartha Mandal (University of North Carolina, Chapel Hill, 2012). “Functional data analytic methodology for dynamic systems governed by differential equations with applications to toxicology.”
 - **Recipient of an ENAR distinguished student paper award (2012).**

B. Post-doctoral trainees

- Dr. Wenge Guo (2007-2009).
- Dr. Changwon Lim (2009-2011).
- Dr. Richard White (2011 – 2013): Located in Oslo, Norway. Jointly mentored with Dr. Merete Eggesbo, Department of Genes and Environment, Division of Epidemiology, Norwegian Institute of Public Health, Oslo, Norway.
- Dr. Siddhartha Mandal (2012 – Current): Located in Oslo, Norway. Jointly mentoring with Dr. Merete Eggesbo, Department of Genes and Environment, Division of Epidemiology, Norwegian Institute of Public Health, Oslo, Norway.
- Dr. Casey Jelsema (2013 - Current).

C. Summer interns

- Mr. Eric Teoh (2005). Graduate student. Department of Biostatistics, University of North Carolina, Chapel Hill, NC.
- Ms. Tammy Greasby (2006). Graduate student. Department of Biostatistics, University of California, Davis, CA.
- Mr. Shashank Kommaraju (2009). Enloe High School, Raleigh, NC.
- Mr. Sai Cheemalapati (2011). Panther Creek High School, Cary, NC.

Statistical Consulting and Related Activities

- Department of Statistics, University of Virginia (1992-2000).
 - Directed the statistical consulting service and taught courses on statistical consulting during various semesters.
- National Institute of Environmental Health Sciences (2000-present).
 - Statistical consulting service (2000-present).
 - Director of the statistical consulting service (2004 – 2012).
- Member of the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) Endocrine Disruptor Peer Review Panel, 2002.
- Statistician on a “Rat uterotrophic assay” conducted by the Organization for Economic Cooperation and Development (OECD), Paris, France, 2000-2002.

Statistical Software

- Order Restricted Inference for Ordered Gene Expression (ORIOGEN) for analyzing gene expression data. (Programmed by Shawn Harris and John Zaid, SRA).
- R code for Random Periods Model (Programmed by Mr. Sai Cheemalapati, High School Summer Intern).

Refereed journal publications

A. *Statistical theory, methodology and applications*

Wu MC, Joubert BR, Kuan PF, Håberg SE, Nystad W, **Peddada SD**, London SJ. (2014) A systematic assessment of normalization approaches for the Infinium 450K methylation platform. **Epigenetics**, **9**, 318-329.

Farnan L, Ivanova A and **Peddada SD** (2014). Constrained inference in biological sciences: Linear mixed effects models under constraints. **PLOS One** **9**(1) e84778. doi:10.1371/journal.pone.0084778.

Davis BJ, Risinger JI, Chandramouli GVR, Bushel PR, Baird DD, **Peddada SD** (2013). Gene Expression in Uterine Leiomyoma from Tumors Likely to Be Growing (from Black Women over 35) and Tumors Likely to Be Non-Growing (from White Women over 35). **PLOS One** **8**(6): e63909. doi:10.1371/journal.pone.0063909.

F1000 Prime Recommended

<http://f1000.com/prime/718021284?bd=1>

<http://cdn.f1000.com.s3.amazonaws.com/images/badges/badgef1000.gif>

Lim C, Sen PK, **Peddada SD** (2013). Robust nonlinear regression in applications. **J. Ind. Soc. Agric. Statistics**, **67**, 215-234.

Davidov O, **Peddada SD** (2013). Testing for the multivariate stochastic order among ordered experimental groups with application to dose-response studies. **Biometrics** **69**,982-990.

Barragan S, Fernandez M, Rueda C, **Peddada SD** (2013). isocir: An R Package for Constrained Inference Using Isotonic Regression for Circular Data, with an Application to Cell Biology., **Journal of Statistical Software**, 54(4). <http://www.jstatsoft.org/v54/i04>.

White RA, Bjørnholt JV, Baird DD, Midtvedt T, Harris, JR, Pagano M, Hide W, Rudi K, Moen B, Iszatt N, **Peddada SD***, Eggebo M (2013). Novel developmental analyses identify longitudinal patterns of early gut microbiota that affect infant growth. **PLOS Computational Biology**, **9**(5): e1003042. doi:10.1371/journal.pcbi.1003042.

[*: Co-last author and corresponding author]

Lim C, Sen PK, **Peddada SD** (2013). Robust analysis of high throughput screening assays. **Technometrics**, **55**, 150-160.

Mandal S, Sen PK and **Peddada SD** (2013). A hierarchical functional data analytic approach for analyzing physiologically based pharmacokinetic models. **Environmetrics**, **24**, 172-179.

Davidov O, **Peddada SD** (2013). The linear stochastic order and directed inference for multivariate ordered distributions. **Annals of Statistics**, **41**, 1-40.

Guo W, Yang M, Xing C, **Peddada SD** (2012). Analysis of high dimensional data using pre-defined set and subset information, with applications to genomic data. **BMC Bioinformatics**, **13**(1):177. Epub 2012/07/26. doi: 10.1186/1471-2105-13-177.

Fernandez M, Rueda C, **Peddada SD** (2012) Identification of a core set of signature cell-cycle genes whose relative order of time to peak expression is conserved across species. **Nucleic Acids Research**, **40**,2823-32. Epub 2011/12/03. doi: 10.1093/nar/gkr1077.

Lim C, Sen PK, **Peddada SD** (2012). Accounting for Uncertainty in Heteroscedasticity in Nonlinear Regression. **J. Statist. Planning and Inf.** **142**, 1047-1062. Epub 2012/02/22. doi: 10.1016/j.jspi.2011.11.003.

Davidov O, **Peddada SD** (2011) Order restricted inference for multivariate binary data with application to toxicology. **J. Amer. Statist. Assoc.** **106**, 1394-1404.

Lu J, Kerns RT, **Peddada SD**, Bushel PR (2011). Principal component analysis-based filtering improves detection for Affymetrix gene expression arrays. **Nucleic Acids Research**, doi:10.1093/nar/gkr241.

Dinse G, **Peddada SD** (2011) Comparing tumor rates in current and historical control groups in rodent cancer bioassays. **Statistics in Biopharmaceutical Research**. **3**, 97-105.

Lim C, Sen PK, **Peddada SD** (2011). Statistical Inference in Nonlinear Regression under Heteroscedasticity. **Sankhya – Ser. B.** **72**, 202-218.

Baird D, Garrett T, Laughlin S, Davis B, Semelka R, **Peddada SD** (2010). Short-Term Change in Growth of Uterine Leiomyoma: Tumor Growth Spurts. **Fertility and Sterility**, **95**, 242-246.

Guo W, Sarkar SK, **Peddada, SD** (2010). Controlling False Discoveries in Multidimensional Directional Decisions, with Applications to Gene Expression Data on Ordered Categories. **Biometrics**, **66**, 485 - 492. Epub 2009/08/04. doi: 10.1111/j.1541-0420.2009.01292.x.

Peddada, SD, Harris, S., Davidov, O. (2010). Analysis of Correlated Gene Expression Data on Ordered Categories. **J. Ind. Soc. Agric. Statist.**, **64**, 45-60.

Rueda C, Fernandez M, **Peddada SD** (2009). Estimation of parameters subject to order restriction on a circle with application to estimation of phase angles of cell-cycle genes. **J. Amer. Statist. Assoc.**, **104**, 338-347.

Bushel P, Heard N, Gutman R, Liu L, **Peddada SD**, Pyne S (2009). Dissecting the Fission Yeast Regulatory Network Reveals Phase-Specific Control Elements of its Cell-cycle. **BMC Systems Biology**, **3**:93doi:10.1186/1752-0509-3-93.

Peddada SD, Umbach D, Harris S. (2009). A response to information criterion-based clustering with order-restricted candidate profiles in short time-course microarray experiments. **BMC Bioinformatics**, **10**:438 doi:10.1186/1471-2105-10-438.

Betcher J, **Peddada SD** (2009). Statistical inference under order restrictions in analysis of covariance. **Sankhya, Ser. - B**, **71**, 79 - 96.

Davis B, Haneke K, Miner K, Kowalik K, Barrett J, **Peddada SD**, Baird D (2009). The Fibroid Growth Study: Determinants of Therapeutic Intervention. **J. of Women's Health**, **18**, 725-732.

Peddada SD, Laughlin S, Miner K, Guyon JP, Haneke K, Vahdat H, Semelka R, Kowalik, A, Armao D, Davis B, Baird D. (2008). Growth of Uterine Leiomyomata among Pre-menopausal Black and White Women. **Proc. National Acad. Sci.**, **105**, 19887-19892. Epub 2008/12/03. doi: 10.1073/pnas.0808188105.

Guo W, **Peddada SD** (2008). Adaptive Choice of the Number of Bootstrap Samples in Large Scale Multiple Testing. **Statistical Applications in Genetics and Molecular Biology**, **7** (1), Art. 13.

Dunson DB, **Peddada SD** (2008). Bayesian nonparametric inference on stochastic ordering. **Biometrika**, **95**, 859-874.

Peddada SD, Dinse G, Kissling G (2007). Incorporating Historical Control Data When Comparing Tumor Incidence Rates. **J. Amer. Stat. Assoc.**, **102**, 1212-1220.

Simmons S, **Peddada SD** (2007). Order-restricted inference for ordered gene expression (ORIOGEN) data under heteroscedastic variances. **Bioinformatics**, **1(10)**, 414-419.

Liu D, **Peddada SD**, Li L, Weinberg C (2006). Phase analysis of circadian-related genes in two tissues. **BMC Bioinformatics**, **7**: Art. No. 87.

Peddada SD Haseman J, Tan X, Travlos G (2006). Tests for simple tree order restriction with application to dose-response studies. **J. Royal Statist. Soc., Ser - C**, **55**, 493-506.

Peddada SD, Haseman J (2006). Analysis of nonlinear regression models: A cautionary note. **Dose-Response**, **3**, 342-352.

Peddada SD, Dinse G, Haseman J (2005). A survival-adjusted quantal response test for comparing tumor incidence rates. **J. Royal Statist. Soc., Ser - C**, **54**, 51-61.

Peddada SD, Harris S, Zajd J, Harvey E (2005). ORIOGEN: Order Restricted Inference for Ordered Gene Expression data. **Bioinformatics**, **21**, 3933-3934.

Peddada SD, Dunson DB, Tan X (2005). Estimation of order-restricted means from correlated data. **Biometrika**, **92**, 703-715.

Peddada SD, Kissling G (2006). A Survival-Adjusted Quantal-Response Test for Analysis of Tumor Incidence Rates in Animal Carcinogenicity Studies. **Environmental Health Perspectives**, **114**, 537-541.

Liu D, Umbach D, **Peddada SD**, Li L, Crockett P, Weinberg C (2004). A Random-Periods Model for Expression of Cell-Cycle Genes. **Proceedings of National Academy of Sciences**, **101**, No. 19, 7240-7245.

Liu D, Weinberg C, **Peddada SD** (2004). A geometric approach to determine association and coherence of the activation times of cell-cycling genes under different experimental conditions. **Bioinformatics**, **20**, 2521-2528.

Conaway M, Dunbar S, **Peddada SD** (2004). Designs for single or multiple agent phase I trials. **Biometrics**, **60**, 661-669.

Peddada SD, Lobenhofer L, Li L, Afshari C, Weinberg C, Umbach D (2003). Gene selection and clustering for time-course and dose-response microarray experiments using order-restricted inference. **Bioinformatics**, **19**, 834-841.

Hoferkamp C, **Peddada SD** (2002). Estimation of parameters in linear models with heteroscedastic variances subject to order restrictions. **J. Multivariate Analysis**, **82**, 65-87.

Peddada SD, Hwang JTG. (2002). Classification of pixels in a noisy greyscale image of polar ice. **IEEE Transactions On Geoscience and Remote Sensing**, **40**, 1879-1884.

Hoferkamp C, **Peddada SD** (2001). Test of Homogeneity of Variances Against Ordered Alternatives in Fixed Effects Linear Models. **Sankhya, Ser. B**, **63**, 311-320.

Peddada SD, Prescott K, Conaway M (2001). Tests for Order Restrictions in Binary Data. **Biometrics**, **57**, 1219-1227.

Tan X, **Peddada SD** (2001). Asymptotic Distribution of Some Estimators for Parameters Subject to Order Restrictions. **Statistics and Applications**, **2**, 7-25.

Dunbar S, Conaway M, **Peddada SD** (2001). On improved estimation of parameters subject to order restrictions. **Statistics and Applications**, **3**, 121-128.

Garren S, **Peddada SD** (2000). Analysis of Multivariate Linear Regression Models Under Repeated Measurements with Missing Data. **Statist. Probab. Letters**, **48**, 293-302.

Smith T, **Peddada SD** (1998). Analysis of Linear Models under Heteroscedasticity. **Statist. Probab. Letters**, **37**, 399-408.

McDevitt RJ, **Peddada SD** (1998). An Automated Algorithm for Cleaning and Ordering the Boundary Points of a One-Dimensional Curve in a Segmented Image. **IEEE Transactions on Geoscience and Remote Sensing**, **36**, 307-312.

Peddada SD (1997). Confidence Interval Estimation of Population Means Subject to Order Restrictions Using Resampling Procedures. **Statist. Probab. Letters**, **31**, 255-265.

Peddada SD, Smith T (1997). Consistency of a Class of Variance Estimators in Linear Models under Heteroscedasticity. **Sankhya, Ser. B**, **59**, 1 - 10.

Peddada SD and Chang TC (1996). Bootstrap Confidence Region Estimation of the Motion of Rigid Bodies. **J. of Amer. Statist. Assoc.**, **81**, 231-241.

Peddada SD, McDevitt RJ (1996). Least Average Residual Algorithm (LARA) to Track the Motion of Arctic Sea Ice. **IEEE Transactions on Geoscience and Remote Sensing**, **34**, 915-926.

Hwang JTG and **Peddada SD** (1994). Confidence Interval Estimation Subject to Order Restrictions. **Annals of Statistics**, **22**, 67-93.

Kirmani S and **Peddada SD** (1993). Stochastic Ordering Approach to Off-line Quality Control Data. **J. Royal Statist. Society, Ser. C – Applied Statist.**, **42**, 271-281.

Peddada SD (1993). Discussion of “Is Pitman Closeness a Reasonable Criterion?” **J. Amer. Statist. Assoc.**, **88**, 67-69.

Hwang JTG, **Peddada SD** (1993). Confidence interval estimation under some restrictions on the parameters with non-linear boundaries. **Statist. Probab. Letters**, **18**, 397-403.

Peddada SD, Patwardhan G (1992). Jackknife Variance Estimation in Linear Models. **Biometrika**, **79**, 654-657.

Peddada SD, Patwardhan G (1992). Qualms about the BCa Confidence Intervals. **Statist. Probab. Letters**, **15**, 77-83.

Lahiri P, **Peddada SD** (1992). Bayes and Empirical Bayes Estimation of the Finite Population Mean Using Auxiliary Information. **Statistics and Decisions**, **10**, 67-80.

Peddada SD, Richards D (1991). Proof of a Conjecture of M. L. Eaton on the Characteristic Function of the Wishart Distribution. **Annals of Probability**, **19**, 868-874.

Peddada SD, Khattree R (1991). Comparison of the Estimators of the Location Using Pitman's Criterion of Comparison. **Comm. Statist.**, **20**, 3525-3534.

Peddada SD, Saxena KML (1991). Minimum Norm Constrained Estimation in Randomized Response Surveys. **Sankhya, Ser. B**, **53**, 327-339.

Peddada SD, Richards D (1991). Entropy Inequalities for Some Multivariate Distributions. **J. Multivariate Anal.**, **39**, 202-208.

Peddada SD (1989). Two Non-Negative Estimators for the Model with a Common Mean. **Comm. Statist.**, **18**, 501-512.

Peddada SD, Lahiri P (1988). Exact Mean Squared Error of Stein-Rule Estimator in Linear Models. **J. of Statist. Planning and Inference**, **18**, 345--353.

Lee C, **Peddada SD** (1987). Comparison of Some Ratio Estimators Using the Pitman Nearness Criterion. **Comm. Statist.**, **16**, 2017--2027.

Khattree R, **Peddada SD** (1987). A Short Note on Pitman Nearness for Elliptically Symmetric Estimators. **J. of Statist. Planning and Inference**, **16**, 257-260.

Peddada SD, Khattree R (1986). On Pitman Nearness and Variance of Estimators. **Comm. Statist.**, **15**, 3005-3017.

Peddada SD (1986). A Note on Quadratic Subspaces. **Utilitas Math.**, **29**, 87-92.

Peddada SD (1985). A Short Note on the Pitman Measure of Nearness. **Amer. Statist.**, **39**, 298-299.

B. Collaborative Research

Colaneri A, Wang T, Pagadala V, Kittur J, Staffa NG, **Peddada SD**, Isganaitis E, Patti ME, Birnbaumer L (2013). A minimal set of tissue-specific hypomethylated CpGs constitute epigenetic signatures of developmental programming. **PLOS One**, *in press*.

Hoenerhoff M, Pandiri A, Snyder S, Hong HL, Ton T **Peddada SD**, Shockley K, Chan P, Rider C, Kooistra L, Nyska A and Sills R. (2012). Hepatocellular Carcinomas in B6C3F1 Mice Treated with Ginkgo biloba Extract for Two Years Differ from Spontaneous Liver Tumors in Cancer Gene Mutations and Genomic Pathways. **Toxicologic Pathology**, DOI: 10.1177/0192623312467520.

Joubert B, Haberg S, Nilsen R, Wang X, Vollset S, Murphy S, Huang Z, Hoyo C, Midttun O, Cupul-Uicab L, Ueland P, Wu M, Nystad W, Bell D, **Peddada SD**, London S (2012). 450K Epigenome-Wide Scan Identifies Differential DNA Methylation in Newborns Related to Maternal Smoking During Pregnancy. **Environmental Health Perspectives**, **120(10)**, 1425-1431.

Kadekar S, **Peddada SD**, Silins I, French J, Hogberg J, Stenius U (2012). Gender differences in chemical carcinogenesis in the National Toxicology Program two-year bioassays. **Toxicologic Pathology**. **40(8)**,1160-1168.

Pandiri AR, Sills RC, Ziglioli V, Ton TV, Hong HH, Lahousse SA, Gerrish KE, Auerbach SS, Shockley KR, Bushel PR, **Peddada SD**, Hoenerhoff MJ (2012). Differential Transcriptomic Analysis of Spontaneous Lung Tumors 1 in B6C3F1 Mice: 2 Comparison to Human Non-Small Cell Lung Cancer. **Toxicologic Pathology**. DOI: 10.1177/0192623312447543.

Colaneri A, Staffa A, Fargo DC, Gao Y, Wang T, Peddada SD, Birnbaumer L (2011). Expanded methyl-sensitive cut counting reveals hypomethylation as an epigenetic state that highlights functional sequences of the genome. **Proc. National Acad. Sci.**,**108 (23)** 9715-9720.

Cao Y, Chen A, Jones RL, Radcliffe J, Dietrich KN, Caldwell KL, **Peddada SD**, Rogan, WJ (2011). Efficacy of succimer chelation of mercury at background exposures in toddlers: a randomized Trial. **The Journal of Pediatrics**. **158(3)**, 480–485.

Merrick BA, Dhungana S, Williams JG, Aloor JJ, **Peddada, SD**, Tomer KB, Fessler MB. (2011). Proteomic Profiling of S-acylated Macrophage Proteins Identifies a Role for Palmitoylation in Mitochondrial Targeting of Phospholipid Scramblase 3. **Molecular and Cellular Proteomics**, doi: 10.1074/mcp.M110.006007.

Pandiri A, Sills R, Hoenerhoff M, **Peddada SD**, Ton T, Hong H, Flake G, Malarkey D, Pogribny I, Walker N, and Boudreau M (2011). Aloe vera non-decolorized whole leaf extract-induced large intestinal tumors in F344 rats share similar molecular pathways with human sporadic colorectal tumors. **Toxicol. Pathology**, **39(7)**:1065-74.

Perdivara I, **Peddada SD**, Miller F, Tomer K, Deterding L (2011). Mass Spectrometric Determination of IgG Subclass-Specific Glycosylation Profiles in Siblings Discordant for Myositis Syndromes. **Journal of Proteome Research**. **10**, 2969-2978.

Hoenerhoff MJ, Pandiri AR, Lahousse SA, Hong HL, Ton T-V, Masinde T, Auerbach SS, Gerrish K, Bushel PR, Shockley KR, **Peddada SD**, Sills RC (2011). Global Gene Profiling of Spontaneous Hepatocellular Carcinoma in B6C3F1 Mice: Similarities in the Molecular Landscape with Human Liver Cancer. **Toxicologic Pathology**, **39**, 678-699.

Colaneri A, Staffa N, Fargo D, Gao Y, Wang T, **Peddada SD**, Birnbaumer L (2011). Expanded Methyl-Sensitive Cut Counting Reveals Hypo Methylation as an Epigenetic State that Highlights Functional Sequences of the Genome. **Proc. National Acad. Sci.** **108(23)**, 9715-9720.

Eggesbo M, Moen B, **Peddada SD**, Baird, D, Rugtveit J, Midtvedt T, Bushel P, Sekelja M, Rudi K (2010). Development of gut microbiota in infants not exposed to medical interventions. **Acta Pathologica, Microbiologica et Immunologica Scandinavica (APMIS)**. **119(1)**, 17-35.

Dinse G, **Peddada SD**, Harris S, Elmore S (2010). Comparison of Select Historical Control Tumor Incidence Data on Female Harlan Sprague-Dawley and Fischer 344/N Rats from Two-Year Bioassays Performed by the National Toxicology Program. **Toxicologic Pathology**, **38**, 765-775.

Keenan C, Elmore S, Franck-Carroll S, Kerlin R, **Peddada SD**, Pletcher J, Rinke M, Schmidt S, Taylor I, Wolf D (2009). Potential for a Global Historical Control Database for Proliferative Rodent Lesions. **Toxicologic Pathology**. **37(5)**, 677-678.

Elmore S, **Peddada SD** (2009). Points to Consider on the Statistical Analysis of Rodent Cancer Bioassay Data when Incorporating Historical Control Data. **Toxicologic Pathology**, **37(5)**, 672-676.

Keenan C, Elmore S, Franck-Carroll S, Kemp R, Kerlin R, **Peddada SD**, Pletcher J, Rinke M, Schmidt S, Taylor I, Wolf D (2009). Best Practices for Use of Historical Control Data of Proliferative Rodent Lesions. **Toxicologic Pathology**, **37(5)**, 679-693.

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Invited Book Chapters, Reviews and Letters (Equal contributors, Principal Investigator)

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J. Silvapulle. IMS Collections. *Beyond Parametrics in Interdisciplinary Research: Festschrift in Honor of Professor Pranab K. Sen*, **1**, 62-77.

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Invited Lectures Since 2000

Department of Statistics, Michigan State Univ., East Lansing, MI.	November 2013.
Department of Statistics, University of South Carolina, Columbia, SC	May, 2013
Indian Society of Agricultural Statistics, New Delhi, India, Keynote speaker	December, 2012
C.R.Rao Advanced Institute of Mathematics, Statistics and Computer Sciences, Hyderabad, India	December, 2012
Department of Biostatistics, Virginia Commonwealth Univ., Richmond, VA .	November, 2012
Joint Statistical Meetings, San Diego, CA.	August 2012.
Department of Biostatistics, Vanderbilt Univ., Nashville, TN.	May 2012.
Department of Biostatistics, Univ. of North Carolina, Chapel Hill, NC.	May 2012.
Department of Statistics, Michigan State Univ., East Lansing, MI.	April 2012.
Univ. of Valladolid, Valladolid, Spain.	December 2011.
European Research Consortium for Informatics and Mathematics, London, UK.	December, 2011.
IISA Conference on Probability, Statistics, Data Analysis, Raleigh, NC.	April, 2011.
Virginia Academy of Sciences, VA.	May, 2010
Oakland Univ. ,Rochester, MI.	March, 2010.
Harvard School of Public Health, Harvard, Boston, MA.	February, 2010.
Bioinformatics workshop at Miami Univ., Oxford, OH.	May, 2008.

Instructional workshop in Bioinformatics and Drug Discovery, Hyderabad, India.	December, 2007.
Indian Agricultural Statistics Research Institute, New Delhi, India.	December, 2007.
SAMSI., RTP, NC.	October, 2007.
Department of Biostatistics, Univ. of North Carolina, Chapel Hill.	April, 2007.
Department of Statistics and Operations Research, several seminars Univ. of Valladolid, Valladolid, Spain.	March 26 to April 30, 2007.
Department of Mathematics, Univ. of Mississippi, Mississippi, MS.	February, 2007.
Department of Statistics, Univ. of South Carolina, Columbia, SC.	March, 2006.
Department of Mathematics, Central Michigan Univ. ,Mt. Pleasant MI.	February, 2006.
College of Arts and Science, Central Michigan Univ., Mt. Pleasant MI.	February, 2006.
Center for Genetics and Molecular Medicine, Univ. of Louisville, Louisville, KY.	September, 2005.
Univ. of North Carolina, Wilmington, NC.	February, 2005.
Bioinformatics workshop, Center for Cellular and Molecular Biology, Hyderabad, India.	December, 2004.
Department of Biostatistics, Vanderbilt Univ., Nashville, TN.	November, 2004.
International Conference on Analysis of Genomic Data, BCASA, Harvard School of Medicine, Boston, MA.	May, 2004.
Department of Statistics, Penn State Univ., Univ. Park, PA.	October, 2003.
Department of Statistics, Univ. of Virginia, Charlottesville, VA.	October, 2003.
Conference on Statistics of Optimal Dosing, Washington D. C.	October, 2003.
Department of Statistics, Univ. of Virginia, Charlottesville, VA.	September, 2002.
International Biometric Society Conference, Freiburg, Germany.	July, 2002.
Biometrics Society, ENAR meeting.	March, 2002.
Department of Statistics, North Carolina State Univ..	September, 2001.
NIEHS Microarray Center Meeting.	August, 2001.
Research Triangle Institute, Research Triangle Park.	August, 2001.
Statistics: Reflections on the past and visions for the future, an international conference in honor of Professor C. R. Rao, San Antonio, TX.	March, 2000.