CURRICULUM VITAE

SUJAY DATTA

Current Position: Associate Professor, Dept. of Statistics, Buchtel College of Arts & Sciences, University of Akron, Ohio, USA, 2011{present

Past Positions: (1) Senior Sta Scientist, Statistical Center for HIV/AIDS Research & Prevention (SCHARP), Fred Hutchinson Cancer Research Center, Seattle, Washington, USA, 2008{2011 (2) Visiting Research Scientist (funded by a National Cancer Institute R25 training grant; principal investigator: Raymond J. Carroll), Department of Statistics, Texas A& M University, College Station, Texas, USA, 2006{2008, (3) Associate Professor, Department of Mathematics and Computer Science, Northern Michigan University, Marquette, Michigan, USA, 2003-2006, (4) Assistant Professor, Department of Mathematics and Computer Science, Northern Michigan University, Marquette, Michigan, USA, 1997-2003

Education:

B. Stat. (Hons.), Indian Statistical Institute, Calcutta, 1990

M. Stat (specialization in mathematical statistics and probability), Indian Statistical Institute, Calcutta, 1992

M.S. in statistics, University of Connecticut, Storrs, 1994

Ph.D. in statistics (specialization: sequential/multistage inference & clinical trials), University of Connecticut, Storrs, 1995

Post-Doctoral research fellow (funded by a ndera n4gm,cto

Topic of Doctoral Dissertation: Sequential and multistage inference procedures: the \ ne-tuning" aspect and the distribution-free scenario

Topic of Postdoctoral Fellowship: Developing parallel algorithms for designing e cient and optimal patient-allocation strategies in multi-arm bandit problems, with applications to clinical trials

Computing Experience: WINDOWS XP & VISTA, MINITAB, SPSS, S-PLUS, R, BIOCONDUCTOR, SAS/JMP. Limited familiarity with MATLAB. Programming languages used: FORTRAN

Sabbatical Activities:

Invited participant in the research program \Genomes to Global Health: Computational Biology of Infectious Diseases" at the Statistics and Applied Mathematical Sciences Institute (SAMSI), Research Triangle Park, North Carolina (Program leaders: Thomas Kepler of Duke University for the focus group

Datta, S. & Mukhopadhyay, N. (1997). On sequential xed-size con dence regions for the mean vector. *Journal of Multivariate Analysis*, **60**, 233-251 (Research partially supported by an NSF-DMS grant)

Datta, S. & Mukhopadhyay, N. (1998). Second-order asymptotics for multi-stage methodologies in partitioning a set of normal populations with a common unknown variance. *Statistics & Decisions*, **16**, 191-205

Datta, S. & Mukhopadhyay, N. (1998). Nonparametric sequential procedures for selecting the largest center of symmetry and some associated second order. *J. Statist. Res.*, **32(2)**, 1-14

Datta, S. (2001). Sequential and multistage methodologies in regression models: An overview. In *Advances on Theoretical and Methodological Aspects of Probability and Statistics*, pp 427-450, ed. N. Balakrishnan, Taylor & Francis, U.K.

Datta, S. (2002). Sequential xed-precision estimation in stochastic linear regression models. *Sequential Analysis*, **21**, 161-190

Datta, S. & Chattopadhyay, S. (2003). Sequential estimation of the slope in a measurement-error model. In *Applied Sequential Methodologies*, eds. Mukhopadhyay, N., Datta, S. and Chattopadhyay, S., 123-140, Marcel Dekker, New York

Chattopadhyay, S., Datta, S. & Sengupta, R.N. (2005). Asymmetric penalized prediction using adaptive sampling procedures. *Sequential Analysis*, **24(1)**, 23-43

Datta, S. (2004). Discussion on \Likelihood ratio identities and their applications to sequential analysis" by Tze Leung Lai. *Sequential Analysis*, **23**,

Wu, G., Bazer, F.W., Datta, S., Gao, H., Johnson, G.A., Lassala, A., Li, P., Satter eld, M.C. & Spencer, T.E. (2008). Intrauterine growth retardation in livestock: Implications, mechanisms and solutions. *Arch. Tierz., Dummerstorf*, **51**, Special Issue, 4-10

Li, P., Kim, S.W., Li, X., Datta, S., Pond, W.G. & Wu, G. (2009). Dietary supplementation with cholesterol and docosahexaenoic acid a ects concentrations of amino acids in tissues of young pigs. (Accepted in *Amino Acids* as of January 2009)

Wu, G., Bazer, F.W., Datta, S., Johnson, G.A., Li, P., Satter eld, M.C. & Spencer, T.E. (2008). Proline metabolism in the conceptus: Implications for fetal growth and development. *Amino Acids*, **35**, 691-702

Dhavala, S.S., Datta, S., Mallick, B.K., Carroll, R.J., Khare, S., Lawhon, S.D. & Adams, L.G. (2009). Bayesian Modeling of MPSS Data: Gene Expression Analysis of Bovine *Salmonella* Infection. (Accepted in the *Journal of the American Statistical Association* as of November 2009)

Lassala, A., Bazer, F.W., Cudd, T.A., Datta, S., Keisler, D.H., Satter eld, M.C., Spencer, T.E. & Wu, G. (2010). Parenteral administration of L-arginine prevents fetal growth restriction in undernourished ewes. *Journal of Nutrition*, **140**, 1242-1248

Nagarajan, R., Datta, S., Scutari, M., Beggs, M.L., Nolen, G.T. & Peterson, C.A. (2010). Functional relationships between genes associated with di erentiation potential of aged myogenic progenitors. *Frontiers in Systems Biology*, www.frontiersin.org/systems-biology/10.3389/fphys.2010.00021/abstract

Papers Revised and Re-submitted

Chakraborty, S., Datta, S. & Polash, B.A. (2010). Statistical inference for zero-in ated and generalized Poisson distributions. (Revised for the *Journal of*

Datta, S., Qin, L., Zhang, H. & Self, S. (2010). Tests of association for longitudinal data: Applications to HIV/AIDS

Datta, S., Nagarajan, R., Scutari, M. & Lee, K. (2009). Large-sample and small-sample con dence estimation of graphs and networks

Books and Edited Volumes:

Mukhopadhyay, N., Datta, S. & Chattopadhyay, S. (2003). *Applied Sequential Methodologies* (edited volume of contributed papers), Marcel Dekker, Inc., N.Y.

Biswas, A., Datta, S., Fine, J. & Segal, M. (2007). *Statistical Advances in the Biomedical Sciences: Clinical Trials, Epidemiology, Survival Analysis and Bioinformatics* (edited volume of contributed papers), John Wiley & Sons.

Mitra, S., Datta, S., Perkins, T. & Michailidis, G. (2008). *An Introduction to Bioinformatics and Machine Learning*, Chapman & Hall (Taylor & Francis).

Invited Presentations:

Department of Statistics, University of Connecticut (Storrs), USA, March 1995, *On ne-tuning a purely sequential procedure and the associated second-order properties*

Department of Statistics, University of Michigan (Ann Arbor), USA, March 1997, *Parallelizing MCMC algorithms for sampling from distributions with isolated modes*

Department of Mathematical Sciences, Michigan Technological University, Houghton, Michigan, USA, November 1998, *Sequential and multistage inference procedures*

Department of Statistics, National University of Singapore, Republic of Singapore, December 1998, *A new geometric method of data analysis*

Department of Statistics, University of Nebraska (Lincoln), USA, February 2001, *An introduction to fuzzy statistics and possibility theory*

Department of Statistics, University of Georgia (Athens), USA, August 2001, *An introduction to fuzzy statistics and possibility theory*

Department of Statistics, University of Connecticut (Storrs), USA, March 2002, *Fuzzy statistics: what is it all about?*

Department of Mathematical Sciences, Indiana University Purdue University (Indianapolis), USA, September 2004, *The omics revolution: Whats going on and why is statistics relevant?*

Department of Statistics, George Washington University (Washington D.C.), USA, September 2004, *Statistical analysis of spatial patterns and abundance estimation in ecological studies*

Department of Statistics, North Carolina State University (Raleigh), USA, November 2004, *Applications of Bayesian methodology in Bio-medical sciences: Modeling of HIV/AIDS infection*

Department of Statistics, University of Connecticut (Storrs), USA, June 2006, *Distance measures for graphs and hypergraphs with applications in bioinformatics* (International Chinese Statistical Association conference)

Department of Mathematics, Cleveland State University (Cleveland), USA, January 2008

Department of Biostatistics, East Carolina University (Greenville), USA, February 2008

Department of Statistics, University of Missouri (Rolla), USA, February 2008

Department of Mathematics and Statistics, Indiana University Purdue University (Indianapolis), USA, March 2008

Department of Statistics, University of Washington (Seattle), USA, March 2010, *Measures of association for longitudinal data*

Joint Statistical Meetings of IMS, ASA, Biometric Society & SSC, Toronto, Ontario, Canada, August 1994, *Replicated piecewise multistage sampling and its applications*

Joint Statistical Meetings of IMS, ASA, Biometric Society & SSC, Orlando, Florida, USA, *On sequential xed-width con dence intervals for the mean and second order expansions of the associated coverage probabilities*

Sydney International Statistical Congress, Sydney, New South Wales, Australia, June 1996, *Parallelizing MCMC algorithms for sampling from distributions with isolated modes*

Joint Statistical Meetings of IMS, ASA, Biometric Society & SSC, Chicago, Illinois, USA, August 1996, *Sequential xed-precision estimation in stochastic linear regression and errors-in-variables models*

New Researchers Conference (sponsored by ASA), Laramie, Wyoming, USA, July 1997, *On ne-tuning a purely sequential procedure and the associated second-order properties*

60th Annual Meeting of the IMS, Park City, Utah, USA, July 1997, *Nonparametric sequential procedures for selecting the largest center of symmetry and some associated second-order properties*

Joint Statistical Meetings of IMS, ASA, Biometric Society & SSC, Dallas, Texas, USA, August 1998, *Sequential xed-precision estimation of reliability in a stress-strength model*

Biennial conference of the International Indian Statistical Association, Hamilton, Ontario, Canada, October 1998, *Sequential and multistage methodologies in regression models: An overview*

Michigan upper peninsula zonal conference of the Mathematical Association of America (MAA), Michigan Technological University, Houghton, Michigan, USA, October 1998, *A new geometric method of data analysis*

Michigan upper peninsula zonal conference of the MAA, Northern Michigan University, Marquette, Michigan, USA, October 1999, *Statistical Analysis of shapes*

Joint Statistical Meetings of IMS, ASA, Biometric Society and SSC, Atlanta, Georgia, USA, August 2001, *Improved sequential inference on the slope parameter in a linear regression model under LINEX loss*

Conference honoring Wayne Fullers 70th birthday, Iowa State University, Ames, Iowa, USA, June 2001, *Sequential estimation of the slope in a measurement-error model* (contributed poster).

Michigan upper peninsula zonal conference of the MAA, Northern Michigan University, Marquette, Michigan, USA, November 2001, *Can you believe it| a con dence interval from a sample of size one?*

Annual meeting of the Statistical Society of Canada, McMaster University, Hamilton, Ontario, Canada, May 2002, *Improved sequential estimation using Zellner-type estimators under LINEX loss for some exponential family distributions* (contributed poster)

Biennial meeting of the International Indian Statistical Association, DeKalb, Illinois, USA, June 2002, *Improved sequential inference under the LINEX loss*

Joint Statistical Meetings of IMS, ASA, Biometric Society and SSC, New York City, New York, USA, August 2002, *A comparison of various approaches to sequential xed-precision estimation in a measurement error model*

International conference on Statistics, Combinatorics and Related Areas (SCRA -2003), Portland, Maine, USA, October 2003, *Grobner bases and their applications in statistics and related elds*

International conference on the analysis of genomic data, Harvard University Medical School, Cambridge, Massachusetts, USA, May 2004, *Hidden Markov models and their applications in statistical genomics* (poster presentation)

IUFRO 4.11 Conference on the Applications of Statistics, Information Systems and Computers in Natural Resources Monitoring and Management, National

International Biometric Society ENAR Spring Meeting, Atlanta, Georgia, USA, March 2007, *Some statistical methods for analyzing non-microarray gene- expression data*

International Symposium on Molecular Biology (sponsored by the International Society for Computational Biology), Vienna, Austria, July 2007, *Quantitative analysis of bovine salmonella infection via MPSS* (poster presentation)

International Biometric Society ENAR Spring Meeting, New Orleans, Louisiana, USA, March 2010, *Testing for association in longitudinal data: Application to HIV/AIDS research*

Other Types of Participation in Conferences

Organizer and Chair of a special-topic contributed session (on real-life applications of sequential and multistage methodologies) at the Joint Statistical Meetings of IMS, ASA, International Biometric Society and SSC, Toronto, Ontario, Canada, August 2004

Organizer of an introductory overview lecture session (on sequential analysis and its applications) at the Joint Statistical Meetings of IMS, ASA, International Biometric Society and SSC, Toronto, Ontario, Canada, August 2004

Organizer and Chair of a special-topic contributed session (on statistical genomics in the 21st century: New challenges and techniques in the post-HGP era) at the Joint Statistical Meetings of IMS, ASA, International Biometric Society and SSC, Minneapolis, Minnesota, USA, August 2005

Organizer and Chair of a special-topic contributed session (on some recent developments in biostatistics) at the Joint Statistical Meetings of IMS, ASA, International Biometric Society and SSC, Seattle, Washington, USA, August 2006

Organizer and Chair of a special-topic contributed session (on statistical and machine-learning techniques in bioinformatics) at the Joint Statistical Meetings

Other Conferences and Workshops Attended

IMS Workshop on Sequential Analysis, University of North Carolina, Chapel Hill, North Carolina, USA, July 1994

Norbert Wiener Centennial Conference, Massachusetts Institute of Technology, Massachusetts, USA, 1994

R.C. Bose Memorial Symposium on Combinatorics and Designs of experiments, Colorado State University, Fort Collins, Colorado, USA, June 1995

NSF-CBMS Lecture Series on Probability, Combinatorics and Optimization, Michigan Technological University, Houghton, Michigan, USA, July 1995

A Short Course on Categorical Data Analysis, University of Pennsylvania, Philadelphia, Pennsylvania, USA, June 1998

Golden Jubilee Conference of the(ce)-2tr251(of)-250(the(ce)-2tr2rBgtmrence,)0 -14.445 Td [t27(yi)-

Statistical Modeling in Finance: Modeling Uncertain Behavior of Returns from Investments (one-day mini-conference organized by the Dept. of Statistics and the Fox School of Business, Temple University), Philadelphia, Pennsylvania, USA, March 2006

International Biometric Society ENAR Spring Meeting, Tampa, Florida, USA, March 2006

The Bioconductor Conference, Fred Hutchinson Cancer Research Center, Seattle, Washington, August 2006

The Human Nutrition Conference, Texas A & M University, College Station, Texas, February 2007

The 39th Symposium on the Interface: Computing Science and Statistics, Philadelphia, Pennsylvania, USA, May 2007

Experimental Biology Conference, Washington DC, May 2007

Joint Statistical Meetings of IMS, ASA, International Biometric Society and SSC, Salt Lake City, Utah, USA, August 2007

International Biometric Society ENAR Spring Meeting, Arlington, Virginia, USA, March 2008

Experimental Biology Conference, San Diego, California, USA, April 2008

Annual retreat of the Consortium for HIV/AIDS Vaccine and Immunology, Durham, North Carolina, USA, September 2008

AIDS Vaccine 2008 Conference, Cape Town, South Africa, October 2008

International Biometric Society ENAR Spring Meeting, San Antonio, Texas, USA, March 2009

One-day workshop on the Ingenuity Pathway Analysis software, Boston, Massachusetts, USA, May 2009

The Bioconductor Conference, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA, August 2009

AIDS Vaccine 2009 Conference, Paris, France, October 2009

International Biometric Society ENAR Spring Meeting, Miami, Florida, USA, March 2011

Symposium on statistical and computational techniques for analyzing very large datasets, Baltimore, Maryland, USA, June 2011

Popular Colloquia and Presentations for a Wider Audience:

Statistical Genetics, Northern Michigan University, November 1997

Statistics| Taming the Uncertain and Claiming the Truth, Northern Michigan University, March 1998

The Geometry of Statistical Data Analysis, Northern Michigan University, January 1999

Statistics You Cant Count On| An Overview of Misleading Statistics, Northern Michigan University, December 1999

An Introduction to Bayesian Inference, Northern Michigan University, November 2000

Fuzzy Statistics, Northern Michigan University, April 2001

To switch or not to switch| that is the question (the \three doors" problem or the \prisoners dilemma"), Northern Michigan University, November 2002

*Abstract algebraic techniques in statistics a/3542600(Northern)-32 11.9552 Tf -11.831 -2435526(Northe

\An Asymptotic Second-Order Lower Bound for the Bayes Risk of a Sequential Procedure" for *Sequential Analysis* (Wald Centennial Issue), 2003

\Optimal Sequential Estimation with Fixed Relative Precision" for *The Annals of Statistics*, 2004

\Milton Sobel and Selection of the Best Treatment: Past, Present and Future" for *Sequential Analysis*, 2004

\Shrinkage Testimators for the Shape Parameter of Pareto Distribution Using LINEX Loss Function" for *Communications in Statistics*, 2005

\Exploring Gene Causal Interactions Using an Enhanced Constraint-Based Method" for *Pattern Recognition*, 2005

\Sequential Determination of Sample Size for Microarray Studies: Application to a Dose-Response Experiment" for the *Journal of the American Statistical Association*, 2007

For *Statistics and Probability Letters*, 2008

\Conditional Density Estimation via Least-Squares Density Ratio Estimation" for the proceedings of the Arti cial Intelligence and Statistics (AISTAT) conference in Sardinia, Italy, 2010

\Nonlinear Functional Regression: A Functional RKHS Approach" for the proceedings of the Arti cial Intelligence and Statistics (AISTAT) conference in Sardinia, Italy, 2010

\Variance Function Estimation in Quantitative Mass Spectrometry" for *Biometrics*, 2011

\Sequential Stopping for High-Throughput Experiments" for *Biostatistics*, 2011

Books Reviewed:

Calculus by Smith & Minton, McGraw-Hill Publishing Company, Fall 1999

Quantitative Methods for Business| A Conceptual EXCEL-Based Approach by M. Lehmann and P. Zeitz, McGraw-Hill Publishing Company, Winter 2001

Finite Mathematics: An Applied Approach by Long, P., Graening, J., Young, P.G. & Lee, J.T., Addison Wesley, Summer 2002.

Mathematica Laboratories for Mathematical Statistics, with an Emphasis on Simulations and Computer-IntensiveMethods by Baglivo, J., SIAM, Fall 2003

Finite Mathematics by undisclosed authors, McGraw-Hill, Summer 2005

Grants and Awards:

Doctoral Dissertation Fellowship from the University of Connecticut Graduate School, July-August 1995

National Science Foundation (NSF) travel mini-grant for attending the NSF-CBMS Lecture Series on Probability, Combinatorics and Optimization, July 1995

National Science Foundation Grants NSF-G-ASC-9504041 and NSF-DMS-9157715 to support postdoctoral fellowship at the Department of Statistics, University of Michigan (Ann Arbor),jointly with Janis Hardwick and Quentin Stout

An NMU faculty mini-grant to support the book-editing project (i.e., editing a volume of contributed papers on applications of sequential methodology for Marcel Dekker, Inc.), Winter 2002.

An NMU faculty mini-grant to support the book-editing project (i.e., editing a volume of contributed papers on the state-of-the-art applications of statistics in the biomedical sciences for John Wiley & Sons), Summer 2006.

A National Cancer Institute grant (CA90301, principal investigator Prof. Raymond J. Carroll) at the Department of Statistics, Texas A& M University, July 2006 { June 2008

A National Institute of Drug Abuse/ Life Sciences Discovery Fund (NIDSA/LSDF) grant (principal investigator Dr. Michael Katze, a sub-award through the University of Washington) at the Fred Hutchinson Cancer Research Center, September 2009 { June 2011

Membership of Professional Organizations: