AISC Symposium 2025

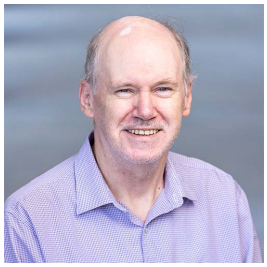
In Celebration of Professor Sat Gupta's Retirement

June 14-15, 2025

The University of North Carolina at Greensboro

Contents

Welcome to the AISC 2025 Symposium



Welcome to the AISC 2025 Symposium!

As you know, the AISC (**Advances in Interdisciplinary Statistics and Combinatorics**) conference series started in 2007 under the leadership of Professor Sat Gupta. Professor Gupta has announced his retirement effective June 30, 2025, after a long and distinguished 50-year academic journey (7 years at University of Delhi, 4 years at Colorado State University, 18 years at the University of Southern Maine, and 21 years at UNC Greensboro). This symposium is organized largely to celebrate Professor Gupta's career and retirement. It may very well be the final event in the AISC series.

Professor Gupta has won numerous honors and awards, is the founding Editor-in-Chief of the *Journal of Statistical Theory and Practice*, and was elected to Fellowship in the American Statistical Association. During his career, Professor Gupta mentored students at all levels. Many of these students have excelled in their careers. Some of these students and others have sent heart-warming tributes which you can read towards the end of this program book.

We hope you will have a great time at the symposium!

Conveners:
John Stufken, Professor of Statistics, George Mason University
Scott Richter, Professor and Head of Math Stats, UNC Greensboro

Co- Convener:
Pujita Sapra, Assistant Professor, Data Analytics and Statistics, High Point University

A Thank You Note from Sat Gupta

https://sites.google.com/view/professor-sat-gupta

My life journey began in a small village in Haryana (India) which was then one of the most backward states in India. I often walked to my grade school (about 1 KM) and high school (about 6 KM from my home) without shoes. For several years, I had to swim across a fairly deep and wide river every day to go to my high school so that I can save about 3 KM from my walking distance. That was the period when homes in Haryana villages had no electricity, no toilets, and no running tap water. Since all kids had to go through the same drill, I never felt I was missing something.

Although I knew very early on (even during high school days) that I will eventually become a teacher, but I never imagined that I would earn two PhD degrees and end up becoming a professor at a university in the Unites States. I would have been perfectly happy to be a high school math teacher. Clearly, something better and bigger was in my destiny!

There are many people who have played a pivotal role in my academic journey, including my Math PhD advisor Late Dr. B D Sharma (at Delhi University), and my Stats PhD advisor Dr. Richard Davis (Colorado State University & Columbia University). I would like to express my sincere gratitude to both. There are many other colleagues who, although were not my formal teachers but taught me beautiful lessons on becoming successful in my professional career. A very big "thank you" to all these informal teachers. I would also like to thank all my students who made me a better teacher.

I want to thank my family also (Madhu, my wife of 52 years; Maneesh, my son; Ruchika, my daughter; and my five wonderful grandchildren Mala, Hina, Umar, Aarav, and Jaanvi). They must have felt ignored at times when I was busy pursuing my own career goals.

And thank you for the beautiful tributes many of you wrote.

Very sincerely,
Sat Gupta

Symposium Convenors

John Stufken (Convener)
George Mason University

Scott Richter (Convener)
UNC Greensboro

Pujita Sapra (Co- Convener)
High Point University

Symposium Sponsors

We gratefully acknowledge support provided by

The University of North Carolina at Greensboro

Springer

Plenary Speakers: AISC Symposium 2025

Ejaz Ahmed
Brock University, Canada

Dr. S. Ejaz Ahmed is a Distinguished Professor of statistics/data science at the Brock University, he also served as the Dean of the Faculty at Brock university. He is an internationally known scholar, educator, and an accomplished researcher. His research interests concentrate on big data, predictive modeling, and statistical machine learning with applications in many walks of life. His research has been supported by a variety of grants from the Natural Sciences and Engineering Research Council (NSERC) of Canada since 1987, the Canadian Institute of Health Research, Ontario Centre for Excellence (OCE) and from numerous international sources.

He was awarded the prestigious Bualuang ASEAN Chair Professorship. His research achievements have been recognized with honours and awards, editor/associate editorship to scientific journals, adjunct/visiting professorships, and invited scholarly talks around the globe. He founded a prestigious international workshop on "High Dimensional Data Analysis" at `https://sites.google.com/essec.edu/hdda-xiii/`.

Professor Ahmed is a Fellow of the American Statistical Association, an elected member of the International Statistical Institute, and a Fellow of the Royal Statistical Society. Currently, he is serving as a member of the Board of Governors of the Canadian Statistical Sciences Institute (CANSSI). Ahmed was a member of the Board of Directors of the Statistical Society of Canada and Chair of its Education Committee, and also the Vice President of Communications for the International Society for Business and Industrial Statistic. He was a member of the "Discovery Grants Evaluation Group" and the "Grant Selection Committee" of the Natural Sciences and Engineering Research Council of Canada. Ahmed authored several books and edited/co-edited several volumes and special issues of scientific journals. Ahmed has been the Technometrics Review Editor for the past 15 years. More information about Professor Ahmed is available at `https://brocku.ca/mathematics-science/mathematics/directory/syed-ejaz-ahmed/`.

David Banks
Duke University

David Banks obtained a Ph.D. in Statistics in 1984. He won an NSF Postdoctoral Research Fellowship in the Mathematical Sciences, which he took at Berkeley, working with David Blackwell. In 1986 he was a visiting assistant lecturer at the University of Cambridge, and then joined the Department of Statistics at Carnegie Mellon in 1987. In 1997 he went to the National Institute of Standards and Technology, then served as Chief Statistician of the U.S. Department of Transportation, and finally joined the U.S. Food and Drug Administration in 2002. In 2003, he returned to academics at Duke University.
He was the coordinating editor of the Journal of the American Statistical Association. He co-founded the journal Statistics and Public Policy and served as its editor. He co-founded the American Statistical Association's Sections on National Defense and Homeland Security and Text Analysis, and has chaired those sections, as well as the sections on Risk Analysis and Statistical Learning and Data Mining. David Banks is past-president of the Classification Society and the International Society for Business and Industrial Statistics. He has twice served on the Board of Directors of the American Statistical Association. He is a fellow of the American Statistical Association, the Institute of Mathematical Statistics, and the American Association for the Advancement of Science. He won the American Statistical Association's Founders Award, the De Groot Award, and gave the William Sealy Gosset, Deming, Schucany, and Palmetto Lectures. From January 2018 to Sept., 2021, he was the director of Statistical and Applied Mathematical Sciences Institute. His research areas include computational advertising, dynamic text networks, adversarial risk analysis (i.e., Bayesian behavioral game theory), human rights statistics, and agent-based models. More information about Professor Banks is available at `https://www2.stat.duke.edu/~banks/`.

Frank Coolen
Durham University, UK

Prof Frank Coolen is Professor of Statistics at the Department of Mathematical Sciences, Durham University (UK). He studied at Eindhoven University of Technology, achieving MSc ('Mathematical Engineer') and PhD (Statistics) in 1989 and 1994, respectively. He then joined Durham University as Lecturer, and was promoted to Professor in 2005.
Frank has contributed to a wide variety of research topics, with main focus on the development of Nonparametric Predictive Inference (NPI) and Reliability Theory. He proposed NPI in the 90s, in an attempt to base statistical inference on minimal structural assumptions. NPI has been developed for many applications in Statistics, Operations Research, Risk and Reliability, and related fields. In Reliability Theory, a main contribution was the concept of Survival Signature, which enables reliability quantification of (very) large systems and networks with relatively few different component types. Most of his research is joint work with his wife and colleague Prof Tahani Coolen-Maturi.
Frank has (jointly) supervised 37 PhD students to completion of their studies, and is currently supervising 15 PhD students. He is on the editorial or advisory boards of 11 journals, including Journal of Statistical Theory and Practice. More information about Professor Coolen is available at `https://www.durham.ac.uk/staff/frank-coolen/`.

Richard Davis
Howard Levene Professor of Statistics
Columbia University

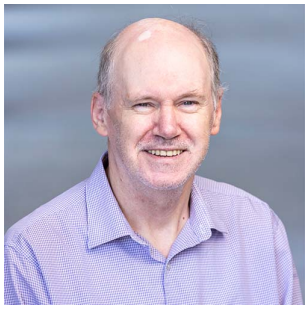
Richard Davis is the Howard Levene Professor of Statistics at Columbia University and former chair of the Statistics Department (2013-19). He has held academic positions at MIT, Colorado State University, and visiting appointments at numerous other universities. He was Hans Fischer Senior Fellow at the Technical University of Munich (2009-12) , Villum Kan Rasmussen Visiting Professor (2011-13) at the University of Copenhagen , and Jubilee Professor at Chalmers University (2019). Davis is a fellow of the Institute of Mathematical Statistics, the American Statistical Association, and is an elected member of the International Statistical Institute. He was president of IMS in 2016 and Editor-in-Chief of Bernoulli Journal 2010-12. He is co-author (with Peter Brockwell) of the best-selling books, Time Series: Theory and Methods, Introduction to Time Series and Forecasting, and the time series analysis computer software package, ITSM2000. Together with Torben Andersen, Jens-Peter Kreiss, and Thomas Mikosch, he co-edited the Handbook in Financial Time Series and with Holan, Lund, and Ravishanker, the book, Handbook of Discrete-Valued Time Series. In 1998, he won (with collaborator W.T.M Dunsmuir) the Koopmans Prize for Econometric Theory. He has advised/co-advised 34 PhD students. His research interests include time series, applied probability, extreme value theory, and spatial-temporal modeling. More information about Professor Davis is available at `https://sites.stat.columbia.edu/rdavis/`.

Karen Kafadar
Commonwealth Professor
University of Virginia

Karen Kafadar is Commonwealth Professor and former Chair of Statistics at University of Virginia. Her research focuses on statistical methods and data analysis in the physical, chemical, biological, and engineering sciences. She received her BS and MS from Stanford and her PhD from Princeton and has held positions at NIST, Hewlett Packard, National Cancer Institute, University of Colorado-Denver and Indiana University. She co-authored several reports for the National Academy of Sciences, including Strengthening Forensic Science in the U.S. (2009), Review of the Scientific Approaches Used During the FBI's Investigation of the Anthrax Letters (2011), and Identifying the Culprit: Assessing Eyewitness Identification (2014). Her research has been recognized with several awards, and her most recent work concerns statistical methodology for randomized cancer screening trials and estimating error rates in eyewitness identification and forensic science. She is a Fellow of ASA, AAAS, and ISI; former Editor of JASA Reviews, Technometrics, and The Annals of Applied Statistics; 2012 President of the International Association for Statistical Computing, and 2019 President of the American Statistical Association. More information about Professor Kafadar is available at `https://statistics.as.virginia.edu/people/karen-kafadar`.

Jerry Reiter
Duke University

Jerry Reiter is Professor of Statistical Science at Duke University. His primary areas of research include methods for ensuring data privacy, for handling missing and erroneous values, for combining information across sources, and for analyzing complex data in the social sciences and public policy. He is a Fellow of the American Statistical Association and a Fellow of the Institute of Mathematical Statistics. He is the recipient of several teaching and mentoring awards from Duke University, including the Alumni Distinguished Undergraduate Teaching Award, the Outstanding Postdoctoral Mentor Award, and the Master's of Interdisciplinary Data Science Distinguished Faculty Award. He has advised multiple government agencies on creating data products to share with the public, as well as served on multiple panels and committees for the National Academy of Sciences. He holds a PhD in statistics from Harvard University and a BS in mathematics from Duke University. More information about Professor Banks is available at `https://scholars.duke.edu/person/jerry`.



John Stufken
George Mason University

John Stufken is Professor in the Department of Statistics at George Mason University, where he also serves as Associate Chair for Research. Prior to this, he held the position of Bank of America Excellence Professor and Director for Informatics and Analytics at UNC Greensboro (2019-2022). He was also the Charles Wexler Endowed Professor and Coordinator for Statistics at Arizona State University (2014-2019), Head of the Department of Statistics at the University of Georgia (2003-2014), Program Director for Statistics at the National Science Foundation (2000-2003), and faculty member at Iowa State University (1988-2002) and the University of Georgia (1986-1990).
Stufken's research interests focus on the design and analysis of experiments and subsampling of big data. He is co-author of the Springer Verlag book Orthogonal Arrays: Theory and Applications and co-editor of the Handbook of Design and Analysis of Experiments by CRC Press. Currently, he serves as co-Editor for Statistica Sinica (2023-2026) and has previously been the Editor for The American Statistician (2009-2011) and the Journal of Statistical Planning and Inference (2004-2006). He served as Associate Editor for multiple journals, including the Journal of the American Statistical Association (2003-2005 & 2011-2023), Statistica Sinica (2014-2023), the International Statistical Review (2022-present), the journal of Statistical Theory and Practice (2006-present), and others.
John Stufken is an Elected Fellow of the American Statistical Association (ASA) and the Institute of Mathematical Statistics (IMS), as well as an Elected Member of the International Statistical Institute (ISI). He was the Rothschild Distinguished Visiting Fellow at the Isaac Newton Institute for Mathematical Sciences during the 2011 workshop on Design and Analysis of Experiments. More information about Professor Stufken is available at `https://www.gmu.edu/profiles/jstufken`.

Chang Yu
NYU

Chang Yu is a Professor in the Department of Population Health at the Grossman School of Medicine, NYU. His methodological research focuses on distributions for p-values, models for correlated binary data, mixture models, disease clustering, measurement error correction models, propensity score-based causal inference, survival analysis, and statistical methods for genetics.

Before his academic career, he worked at Merck Research Laboratories for over five years designing and implementing Phase I, II, and III clinical trials for drug development and conducting efficacy, safety and pharmacokinetic analyses to support NDA filings to the FDA.

Chang has a special interest in innovative clinical trial designs. His collaborative research ranges from clinical pharmacology, hypertension, pulmonary arterial hypertension, asthma, pain research, and diagnostic testing. He serves on the leadership of the Center for Multisite Clinical Studies at NYU and on the Advisory Panel on Clinical Trials at PCORI.

Before joining NYU Grossman School of Medicine, Chang was on the faculty at Vanderbilt University. More information about Professor Yu is available at `https://med.nyu.edu/faculty/chang-yu`.

Program: AISC Symposium 2025

https://mathstats.uncg.edu/aisc-symposium-2025/
Dates: June 14-15, 2025
Some changes are possible until May 31

Program Draft

June 14, 2025, Saturday

8:30 – 9:00 am **Refreshments** **Sullivan Science Lobby, 2nd Floor**

9:00 – 9:30 **Inauguration** **201 Sullivan Science Building**

9:30 – 11:30 **Plenary Talks 1, 2, 3** **201 Sullivan Science**
Chair: Frank Coolen - Durham University, UK

9:30 – 10:05 **John Stufken – George Mason University**
Optimal Information-Based Subdata Selection

10:10 – 10:45 **Chang Yu – NYU Grossman School of Medicine**
On Distributions for P-Values and Their Applications

10:50 – 11:25 **Karen Kafadar – University of Virginia**
Robust Methods and Statistical Thinking for "Big Data" Surveys

11:25 – 11:45 **Coffee Break**

11:50 – 1:30 **Parallel Sessions 1A** **201 Sullivan Science**
Chair: Chang Yu - NYU

11:50 – 12:15 **Joint Scrambling for Sensitive Survey Sampling**
Alvan Caleb Arulandu - Harvard University
Co-Author: Sat Gupta

12:15 – 12:40 **Accounting for Measurement Error and Untruthfulness in Binary RRT Models**
Bailey Meche – University of Chicago
Co-Authors: Sat Gupta, Venu Poruri, Sadia Khalil

12:40 – 1:05 **Optional Hybrid Trust Randomized Response Model and the "Generalized Z" Mechanism for Privacy-Preserving Data Collection in Surveys**
Geeta Kalucha - PGDAV College, University of Delhi
Co-Author: Sat Gupta

1:05 – 1:30 **Field Validation of a Mixture Binary RRT Models: Analyzing Prevalence, Trust, and Measurement Error in Sensitive Trait Estimation**
Speaker - Sadia Khalil, Lahore College for Women University, Pakistan
Co-Authors: Geeta Kalucha, Sat Gupta, Mala Gupta

11:50 – 1:30 **Parallel Sessions 1B** **202 Sullivan Science**
Chair: Ejaz Ahmed – Brock University

11:50 – 12:15 **ForLion: A New Algorithm for D-optimal Designs under General Parametric Statistical Models with Mixed Factors**
Abhyuday Mandal - University of Georgia
Co-Authors: Yifei Huang, Keren Li and Jie Yang

12:15 – 12:40 **Adaptive Bi-Level Variable Selection of Conditional Main Effects for Generalized Linear Models**
Xinwei Deng – Virginia Tech
Co-Author: Kexin Xie

12:40 – 1:05 **Collaborative Design of Controlled Experiments in the Presence of Subject Covariates**
William Fisher - JMP
Co-Authors: Qiong Zhang, Lulu Kang, and Xinwei Deng

1:05 – 1:30 **Estimating Multiple Missing Observations in Factorial Experiments**
Kumer Pial Das - University of Louisiana at Lafayette

1:30 – 2:30 **Lunch Sullivan Science Lobby, 2nd Floor**

2:30 – 4:30 **Plenary Talks 4, 5, 6 201 Sullivan Science**
Chair: John Stufken, George Mason University

2:30 – 3:05 **Frank Coolen – Durham University, UK**
Nonparametric Predictive Inference: Applications and Recent Developments

3:10 – 3:45 **Ejaz Ahmed – Brock University, Canada**
Statistical and Machine Learning Strategies in High-dimensional Predictive Modelling

3:50 – 4:25 **David Banks – Duke University**
Adversarial Risk Analysis

4:25 – 4:45 **Coffee Break**

4:45 – 6:05 **Plenary Talks 7, 8 201 Sullivan Science**
Chair: David Banks – Duke University

4:45 – 5:20 **Richard Davis – Columbia University**
Sample Splitting and Assessing Goodness-of-fit of Time Series

5:25 – 6:00 **Jerry Reiter – Duke University**
Assessing Confidence in Decisions in the Presence of Data Uncertainty

6:30 – 9:00 **Banquet Dinner Alumni House, 404 College Ave**

6:30 – 7:00 **Appetizers and Bar on the back porch at the Alumni House**

7:00 – 7:30 **Speeches**

7:30 – 9:00 **Dinner**

June 15, 2025, Sunday

9:30 – 10:00 am **Refreshments** **Sullivan Science Lobby, 2nd Floor**

10:00 – 12:00 **Parallel Sessions 2A** **201 Sullivan Science**
Chair: Sat Gupta – UNC Greensboro

10:00 – 10:30 **Subset Gaussian Cloning, a method to simplify Gaussian algorithms.**
Maxwell Lovig – Yale University
Co-Authors: Conor Sheehan, Kostas Tsirkas, Ilias Zadik

10:30 – 11:00 **Accounting for Measurement Error in Sensitive Mean Estimation under Successive Sampling**
Pidugu Trisandhya - Department of Applied Sciences, Bharati Vidyapeeth's College of Engineering, New Delhi, India
Co-Author: Sat Gupta

11:00 – 11:30 **The Impact of Auxiliary Information on Privacy in RRT Models**
Michael Parker - UNC Greensboro
Co-Authors: Sat Gupta, Sadia Khalil

11:30 – 12:00 **Estimation of Population Mean using Memory Types Estimators for two Auxiliary Variables under Non-response Sampling**
Mazhar Yaqub - Quaid-i-Azam University, Islamabad
Co-Authors: Javid Shabbir, Sat Gupta

10:00 – 12:10 **Parallel Sessions 2B** **202 Sullivan Science**
Chair: Abdulkadir Hussein - University of Windsor

10:00 – 10:30 **Box-Cox Transformation – 60 Years After**
M B Rao - University of Cincinnati
Co-Authors: Nisha Sheshasayee, Wedad Alatebi, and Anand Seth

10:30 – 11:00 **Evaluating Treatment Effect with Mixed Endpoints in a Cancer Trial**
SN Rai - University of Cincinnati
Co-Authors: Anand Seth, Z Qu, DK Srivastava

11:00 – 11:30 **Phase Ia and Ib Cancer Trial Designs for Monitoring Early and Late Toxicity**
Anand Seth - University of Cincinnati
Co-Authors: Jayesh Rai, Xiaoyong Wu, and Jianmin Pan

12:10 – **Lunch** **Sullivan Science Lobby, 2nd Floor**

Abstracts of the talks

Statistical and Machine Learning Strategies in High-dimensional Predictive Modelling
S. Ejaz Ahmed
Brock University, Canada

We encounter data in all walks of life, and for analytically and objectively minded people, data is crucial to their goals. Complex big data analysis is a very challenging but rewarding research area as data sets include a larger number of features, data contamination, unstructured patterns, and so on. However, making sense of such data and extracting meaningful information from it may not be an easy task. A host of models are now data driven with a large number of predictors, namely high-dimensional data (HDD), for HDD analysis many penalized methods were introduced for simultaneous variable selection and parameters estimation when the model is sparse. However, a model may have sparse signals as well as with number of predictors with weak signals. In this scenario variable selection methods may not distinguish predictors with weak signals and sparse signals. For this reason, we propose a high-dimensional shrinkage strategy to improve the prediction performance of a submodel. We demonstrate that the proposed high-dimensional shrinkage strategy performs better than the penalized and machine learning methods in many cases. The relative performance of the proposed strategy is appraised by both simulation studies and the real data analysis. I will also discuss some open research problems and possible solutions.

Reference:
S. Ejaz Ahmed, Feryaal Ahmed and B. Yuzbasi (2023). Post-Shrinkage Strategies in Statistical and Machine Learning for High Dimensional Data. CRC Press, USA

Joint Scrambling for Sensitive Survey Sampling
Alvan Caleb Arulandu
Harvard University
Coauthor: Sat Gupta, UNC Greensboro

Randomized response models aim to protect respondent privacy when sampling sensitive variables but consequently compromise estimator efficiency. We propose a new sampling method, titled joint scrambling, which preserves all true responses while protecting privacy by asking each respondent to jointly speak both their true response and multiple random responses in an arbitrary order. We give consistent, unbiased estimators for a general class of estimands including the mean. For the cumulative distribution function, this estimator is more computationally efficient with asymptotically lower mean squared error than existing approaches. We also give a kernel density estimator for the density function which asymptotically equivalent mean squared error for the optimal bandwidth yet greater generality than existing techniques for randomized response models. All results are verified via simulation and evaluated with respect to natural generalizations of existing privacy notions.

Adversarial Risk Analysis
David Banks
Duke University

Adversarial Risk Analysis (ARA) is a decision-theoretic alternative to game theory, applicable to corporate competition, auctions, and counterterrorism. In ARA, one builds a model for the strategic decision making of one's opponent(s), and then places subjective Bayesian distributions over unknown quantities. This structure enables the analyst to compartmentalize distinct kinds of uncertainty. Within this framework one can use standard Bayesian techniques to develop a probability distribution over the actions of the opponent. Given this distribution, the decision theorist chooses the action that maximizes expected utility.

Nonparametric Predictive Inference: Applications and Recent Developments
Frank Coolen
Durham University, UK

Nonparametric Predictive Inference (NPI) is a frequentist statistics approach based on only few model assumptions, enabled by the use of imprecise probabilities to quantify uncertainty and the explicit focus on one or more future observations. This presentation will start with a brief introduction to NPI, followed by some applications. This includes NPI for statistical reproducibility, which addresses the question if the result of a hypothesis test would be the same if an experiment were to be repeated. Finally, some recent developments of NPI will be mentioned, including NPI for simple regression problems.

Estimating Multiple Missing Observations in Factorial Experiments
Kumer Pial Das
University of Louisiana at Lafayette

Estimating multiple missing observations in factorial experiments is crucial for preserving the integrity of the analysis, ensuring an accurate interpretation of interactions and effects, and maintaining the validity of experimental conclusions. This study introduces a novel methodology for estimating multiple missing observations in factorial experiment data, specifically addressing three distinct missingness scenarios. Through analytic solutions derived from minimizing the squared error loss (L2 norm), the proposed approach ensures robust and accurate estimation of missing observations. The performance of the method was evaluated through simulations with varying numbers of replications (m), where the results demonstrated consistent reductions in bias, variance, mean absolute error (MAE), and mean square error (MSE) as m increased. Furthermore, comparisons of missing value scenarios highlighted the influence of specific missingness patterns on estimator performance. The findings underscore the efficacy and adaptability of the proposed methodology, providing a foundation for future extensions to replicated and higher-dimensional factorial designs.

Sample Splitting and Assessing Goodness-of-fit of Time Series
Richard Davis
Columbia University

A fundamental and often final step in time series modeling is to assess the quality of fit of a proposed model to the data. Since the underlying distribution of the innovations that generate a model is often not prescribed, goodness-of-fit tests typically take the form of testing the fitted residuals for serial independence. However, these fitted residuals are inherently dependent since they are based on the same parameter estimates and thus standard tests of serial independence, such as those based on the autocorrelation function (ACF) or distance correlation function (ADCF) of the fitted residuals need to be adjusted. The sample splitting procedure in Pfister et al. (2018) is one such fix for the case of models for independent data, but fails to work in the dependent setting. In this paper sample splitting is leveraged in the time series setting to perform tests of serial dependence of fitted residuals using the ACF and ADCF. Here the first f_n of the data points are used to estimate the parameters of the model and then using these parameter estimates, all of the data points are used to compute the estimated residuals. Tests for serial independence are then based on these n residuals. As long as f_n is asymptotically $1/2$ the sample size, the ACF and ADCF tests of serial independence tests often have the same limit distributions as though the underlying residuals are indeed iid. In particular if the first half of the data is used to estimate the parameters and the estimated residuals are computed for the entire data set based on these parameter estimates, then the ACF and ADCF can have the same limit distributions as though the residuals were iid. This procedure ameliorates the need for adjustment in the construction of confidence bounds for both the ACF and ADCF in goodness-of-fit testing. (This is joint work with Leon Fernandes.)

Adaptive Bi-Level Variable Selection of Conditional Main Effects for Generalized Linear Models

Xinwei Deng
Department of Statistics, Virginia Tech
Coauthor: Kexin Xie

Understanding interaction effects among variables is important for regression modeling in various applications. The concept of conditional main effects (CME) provides an intuitive and interpretable framework for capturing interaction effects by quantifying the effect of one variable conditional on the level of another. A recent method called cmenet further considered the bi-level selection of CMEs by leveraging their natural grouping structure (e.g., sibling and cousin groups) through penalization. However, there are several limitations in the cmenet method, including the coupling ability of penalties for within-group CMEs, lack of adaptiveness for between-group penalties, and restriction to linear models with continuous responses. To overcome these limitations, we propose an adaptive cmenet method for CME selection under the generalized linear model (GLM) framework. The proposed method considers a penalized likelihood approach with adaptive weights to enable effective bi-level variable selection, improving both between-group and within-group selection. An efficient algorithm for parameter estimation is also developed by employing an iteratively reweighted least squares procedure. The performance of the proposed method is evaluated by both simulation studies and real-data studies.

Collaborative Design of Controlled Experiments in the Presence of Subject Covariates

William Fisher
Clemson University
Coauthors: Qiong Zhang; Lulu Kang, U Mass Amherst; Xinwei Deng, Virginia Tech

We consider the optimal experimental design problem of allocating subjects to treatment or control when subjects participate in multiple, separate controlled experiments within a short time-frame and subject covariate information is available. Here, in addition to subject covariates, we consider the dependence among the responses coming from the subject's random effect across experiments. In this setting, the goal of the allocation is to provide precise estimates of treatment effects for each experiment. Deriving the precision matrix of the treatment effects and using D-optimality as our allocation criterion, we propose two randomized algorithms to provide solutions to the D-optimality problem. The first algorithm decomposes the D-optimality problem into a sequence of subproblems, where each subproblem is a quadratic binary program that can be solved through a semi-definite relaxation based randomized algorithm with performance guarantees. The second algorithm involves solving a single semi-definite program, and randomly generating allocations for each experiment from the solution of this program. We showcase the performance of these algorithms through a simulation study, finding that our algorithms outperform covariate-agnostic methods when there are a large number of covariates.
*A preprint of this work is available on arXiv (`https://arxiv.org/abs/2412.10213`): [2412.10213] Collaborative Design of Controlled Experiments in the Presence of Subject Covariates

Optional Hybrid Trust Randomized Response Model and the "Generalized Z" Mechanism For Privacy-Preserving Data Collection In Surveys

Geeta Kalucha
PGDAV College, University of Delhi
Coauthor: Sat Gupta, UNC Greensboro

In this study, we propose a randomized response mechanism, referred to as the "Optional Hybrid Trust Randomized Response Model", designed to enhance the privacy of sensitive survey responses. The mechanism achieves privacy by introducing probabilistic masking of the sensitive variable Y, leveraging auxiliary variables S and T, which are mutually independent of Y resulting in greater privacy protection

at the expense of reduced efficiency in statistical estimation. Comparisons with Gupta et.al. (2022) Optional enhanced trust model demonstrate that this model achieves higher privacy levels due to the additional probabilistic masking introduced by T. The paper introduces a generalized randomized response mechanism, the "Generalized Z" mechanism, which extends the flexibility and effectiveness of privacy-preserving techniques in surveys and data collection encompassing all other Randomized Response Models.

Robust Methods and Statistical Thinking for "Big Data" Surveys

Karen Kafadar
University of Virginia

Throughout his career, Sat Gupta has been making important contributions to the design and analysis of surveys. In view of web-based questionnaires and administrative data, and machine learning algorithms to "analyze" these large datasets, do we still need surveys? Three examples will show that surveys remain not only needed but essential for countering the potential biases in non-randomized, non-population based data collections. The dangers of relying on ML algorithms for inferences from them are exposed through the use of statistical graphical displays, statistical thinking, and robust methods. Statistical methods remain critical components for data science.

Field Validation of a Mixture Binary RRT Models: Analyzing Prevalence, Trust, and Measurement Error in Sensitive Trait Estimation

Sadia Khalil
Lahore College for Women University
Coauthors: Sat Gupta, UNC Greensboro; Geeta Kalucha, University of Delhi; Mala Gupta, UT Austin

This study attempts to validate theoretical findings on Mixture Binary Randomized Response Technique (RRT) models through field data collected at the University of Delhi and Lahore College for Women University. The sensitive question of interest was if students have experienced depression that was significant enough to seek professional help. Employing direct questioning and the Meche et al. (2024) RRT model, we measured the prevalence of depression, participant trust in the RRT methodology, and measurement error caused by the randomization process. Results at Delhi University indicate that RRT estimates align closely with drop box method but offers enhanced privacy protection and respondent honesty. This was not true at the Lahore College. The findings highlight the need to take proper care when using a complex RRT model in field surveys.

Subset Gaussian Cloning, a method to simplify Gaussian algorithms.
Maxwell Lovig
Yale University
Coauthors: Conor Sheehan, Kostas Tsirkas, Ilias Zadik

Gaussian additive models (GAMs)—observations $Y = \mu + Z$ where μ can depend on auxiliary parameters/data and Z is Gaussian with mean 0 and covariance $\sum$—are the backbone of interdisciplinary research in statistics. Examples include: (generalized) linear regression, mixed-effects modeling, power methods on random spiked matrices, kriging, and many others. Unfortunately, many optimization methods for such problems lack theoretical guarantees due to step-to-step correlations. In this talk, I present subset Gaussian cloning, a reduction of a broad class of algorithms on GAMs that yields a noise-inflated variant amenable to simple analysis. I then apply this method to the sparse tensor PCA model to prove a trade-off between initialization "warmth" and signal size for a regularized randomized greedy algorithm.

ForLion: A New Algorithm for D-optimal Designs under General Parametric Statistical Models with Mixed Factors
Abhyuday Mandal
University of Georgia

In this paper, we address the problem of designing an experimental plan with both discrete and continuous factors under fairly general parametric statistical models. We propose a new algorithm, named ForLion, to search for locally optimal approximate designs under the D-criterion. The algorithm performs an exhaustive search in a design space with mixed factors while keeping high efficiency and reducing the number of distinct experimental settings. Its optimality is guaranteed by the general equivalence theorem. We present the relevant theoretical results for multinomial logit models (MLM) and generalized linear models (GLM), and demonstrate the superiority of our algorithm over state-of-the-art design algorithms using real-life experiments under MLM and GLM. Our simulation studies show that the ForLion algorithm could reduce the number of experimental settings by 25% or improve the relative efficiency of the designs by 17.5% on average. Our algorithm can help the experimenters reduce the time cost, the usage of experimental devices, and thus the total cost of their experiments while preserving high efficiencies of the designs. (Joint research with Yifei Huang, Keren Li and Jie Yang)

Accounting for Measurement Error and Untruthfulness in Binary RRT Models
Bailey Meche
University of Chicago
Coauthors: Sat Gupta, UNC Greensboro; Venu Poruri, UC Berkeley; Sadia Khalil, Lahore College for Women University

Motivated by the systematic inaccuracy that measurement error and respondent untruthfulness introduce into binary Randomized Response Technique models, this talk presents a model for estimating and correcting for such effects while preserving respondent privacy. To discuss model privacy, we introduce a new and more interpretable measure of model privacy using an odds ratio statistic. Finally, we highlight the broad applicability of this framework, underscoring its value for modern sensitive-data research.

The Impact of Auxiliary Information on Privacy in RRT Models
Michael Parker
UNC Greensboro
Coauthors: Sat Gupta; Sadia Khalil, Lahore College for Women University, Lahore, Pakistan

It is well known that high quality auxiliary information can improve survey estimates, through the implementation of ratio or regression estimators. Many statisticians have extended this basic principle to Randomized Response Technique (RRT) models, showing that RRT estimation, like other survey estimates, will be more efficient when auxiliary information is used. However, these studies have implicitly assumed that privacy is not impacted by auxiliary information. Here, we recognize that privacy may, in fact, be reduced by auxiliary information, and that this detrimental impact may overwhelm the efficiency benefit that auxiliary information imparts in RRT scenarios, leading to an overall decline in model quality.

Box-Cox Transformation – 60 Years After
M B Rao
University of Cincinnati
Coauthors: Nisha Sheshasayee, Wedad Alatebi, and Anand Seth

The talk will begin with a panoramic introduction to the field of TRANSFORMATIONS starting with the work of M S Bartlett and passing along the way with the work of J W Tukey culminating with a seminal work of David Cox and George Box, who introduced their stylistic transformation promising the moon. Hundreds of papers have been published and continue to be published extolling Box-Cox transformations since then. It is time to take stock of their work, sixty years later, critiquing the promises they made. The promises failed to materialize. We show how the promises can be realized by tweaking the transformation a bit.

Assessing Confidence in Decisions in the Presence of Data Uncertainty
Jerry Rieter
Duke University

Nearly all statistical analyses are based on imperfect data. As examples, the data may suffer from measurement errors, missing values, sample selection bias, or record linkage errors. Analysts have to decide how to handle such data imperfections, e.g., analyze only the complete cases or impute values for the missing items via some posited model. Their choices can influence estimates and hence, ultimately, the decisions (or conclusions) that derive from those estimates. Thus, it is prudent for analysts to evaluate the sensitivity of ultimate decisions to the assumptions underlying their choices. In this talk, I outline a framework for assessing the sensitivity of ultimate decisions to the assumptions underlying the approach to handling data imperfections, and thus for analysts to assess their confidence in decisions under their chosen analysis.

Phase Ia and Ib Cancer Trial Designs for Monitoring Early and Late Toxicity

Anand Seth
University of Cincinnati
Coauthor: Jayesh Rai, Xiaoyong Wu, and Jianmin Pan

Phase I trials are considered as the first step in testing a new drug in humans although Phase 0 trials are getting attention due to late-stage failure of cancer drugs. The primary objective of a phase I trial is to find efficiently and reliably a safe dose which can be used for subsequent phases of a new drug development program. Although the phase I trials were believed to have low utility, the design development in phase I trials for the past few years have increased their utility to provide a useful therapeutic option for advancing drug development. In this talk, we review several phase Ia trial designs, including the rule-based, model-assisted designs, and expand these designs to Phase Ib expansion trials involving safety and efficacy incorporating sample size justification and continuous toxicity monitoring. We also provide recommendations for selecting a design based on the number of doses to be tested. The availability of user-friendly software makes their implementation easy.

Optimal Information-Based Subdata Selection

John Stufken
George Mason University

Subdata selection is a crucial strategy when the size of a large dataset exceeds available computing resources, or when observing the response variable is costly. The challenge is selecting a set of n data points from N available data points, retaining a maximum amount of information. Since this is an NP hard problem, any solution is an approximation of the optimal solution. For various methods that have been proposed, little is known about the efficiency of selected subdata relative to the optimal solution. Based on continuous optimal design theory, we propose a method to bridge this gap. We obtain a lower and upper bound for the relative efficiency of any given subdata. We also develop a novel algorithm for subdata selection, show its convergence, and demonstrate its superior performance.

This is joint work with Min Yang, University of Illinois at Chicago, and Ming-Chung Chang, Academia Sinica (Taiwan).

Accounting for Measurement Error in Sensitive Mean Estimation under Successive Sampling

Pidugu Trisandhya
Department of Applied Sciences, Bharati Vidyapeeth's College of Engineering, New Delhi, India
Coauthor: Sat Gupta, UNC Greensboro

This article explores the estimation of a sensitive population mean in two occasion successive sampling using calibration estimators in the presence of measurement error. We introduce various calibration estimators infused with RRT models at both occasions. The properties of the proposed calibration estimators are studied under measurement error. Furthermore, these estimators are compared mutually with RRT models at both occasions in presence of measurement error. The proposed estimators are compared with direct method to assess the effect of measurement error. A simulation study based on real data related to COVID-19 infection is conducted to demonstrate the practical application of the proposed methods.

Keywords: Auxiliary information; Calibration estimators; Measurement error; RRT models; Successive Occasions.

Estimation of Population Mean using Memory Types Estimators for two Auxiliary Variables under Non-response Sampling

Mazhar Yaqub
Department of Statistics, Quaid-i-Azam University, Islamabad, Pakistan
Coauthors: Javid Shabbir; Sat Gupta, UNC Greensboro

The improved exponentially weighted moving average(IEWMA) statistic is a memory statistic uses past observation along with current information for the estimation of a population parameter to improve the efficiency of the estimators expressed mathematically. Also check which parametric values works best for the estimation of mean under non-response concerned. This study utilized the (EWMA) statistic to estimate the population mean with suitable auxiliary variables(X(Z)). The ratio, product and exponential estimators are proposed under non-response using two auxiliary variables for time-based surveys by using current information along with that past information. The approximate mean squared errors and biases are computed for the proposed memory type estimators under non-response for two auxiliary variables along mathematical comparisons is discussed to demonstrate the efficiency of the estimators. It can be seen from the results that the efficiency of the proposed estimator enhances by utilizing the current sample as well as past information. To support the theoretical findings, a real life example is presented to illustrate the usage of the proposed estimators

On distributions for p-values and their applications

Chang Yu, PhD
Division of Biostatistics
Department of Population Health
NYU Grossman School of Medicine

In our data analyses, often the p-values we generate are just intermediate results. We still need to make inferences from this special type of data. For example, in a meta-analysis one may have a handful of p-values that we need to combine to infer an effect size. Or, we have a large number of p-values from an omics study where we need to infer which ones are discoveries. These p-values are calculated from observed data, thus they are statistics and also have distributions to follow. To effectively analyze them, we need to derive these distributions. Using distributions that we have derived for p-values, we present two applications to demonstrate their utility. The first application is a meta-analysis based on a sample of p-values. The second application is a microarray gene expression study in which we would like to estimate the proportion of p-values generated under the null hypothesis. Then I'll use the remainder of the talk to discuss a derived distribution for the number of rejected null hypotheses using the Simes procedure. The distribution will be fit to count data with excessive zero's.

Evaluating Treatment Effect with Mixed Endpoints in a Cancer Trial

SN Rai
University of Cincinnati
Coauthors: Anand Seth; MMR Manik; Z Qu, St. Jude Children's Research Hospital, Memphis; DK Srivastava, St. Jude Children's Research Hospital, Memphis

Improvement in cancer therapies have significantly improved the long-term survival rate in many cancers. However, the survivors are at increased risk for long-term morbidities and mortality. Survivors who are treated with cardiotoxic therapy (treated with anthracyclines or chest radiation) are at risk of developing late cardiotoxicity. Cardiotoxicity is evaluated on two marker that include Afterload (AF), as a continuous variable, and Fractional Shortening (FS), defined as a binary variable: abnormal (FS ¡ 0.28) and normal (FS $\leq$ 0.28). Hudson et al. (2007) have evaluated the risk factors associated with these outcomes independently. In this manuscript our focus is on presenting a methodology using a likelihood-based approach for analyzing mixed endpoints i.e., continuous and categorical outcomes, jointly. We

then illustrate the use of the proposed approach by comparing the two groups of patients who are at risk group (AR) vs. those not at risk (NR) for cardiotoxicity. We will first show an independent analysis by assessing the treatment effect on AF and FS by using a linear regression model and a probit model, respectively. Then, we will apply the joint modeling approach accounting for the correlation between FS and AF and then compare the results with the independent approach. Simulation studies will show the operating characteristics of the joint modeling approach for various sample sizes and correlations. In addition, a Bayesian approach to joint modeling will be briefly discussed.

Tributes

Comments from former students, teachers, and collaborators:

I have known Sat since 2003, when he was still at the University of Southern Maine. That year, I received an invitation to the International Conference on Statistics, Combinatorics, and Related Areas, which he co-chaired and helped organize. Not long after, Sat moved to UNCG, where he launched the AISC conference series in 2007.
Since then, I've had the pleasure of attending every AISC conference—including virtually in 2021—often co-organizing sessions on the design of experiments and, since 2021, serving as a co-chair. Of course, that last title was the easiest part—Sat did all the heavy lifting!
Sat played a key role in bringing me to UNCG in 2019, and I want to be clear that he bore absolutely no responsibility for my departure in 2022. I joined in 2019 as Director of the MS in Informatics and Analytics (MSIA) program, while Sat began his tenure as Chair of the Department of Mathematics and Statistics. I remain deeply grateful not only for his efforts in bringing me to UNCG, but also for the unwavering support that the department, under his leadership, provided to the MSIA program.
On a more personal note, my wife Lili and I were frequent and grateful recipients of the warm hospitality extended by Sat and Madhu.
Sat, we trust that you are only retiring from UNCG—not from statistics!

John Stufken
Professor of Statistics
George Mason University

I recall meeting Sat in 2004-2005 when he joined UNC-Greensboro and became a friend instantly. Sat has been a terrific leader and a wonderful friend and an ally for me. Sat took on the leadership for bringing the NC Statisticians together through the AISC Symposium and NC ASA Chapter. It was a wonderful way of networking for young statisticians with established statisticians. These AISC symposia brought many statisticians together, and discussed not only about new theory and methodologies, but also about workforce development. It also recognized local leaders for their service. The ASA Chapter meetings used to be at SAS before Sat revived them in Greensboro. Sat was recognized by the NC ASA Chapter in 2014 for his outstanding service. I also was very excited when he became an ASA Fellow! He has been also a leader on UNCG campus for mathematics and statistics.
Sat has been like a brother for me. He is always very supportive and has provided opportunities for people like me. He has given me many opportunities through his events and his journal (JSTP) to be more visible and help me get elected to be the ASA President in 2010. He has been active in IISA. He has received many well-deserved recognitions from UNCG, ASA, and world-wide organizations. I am so proud and honored to be considered as his friend. He continues to impact on many future statisticians even in his retirement. I am truly grateful to him and for him to be a beacon of light in North Carolina for our profession. I truly am sorry I could not be at this wonderful event honoring him, and I wish him the very best in his retirement.

Sastry G. Pantula, Dean
College of Natural Sciences
California State University San Bernardino

(ASA President 2010)

I met Professor Sat Gupta only 5 years ago, so I know him much less well than many of you. But my encounters have been every bit as positive and rewarding as those of everyone he meets!
Both Sat and I, along with John Bailer (Miami of Ohio) and Monnie McGee (SMU), were invited by Mark Ward at Purdue in April 2019 to a Site Visit of Purdue's Statistics Living-Learning Community. The visit was memorable for many reasons; chief among them was the opportunity to hear Sat's wise suggestions, and the occasion to meet his "better half," Madhu. There was something about the calm that their presence radiated to all those around them. You just knew that you were in the presence of very smart people who had seen much in their lives, and always dealt with it in the most sensible way. When he invited me to speak at the AISC conference, both in 2021 and in 2023, it was a pleasure to accept! That's when I saw all that he was doing: Department Chair, AISC organizer, journal Editor, and Statistical Consultant around and beyond UNC! Most faculty members might be able to do only one of those even moderately well, while Sat does them all – most successfully.
Through it all, Sat maintained, and continues, his active research program, in survey design and analysis, and applications to problems in the physical and social sciences. Remarkably, he still finds time to serve as an expert witness. (Trust me: You have to be *very* good to be an expert witness. It is not as easy as it sounds. First, it takes a *lot* of preparation. Second, judges, juries, attorneys go into the legal profession because they hate math. That Sat continues to be asked to be an expert witness shows just how good he is at explaining complex concepts.) Moreover, the dozens of graduate students that he has supervised over the years is a testament to his popularity as Professor and Adviser.
Sat has succeeded in almost everything he has done. Let's hope he flunks r etirement! T he Statistics community still needs him, and we look forward to seeing him continue his contributions in the years ahead!

Karen Kafadar
Commonwealth Professor
Dept of Statistics, University of Virginia

(ASA President 2019)

Sat was my third PhD student and the first and only one who had already earned a PhD degree. Although it's been nearly 40 years since Sat finished his degree, it feels surreal to have former students retire before me. Not only is Sat a snappy dresser, but he also carries himself well and speaks with incredible ease regardless of the situation. Whether he is addressing hundreds of people or interacting with just a few, he always says the right thing and never gets rattled or flustered. This is a skillset that I much admire. Of course, Sat and his wife are kind-hearted and go out of their way to make one feel at home. They essentially arranged several days of activities for us during a visit my wife and I made to Delhi years ago. Although my wife was reluctant to visit India, Sat put on the charm offensive which was incredibly effective, and the trip turned out to be one of our very best. Good luck Sat in retirement.

Richard Davis
Howard Levene Professor
Columbia University

I have many happy memories of working with Sat, some from serving as his AE for the *Journal of Statistical Theory and Practice*, but others from our experiences at his conference—I remember we shared a bit of chagrin with the celebratory banquet had a cultural event with dancers who were rather more provocative than we expected.
But I think my favorite single memory is an interaction we had when he brought about 15 college students and one high school student to visit SAMSI. We sat around a big conference table and talked about careers and plans and managing college life. I started to poke gentle fun at the high school student, who turned out to be a very good sport, and Sat and I and the college students wound up giving him very funny tips for various kinds of success in college.

David Banks
Duke University

Sat – I am sorry that I am unable to attend your retirement celebration. It is a long way from where I am now in Spain to Greensboro! We have a long history together dating back to our days in New England and the beginnings of the New England Statistics Symposium. And we both went south to North Carolina, me in 2002, you in 2004. You have always brought high energy to everything you do. You have been an ambassador for our community and have done a remarkable job with your journal. And, I don't think you are done yet! I wish you the best of luck as you go forward.

Warm regards,
Alan Gelfand
J B Duke Distinguished Professor Emeritus
Duke University

Sat is incredibly dedicated to the statistical science community in North Carolina, particularly its students and early career statisticians. His work with the NC ASA chapter has helped connect statisticians across different sectors and parts of the state. His leadership in organizing the AISC Symposium has furthered research and education. Under his leadership, AISC always has had sessions with all students and postdocs as the presenters — a feature of the conference that I especially appreciate and value. Thank you, Sat, for all you have done to advance statistical science in our state and beyond.

Best wishes,
Jerry Reiter
Duke University

Dear Sat,
Congratulations on your well-deserved retirement! I wish I could be with everyone in person to celebrate your spectacular legacy as a leading force in advancing the statistics and the statistical community in North Carolina. You have truly been a fixture of the success and visibility of our discipline in our state through your visionary leadership of the AISC, which has forged ties across our community and provided students and junior faculty across North Carolina with a unique opportunity for networking and feedback on their research. You will be greatly missed!
With my very best wishes.

Marie Davidian
J. Stuart Hunter Distinguished Professor
NC State University

(ASA President 2013)

I got to know Sat when he asked me to join the Editorial Board of a new journal he was setting up, the Journal of Statistical Theory and Practice. It was a pleasure to be involved and to see that the journal has grown to a well-respected journal under Sat's guidance.
I got to know Sat well over the years, growing into a warm friendship which I much treasure. Sat invited me to an AISC conference at Greensboro, and we had the pleasure of Sat and Madhu visiting Durham on two occasions, most recently in March of this year, during which we had excellent discussions on work as well as on other topics, all enjoyable. We have collaborated on a few projects, and Sat has been further helpful in providing input to one of our PhD students, who investigated reproducibility of statistical inferences based on data collected by randomized response methods. Sat provided support to the student most generously, as he has done to many early career researchers all over the world during his many years as an academic researcher. His strong support for young researchers is an example to us all.
I look forward to staying in contact with Sat, if possible, with a joint research project but I know that retiring does not necessarily mean that one has more time for research.
Dear Sat and Madhu, I wish you a great time the coming years with much happiness with your family and friends, lots of quality time without work duties, and most important, good health.

Frank Coolen
Durham University, UK

Dr. Sat Gupta has been more than a mentor to me, he has been a steady source of support and inspiration throughout my journey. I still remember when we first met 12 years ago, and it's hard to believe how quickly time has passed. His kindness, encouragement, and genuine passion for teaching have left a lasting mark on me. He didn't just teach, he inspired, guided, and believed in us, even in moments when we struggled to believe in ourselves. His mentorship has shaped not only my career but also the way I approach challenges in life. As he steps into this new chapter, I just want to say how deeply grateful I am for his constant support and guidance. His influence will always be with me.

Qi Zhang
Dr Gupta's PhD Student 2020

Dear Professor Sat Gupta,
As you prepare to embark on your well-deserved retirement, I wanted to take a moment to express my heartfelt thanks for everything you've done for me throughout my academic journey. You have been much more than a PhD advisor – you've been a mentor, a collaborator, and a true source of inspiration. Together, we've written several research papers, and I've had the privilege of learning not only from your immense expertise but also from your dedication, passion, and unwavering commitment to excellence. Our time working together as colleagues after my PhD was equally enriching, and I am deeply grateful for the guidance you've provided at every step. It's difficult to put into words just how much your mentorship has shaped my academic and professional growth. Your support has made a profound impact on my life, and I will always carry the lessons you've taught me – both in research and in life – with me.
As you begin this new chapter of your life, I want to wish you all the happiness and fulfillment in the world. Your lifetime of service and dedication to your students and research is something truly remarkable, and your legacy will continue to inspire all of us who were lucky enough to learn from you. Thank you again, from the bottom of my heart. You will always have my deepest appreciation.

Warmest regards,
Sadia Khalil
Lahore College for Women University
Lahore Pakistan
Dr. Gupta's PhD Student, 2018

Dear Professor Sat Gupta,
Heartiest congratulations on the successful completion of your tenure as an academician! This marks the beginning of an exciting new chapter in your life, and I hope you are joyfully planning for the journey ahead after a remarkable career as a Statistician, particularly as a researcher. Your dedication to fostering collaborations with researchers from around the world, particularly from developing countries like India and Pakistan, has been truly inspiring. Your efforts to support scholars in their research and provide financial assistance for academic endeavors will always be remembered and deeply appreciated. On a personal note, I am especially grateful for your visit to LCWU, where you generously shared your knowledge through seminars and webinars. You and madam will be always in our good memories. Also, your messages to wish Eid and appreciation notes on our achievements are always source of happiness and motivation for us. I wish to join the ceremony in your honor but due to financial constraints, may be not possible. No worries, we will remain in touch through email. I know you have always given a prompt response to my emails.
Also you have been always welcome at LCWU.
Wishing you a happy and healthy life after retirement! This is the perfect time to pursue what may have been left unfinished in your personal life. May you always stay blessed and fulfilled in the years to come.

Dr Asifa Kamal
Department Head for Statistics
Lahore College for Women University

Dear Dr Gupta
Congratulations on your outstanding and dedicated years of service in academia!
50 Years of devoted service to your students and the academic community is a genuine reflection of your passion, wisdom, and unwavering commitment to education.
I would like to take this moment to convey my deepest gratitude. I feel extremely fortunate to have had the opportunity to work with you. Your invaluable encouragement and guidance have shown me the true beauty of research and the way you guided me in shaping my professional journey will always stay with me and I will carry the lessons and experiences I've gained from you forward. Your unwavering commitment to mentorship and the genuine care you've shown for your students will never be forgotten. Thank you so much for the unwavering support and guidance you have given to me. You have been an inspiration and a true role model in my life. I'm privileged to be here at the AISC Symposium 2025 to celebrate your well-deserved retirement from academia.
Once again, my heartfelt congratulations on your retirement and wishing you a future full of joy, relaxation, and all the happiness and fulfillment you truly deserve.

P. Trisandhya
Assistant Professor
Bharti Vidyapeeth, New Delhi, India

I feel really lucky to have had Dr. Gupta as my PhD adviser. He was endlessly supportive—always helping me refine my work in ways that clarified my ideas and presented my research path clearly and professionally. He encouraged me to try new things, supported my growth every step of the way, and helped me build confidence in the early stages of my academic journey. I'm especially grateful for how he always looked out for his students, making sure we had opportunities to grow—both through valuable experiences and resources. He also had a knack for dropping in a bit of dry humor when you least expected it—whether in a casual conversation or out of nowhere—which made his mentorship all the more memorable. His guidance continues to shape my career and how I approach my work today. Wishing him a joyful, healthy, and long retirement!

Wenhao (Wendy) Shou
Dr. Gupta's PhD Student, 2024

My dear friend/bhai Sat,
Congratulations on your retirement! It's hard to put into words just how much your presence, passion, and dedication have meant—not just to your students and colleagues, but to everyone lucky enough to work alongside you. You are a scholar and a gentleman!
Your commitment to teaching, research, and mentorship has left a lasting legacy that will continue to shape minds and inspire future generations of statisticians. Though this chapter is closing, I have no doubt that the next one will be just as meaningful and fulfilling. I really enjoy working as an AE for JSTP with you, you have been providing a great service to research community.
Wishing you and your wife, joy, good health, and all the adventures you've postponed while managing department affairs, grading papers, writing research articles and attending editorial work!
With admiration and best wishes, Ejaz and Ghazala

Ejaz Ahmed
Distinguished Professor
Brock University, Canada

Dear Dr Gupta,
Congratulations on your retirement after an incredible 50 years of hard work. It is truly an honor to have been a student and mentored as someone of your work and unwavering dedication.
I feel especially privileged to have you as professor and dissertation advisor, and have been under your guidance. Your encouragement and steady support helped me stay on track during challenging moments in my research and academic journey especially during transfer to statistics and also during my pregnancy. Your constant support, encouragement, and understanding helped me stay focused and complete my research successfully. Your mentorship meant more than words can express. Your impact on my life and on many others will continue beyond your retirement. Thank you for your wisdom, patience, and guidance through my journey. I wish you joy, peace, and fulfillment in this well-earned new chapter.

With heartfelt gratitude,
Tanja Zatezalo
Dr. Gupta's PhD Student, 2016

Dear Prof. Gupta,
As you prepare to retire on 30th June 2025, I want to take a moment to express my heartfelt gratitude and admiration for the profound impact you've had on my academic and professional journey. I had the privilege of working with you as a postdoctoral fellow in 2003 at the University of Southern Maine, a time that remains one of the most formative periods of my career. Under your guidance, I learned the randomized response techniques, an area that continues to influence my research to this day. Your mentorship led to several research publications, and your encouragement gave me confidence to grow as a scholar.
Our paths have crossed many times since, including during my time as a visiting adjunct professor of statistics at the University of North Carolina Greensboro and during numerous conferences you so thoughtfully organized. Your vision and passion were evident even back then when you frequently spoke about your desire to start a journal. Today, it is an honor to work alongside you as an associate editor of the Journal of Statistical Theory and Practice (JSTP), a testament to your dedication and leadership.
Beyond your academic brilliance, what I will always cherish most is your humility, kindness, and unwavering support. You have been more than a mentor, as you've been a guide, a colleague, and a true friend. Your good attitude, calm demeanor, and respectful nature have left a lasting impression on all who have worked with you. Though you are retiring, your legacy will continue through the lives you've touched, the students you've inspired, and the knowledge you've shared. I wish you joy, good health, and many fulfilling adventures in this new chapter of your life.

With deep respect and warm wishes,
Dr. Javid Shabbir, Prof. & Chairperson,
University of Wah, Wah Cantt.
Postdoc with Dr Gupta, 2003

Dear Dr. Gupta,
Congratulations on your well-earned retirement! Your remarkable contributions to the field of Statistics, particularly in survey sampling, have left an indelible mark on both theory and practice. Beyond your scholarly achievements and extensive service to the profession—including editorial leadership, conference organization, and mentorship—you have been a source of personal inspiration to me. Your generous support and encouragement have greatly shaped my journey in statistical research. Thank you for your guidance, friendship, and lasting impact on our field and on many of us who have had the privilege of learning from you.

Sayed Mostafa
Department of Mathematics & Statistics
NC A&T State University

It is both an honor and a deeply personal moment to celebrate the retirement of Dr. Gupta, who has served with unwavering dedication as the Chief Editor of our journal, the Journal of Statistical Theory and Practice. His integrity, scholarly vision, and calm leadership have shaped the journal's excellence and inspired all of us who've had the fortune to work with him. For the past fifteen years, I have had the privilege of working alongside him in many capacities. I have found him to be a great mentor and trusted guide. His mentorship has left an indelible mark on my professional journey, and I will always be grateful for his wisdom, encouragement, and friendship. Wishing him a retirement filled with well-deserved peace, joy, and new adventures.

Kumer Pial Das
Associate Vice President for Research and Innovation
University of Louisiana at Lafayette

Dear Professor Sat Gupta,
As I reflect back on my journey during PhD and afterwards with you at UNC Greensboro, I want to express my deepest gratitude for the extraordinary mentorship you've provided over these 14 years. Our collaborative work on the applications of the Randomized Response Technique (RRT) survey method stands out as a defining pillar of my growth—not just as a statistician, but as a researcher committed to tackling sensitive, real-world problems with methodological innovation.
Your expertise in survey methodology transformed how I approach ethical data collection. Whether designing RRT frameworks to mitigate response bias, refining estimators for sensitive characteristics, or navigating the delicate balance between privacy and statistical power, you taught me to view every challenge as an opportunity for creative problem-solving. Those countless discussions and arguments, dissecting imperfect datasets or debating the nuances of mean estimation, were masterclasses in rigor and intellectual humility.
Beyond equations, you showed me how statistics has to be rooted in the real world, a very alien idea compared to my previous theoretical work as a pure mathematician. Our work together reinforced that behind every survey response lies a story—and that ethical stewardship of data is as critical as mathematical precision. Your insistence on grounding theory in real-world impact (whether in public health, social sciences, or policy) shaped my belief that statisticians must be both analysts and advocates.
Thank you for trusting me as a collaborator, for patiently correcting my missteps, and for celebrating every small victory as if it were your own. The scholar I am today owes itself to your unwavering belief in my potential, even when mine faltered.
As I move forward, I carry with me not just the technical skills you honed, but the ethos you embodied: that great mentorship is about lighting paths for others. I hope to honor your legacy by approaching my own students with the same generosity, curiosity, and respect you've always shown me.

With profound respect and gratitude,
Geeta Kalucha
P.G.D.A.V. College, University of Delhi
Dr Gupta's PhD student, 2016

Honorable Professor Gupta,
I want to express my heartfelt gratitude for your unwavering and unflinching support, insightful guidance, and perpetual encouragement throughout my PhD journey. Your sincere mentorship has not only carved out my triumphant academic orbit but also inspired and motivated me to excel in life. Your utmost dedication in the realm of academia, profound patience as a remarkable teacher, and your high standards in research are matchless. It has been a matter of immense honor and prestige for me to learn under your expert supervision, and it has put salutary impact on my academic journey.
Wishing you infinite happiness, sound health and triumph in all your future endeavors. You will be deeply missed.

Mazhar Yaqub
Dr. Gupta's PhD student, 2016

I know Sat Gupta since 1970 as my classmate and later as a PhD scholar in Mathematics, a colleague and then again as a PhD scholar in Statistics, a rare blend of a combination of mathematics and statistics. More than his unprecedented service to academics for 5 decades and being bestowed with numerous well deserved awards and honors, I have always found in him a good human being and a wonderful person who can discuss and interact on any issue. Another peculiar aspect of his character is that he is a very good host. In fact, there seems to be a competition between him and his lovely wife Madhu to see as to who plays a better host.
I love you Sat from the bottom of my heart and always feel blessed to have you as my dear friend. Wish you a happy retired and healthy life.

Bal Kishan
Retd Professor of Mathematics
University of Delhi

Hello Professor Sat Gupta,
I'm Rita from Portugal and I would like to take this opportunity to leave a message for you. It was an honor and a privilege to have you as my doctoral advisor. More than an academic advisor, you were a true mentor. The professionalism and generosity with which you advise your students are truly remarkable. I am sure that every student you have advised has been enriched by the experience of working with you. You are an example, not only as a teacher, but as a human being.
I will never forget your encouragement to attend conferences and the warm welcome you gave me in your own home. You truly make students feel like part of your family. I am sure that in each student, you have also created a friend.
It was a privilege to learn from you and to have shared this journey, which has marked my life. I will always remember your generous decision to come to Portugal for my defense and your genuine commitment and support throughout that important moment.
I am very sorry that, for family reasons, I cannot be present for this well-deserved honor. Despite this, I can only wish you a new chapter full of health, joy and happy moments with your friends and your beautiful family. May this new stage bring as much meaning as the brilliant career you have built.
Thank you very much for everything, Professor. We will miss you very much. When you come to Porto, the door of our house will always be open for you. A warm hug from me, Rui and my two children. A hug also to your wonderful wife, because behind a great man, there is always a great woman.

Rita Sousa
Bank of Portugal
Dr Gupta's PhD Student, 2013

Dear Dr. Gupta,
My first interaction with you was over email, and even then, your passion for research—and more importantly, for mentoring rising graduate students—was evident. I remember thinking, "He seems too good to be true." Little did I know, the passion I sensed in that initial email was just the tip of the iceberg.
During the five years I spent as a graduate student at UNCG, I came to see you as someone who is determined, driven, and deeply caring—especially toward students, even those who weren't officially your PhD advisees. You care (and still do) deeply about your students' success. It often felt like you were just as invested in their futures as they were.
You were the perfect advisor for me. Gentle and kind during a phase when I questioned whether a PhD was the right path, and motivating and firm when I needed to become more independent in my problem-solving. You were thorough in your feedback—catching everything from a misplaced comma to structurally flawed text. You never let anything slide, and for that, I am extremely grateful.
Most importantly, you encouraged me to aim higher than my imposter syndrome would otherwise allow. You never dictated what I should do—only shared your insights. Over time, I found myself seeking your perspective more and more, because you think differently than I do. Your opinion is still something I turn to whenever I face a significant professional decision, and you have always been kind and generous in offering your guidance.
I was fortunate to learn from many amazing professors during my PhD journey, but in my view, you embody everything a student like me could hope for in an advisor. You were firm, driven, invested, understanding, kind, and generous with your time and knowledge—not just for me, but for so many others. I will always be grateful for that.
After decades of working the way you have, your retirement is truly well deserved. I wish you the absolute best in all that lies ahead!

Warm regards,
Pujita Sapra
Assistant Professor of Data Analytics and Statistics
High Point University
Dr. Gupta's PhD Student, 2023

On the retirement of Prof. Sat N. Gupta, I, Prof. S.C. Malik, Head of the Department of Statistics & Dean, Faculty of Physical Sciences, M.D. University, Rohtak, extend my heartfelt tribute to a distinguished academician, an inspiring researcher, and a truly humble human being. Professor Gupta's illustrious career spanning several decades has left an indelible mark on the global statistical community. With over 150 publications, numerous prestigious awards, and exemplary service as Editor-in-Chief of the *Journal of Statistical Theory and Practice*, his contributions to the field of statistics—particularly in the areas of survey sampling and data confidentiality—are both profound and far-reaching. His leadership at the University of North Carolina at Greensboro and prior service at the University of Southern Maine reflect his unwavering commitment to excellence in teaching, research, and mentorship. We at M.D. University have had the privilege of hosting Professor Gupta as a keynote speaker during our international conferences and have always found him to be not only a scholar of the highest caliber but also a person of great warmth and integrity. His legacy will continue to inspire generations of statisticians. We wish him a fulfilling and joyful retirement.

S C Malik
Stats Department Head & Dean of Science
MD University, Rohtak, India

Prof Gupta, you are humble and knowledgeable. Statisticians of Pakistan, and from all over the world have great regards for you. You were very helpful to everyone. People will ever remember you.

Regards
Dr Hanif
Professor & Rector NCBAE, Lahore

I am overwhelmed by Prof. Gupta's commitment to teaching and research mentorship. His demeanor reflects a genuine joy for statistics, and I am incredibly fortunate to be able to call myself his former student.

Alvan Arulandu
Junior at Harvard University
Dr. Gupta's REU Mentee, 2024

With great respect and admiration, I reflect on the significant role Dr. Sat Gupta played in my academic and professional development. His expertise in statistical methodology, combined with his rigorous approach to research, profoundly influenced my scholarly work. Through our collaborative publications and his mentorship, I acquired critical analytical and methodological skills that have been foundational to my research trajectory.
Dr. Gupta's commitment to fostering academic growth extended beyond supervision—his support enabled my participation in the *International Conference on Interdisciplinary Statistics and Combinatorics* at UNCG, an opportunity that significantly enriched my academic perspective. His guidance was characterized by intellectual generosity, constructive critique, and an unwavering dedication to advancing knowledge in the field. As Dr. Gupta transitions into retirement, I express my deepest gratitude for his mentorship and collegiality. His contributions to the discipline and his impact on his students and collaborators will endure as a lasting legacy. I wish him a retirement filled with fulfillment, continued intellectual engagement, and well-deserved relaxation.

Dr Zaheen Khan
Assistant Professor
Federal Urdu University of Arts, Science and Technology
Islamabad

Dr. Sat Gupta's contributions to the field of statistics with the refinement of the Randomized Response Technique model have been both pioneering and transformative. But beyond these achievements, Dr. Gupta has been a beacon of inspiration for his students. During the two years I had the privilege to work under his mentorship, we collaborated on a paper that became a part of his extensive legacy in RRT research. His guidance was instrumental in shaping my own academic and professional path. His legacy will undoubtedly continue to influence and inspire future generations of statisticians.

Bailey Meche
PhD Student at University of Chicago
Dr. Gupta's REU Mentee, 2023

Dr. Gupta is a huge inspiration to me. He was my mentor for his REU during the summer of 2021. His REU and continued mentorship had an enormous impact on my career and life. I am forever grateful and deeply inspired by his expertise and countless contributions to the academic community.

Joia Zhang
PhD Student at Cornell
Dr Gupta's REU Mentee, 2021

Dear Prof. Sat Gupta,
As you mark the culmination of your illustrious career and embark on this new chapter of retirement, I want to take a moment to express my heartfelt gratitude and appreciation for the incredible impact you've made on my academic journey.
Your guidance, mentorship and unwavering support have been instrumental in shaping me into the researcher I am today. Your passion for statistics is contagious, and your dedication to excellence has inspired me to strive for the highest standards in my work. I'm grateful for the opportunities you've provided me to grow, learn, and explore new ideas under your supervision. Your expertise, wisdom, and encouragement have been invaluable to me, and I'll always cherish the memories and experiences we've shared. As you begin this new chapter, I wish you all the best. May your retirement be filled with joy, relaxation, and the freedom to pursue your passions without bounds. You deserve it!
Thank you again for being an exceptional supervisor, mentor, and role model. I'll always look up to you with admiration and respect.

Warm regards,
Dr. Anu Chhabra
Assistant Professor
Lakshmi Bai College
University of Delhi
Dr Gupta's PhD student, 2017

Dr. Gupta is a huge inspiration to me. He was my mentor for his REU during the summer of 2021. His REU and continued mentorship had an enormous impact on my career and life. I am forever grateful and deeply inspired by his expertise and countless contributions to the academic community.

Anonymous REU Mentee

Dear Dr. Gupta,
Congratulations on reaching the incredible milestone of 50 years in academia and on your retirement! Your dedication, passion, and contributions to the field are truly inspiring.
I would also like to express my sincere gratitude for your guidance and support throughout my PhD. Your mentorship had a significant impact on my academic and professional growth.
Wishing you and your family all the very best as you settle into life in Dallas.

Best,
Badr Aloraini
Dr Gupta's PhD Student, 2022

A Heartfelt Tribute to Dr. Sat N. Gupta

After completing my bachelor's degree in Statistics in India, I was working, and life was going well—but I had a dream: to pursue higher education abroad. I applied to the University of Southern Maine's master's program, where Dr. Sat N. Gupta was the head of the department at the time. To my great joy, not only was I accepted, but I was also awarded a teaching assistantship that covered my tuition and provided a stipend to support my living expenses. It was a life-changing opportunity that set a new trajectory for me.

Coming to the U.S. opened up a world of growth—personally, professionally, and academically. Under Dr. Gupta's mentorship, I completed my master's degree, ,and I met my husband, Jim McDermott, who was also in the program.

What made the experience truly transformative was how Dr. Gupta bridged the gap between theory and practice. In India, my education had been primarily theoretical. It was through his classes that I began to understand how to apply statistical concepts to real-world problems. He regularly shared examples from his private consulting work—stories that demonstrated how statistics could be used to address life's everyday challenges. Those insights sparked a fundamental shift in my thinking. I realized that statistics wasn't just a subject—it was a powerful tool for understanding and solving problems in the world around me.

Beyond his role as an educator, Dr. Gupta was extraordinarily generous on a personal level. He personally received me at the airport when I first arrived in the U.S. and welcomed me into his home. He and his family helped me adjust to life in a new country—introducing me to other students, helping me open a bank account, find housing (alongside two other students from the department), and connect with the local Indian community in Maine. His kindness made my transition to life in the U.S. far smoother than I ever expected.

Jim and I have kept in touch with Dr. Gupta over the years, and we hope we can carve out time to reconnect in person. We wish him the very best in his retirement and hope he enjoys the peace and pride that come from a lifetime of impact.

Thank you, Dr. Gupta, for your unwavering support, for believing in me, and for your ongoing good wishes for Jim and me. We are deeply grateful.

With warm regards,
Nutan Pawar
Realtor®
Dream Homes Realty

Dear Sir,
As you retire after a remarkable and inspiring academic journey, I want to thank you from the bottom of my heart.
When I began my Ph.D., I was uncertain about how it would go, especially with both of us being in different countries and as I was not from a pure-statistics background. But you made the entire process not only efficient but also incredibly enriching. The pace at which the work progressed still amazes me, and that was only possible because of your promptness, clarity, and unwavering guidance.
The tons of email exchanges we had throughout the journey stand testimony to your commitment and involvement. I still remember your appreciation when I could demonstrate that the 2010 additive model was better, it meant a lot to me. There were so many such moments that shaped my academic journey and gave me confidence.
Your habit of asking, *"What is the story behind what you are doing?"* (a line I won't forget!) and encouraging me to express it in one line taught me to think more clearly and communicate more effectively. I now ask this to my own students in class, encouraging them to summarize and understand the crux of whatever we are doing. And though you were always prompt in replying, on the rare occasion you couldn't respond right away due to your professional commitments and I followed up persistently, you jokingly reminded me, *"Who is the supervisor?"*
Our Ahmedabad trip was another highlight—stimulating discussions, a memorable conference, and the unexpected joy of hearing you sing. That memory, like so many others, is something I will always cherish.
I must also express my gratitude to Prof. B. K. Dass for connecting me to you. I remember going to him one afternoon to discuss Ph.D., and he told me about you. Everything took off so well from the moment I attended your seminar. I consider it a true privilege to have been your **first Ph.D. graduate**, a fact that fills me with both pride and deep responsibility.
Thank you for being so patient, open, and supportive throughout. I've learnt a great deal from you—not just academically, but also in the way you approach mentorship and communication. I will always be grateful and deeply indebted to you.
These words are absolutely insufficient to express the deepest regard I have for you.
Wishing you a long, joyous, healthy, and fulfilling life ahead. May this new chapter bring you continued joy and peace.

With warm regards and deepest respect,
Dr. Samridhi Mehta
(I owe the 'Dr' part to you)
University of Delhi
Dr. Gupta's First PhD Student, 2013

Dear Professor Dr. Sat Gupta,
As you embark on this well-deserved retirement, I want to express my deepest appreciation for the extraordinary mentorship, wisdom, and encouragement you have so generously shared over the years. I extend my heartiest congratulations on the successful completion of your academic career and sincerely hope that your mentorship continues to guide and inspire scholars in the years ahead.
Wishing you a happy, healthy, and active life ahead, and hoping that you continue to mentor researchers and scholars in whatever capacity you can. May this new phase of life bring you the opportunity to pursue everything that brings you joy.
I also thank you for visiting various universities in Lahore, Pakistan, and for sharing your invaluable research ideas and insights through engaging talks and seminars with the academic community here. Your contributions have left a lasting impact and inspired many. I offer my sincere gratitude for the invaluable support you extended during my research journey.
I also fondly remember the warm hospitality and care you extended during the AISC 2018 conference at UNCG, when a large contingent of scholars and researchers from Pakistan had the pleasure of attending. The grand gatherings at your home reflected both your and Madam Madhu's generosity and kindness. You made sure each one of us felt welcomed and cared for, and those moments remain a cherished memory.
I truly wished and intended to attend your retirement ceremony, but due to personal reasons, I regret that I won't be able to join. Nonetheless, I look forward to staying in touch and continuing to benefit from your warmth and wisdom.
Wishing you all the happiness and sending my best wishes for a joyful, peaceful, and fulfilling life ahead.

With warm regards,
Dr. Mahnaz Makhdum
Professor of Statistics
Govt. Graduate College for Women
Gulberg, Lahore, Pakistan

As an international student, I just arrived at University of Southern Main at Portland, Maine, and Sat was one of the first faculty members I met in the hallway of Science Building. Mustering courage, I came to Sat to chat with him with my broken English. He patiently explained to me the program and the time series course he taught. Following that, I took his course and did my thesis on time series with him. That started my career and throughout the years, we stayed in touch. His warmth and guidance certainly meant a lot to me.

Chang Yu
Professor, NYU
Dr Gupta's MS Student at the University of Southern Main, 1991-1993

It gives me immense pleasure to acknowledge my cherished association of more than two decades with Prof. Sat Gupta not only as an acclaimed academician and renowned researcher but a very kind and sensitive human being too. I still remember his warm hospitality to his home during my first visit to Portland, Maine, USA for FIM conference in 2003 and ever after. Since then, we had continued academic and personal association specially during my visiting professorship at UNCG in 2021-22. He has been like a mentor to me whose presence made me feel at home in Greensboro. I fondly remember highly uplifting frequent community meetings organized for healthy social interactions and well-being by him and Mrs. Gupta. They are just the perfect couple who are an asset not only to academic fraternity but to the society and community at large. Prof. Gupta is blessed with multifaceted talent of singing and poetry recitations as well.
To a thorough gentleman, more than willing to help and support anyone and everyone in need, I wish Prof Gupta a great journey ahead with family and friends enjoying wonderful health, happiness and peace. I am sure he will continue to enrich the academic world in many possible ways through his vast experience and expertise as ever.
Congratulations for amazing active service and best wishes for second innings.

Sincerely Yours,
Sheela Misra
Professor, Department of Statistics
Dean, Faculty of Science
Lucknow University

Dear Sat,
I wanted to write and emphasize how much your friendship has meant to me over the years. You have always been one of the people who has guided me, and given me advice, and helped my career in so many ways. I love the way that you always have a big *vision* for your program, and how you gently *lead* the people around you. You are also one of the most humble people that I know. Moreover, over the last 20 years, since I migrated from Mathematics and Computer Science into the world of Statistics, you have left your mark everywhere. I cannot begin to count the number of times when I was learning a new topic in Statistics, and your name arose as one of the scholars who had already made an impact in that branch of Statistics.
Please know that, as you are retiring, you have made a very strong and positive impact on my life, and on the lives of so many people all around you, at all stages of their careers. I'm thankful for you in ways that I can't quite fit into words.
I hope that your retirement celebration was a really amazing event! I'm sorry that I was unable to participate.

Warmest regards and best wishes,
Mark Daniel Ward, Ph.D.
Purdue University

Scheduled to graduate in the summer of 2025, I am likely to be Dr. Sat Gupta's last PhD student. Dr. Gupta's obvious intelligence and deep knowledge in the fields of mathematics and statistics have taken him from India to the United States, have driven him to complete two PhD's, to publish more than 150 articles, and ultimately have qualified him to be named department head at UNC Greensboro. One admiring colleague said when Dr. Gupta announced his retirement, "Well... what does he have left to prove?"

But as a student of Dr. Gupta's the things I most admire about him are not the honors he has amassed or the degrees he has achieved, but the evident joy he brings to his work. He is clearly a man who has found the right path for himself. Not only did he teach his students, but he laughed and smiled with them as he did it. He delights and flourishes in front of the classroom, and when he gives talks. And on many occasions Dr. Gupta opened his house to his students to celebrate milestones.

Working one-on-one with Dr. Gupta on my dissertation, I found him to be jovial and prone to amusing side-stories. Similarly, when it came to scholarship, he made research fun. This is not to say he would bend when he disagreed on a point of scholarship, but he also never became annoyed or angry. (One might call him affably stubborn!) And in the end, of course, he was almost always incensingly correct.

I wish Dr. Gupta all the best in retirement, but am glad to hear that he intends to continue with his research. This is the world Dr. Gupta belongs in, and it is good to know that he has no plans to leave it.

Michael Parker
Dr Gupta's Last PhD student, 2025

Sat, Congratulations on your well-earned retirement, Sat! I wish I could be there in person to celebrate you and all that you've done for our field and our community. You've been a terrific leader, a wonderful friend, and a steadfast ally to me over the years. From the very beginning of JSTP, you poured your heart and energy into making it a meaningful and rigorous outlet for our profession, and I've been honored to serve as an associate editor under your leadership. It's been a joy to work with you and to see your vision unfold so successfully.

Your leadership through the AISC Symposium and the NC ASA Chapter has had such a profound and lasting impact on statisticians across North Carolina. You created a space where early-career folks could connect with more established statisticians, share their work, and build a sense of community. Those AISC gatherings weren't just about cutting-edge theory and methodology—they also addressed workforce development and celebrated the contributions of local leaders. You truly brought people together, and in doing so, you strengthened our discipline.

I'm so proud and grateful to call you a friend, and I know your influence will continue to shape future generations of statisticians, even in retirement. You've been a beacon of light for so many of us in North Carolina, and you will be deeply missed. Enjoy this next chapter—you've absolutely earned it!

Sujit Ghosh
Professor of Statistics
NC State University
