CURRICULUM VITAE

Tirthankar Dasgupta
Professor, Department of Statistics
Rutgers University
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Piscataway, NJ 02138
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EDUCATION

- Ph.D. in Industrial Engineering (concentration: Engineering Statistics) from Georgia Institute of Technology (2007).
- M.Tech in Quality, Reliability and Operations Research from Indian Statistical Institute, Kolkata, India (1993).
- M.Stat in Applied Statistics and Data Analysis from Indian Statistical Institute, Kolkata, India (1991).
- B.Sc in Statistics (with Mathematics and Physics) from University of Calcutta, Kolkata, India (1989).

EMPLOYMENT HISTORY AND PROFESSIONAL EXPERIENCE

- 2017 (January) to 2020 (June): Associate Professor, Department of Statistics, Rutgers University.
- 2017 (June) to date: Co Director of Graduate Studies, Department of Statistics, Rutgers University.
- 2012 (July) to 2016 (December): Associate Professor, Department of Statistics, Harvard University.
- 2014 (June) to 2014 (July): Visiting Associate Professor, Department of Industrial Engineering and Logistics Management, Hong Kong University of Science and Technology
- 2009 (July) to 2011 (May): Co-graduate Director, Department of Statistics, Harvard University.

- 2008 (January) to 2012 (July): Assistant Professor, Department of Statistics, Harvard University.

- 2007 (August) – 2007 (December): Visiting Researcher, School of Industrial and Systems Engineering, Georgia Institute of Technology.

- 2003 - 2007 (August): Graduate Research Assistant, School of Industrial and Systems Engineering, Georgia Institute of Technology.

- 1995 - 2003: Faculty of the Statistical Quality Control and Operations Research Division of the Indian Statistical Institute.

- 1993 - 1994: Fellow of the Specialist Development Program, Statistical Quality Control and Operations Research Division, Indian Statistical Institute.

RESESARCH INTERESTS

- Experimental design: foundations, methodologies, applications in the physical, engineering, social and biomedical sciences
- Causal Inference
- Sequential exploration of complex surfaces
- Statistical applications in material sciences
- Statistical methodology in geometric shape error modeling and control with applications to additive manufacturing
- Quality engineering and statistical process control

RESEARCH FUNDING

1. PI for NSF Grant No. CMMI 1000720 ($159,999): *Collaborative Research: Nanostructure Growth Process Modeling and Optimal Experimental Strategies for Repeatable Fabrication of Nanostructures for Application in Photovoltaics*. Collaborators: Qiang Huang and Chongwu Zhou from University of Southern California, Los Angeles, 2010-2013.

2. PI for NSF Grant No. DMS 1107004 ($200,000): *Causal Inference from 2^k factorial designs*. Co-PI: Donald Rubin, Harvard University, 2011-2014.

3. PI for NSF Grant No. CMMI 1334178 ($119,999): *Collaborative Research: Geometric Shape Error Control for High Precision Additive Manufacturing.* Collaborators: Qiang Huang and Yong Chen from University of Southern California, Los Angeles, 2013-2016.

4. PI for NSF Grant No. DMS 1612901 ($150,000): *Design and analysis of optimization experiments with internal noise to maximize alignment of carbon nanotubes*. Co-PI: Chad Vecitis, John A. Polson School of Engineering and Applied Sciences, Harvard University, 2016-2019.

5. PI for NSF **EAGER** Grant No. DMR 1842952 ($140,002): Collaborative Research: MATDAT18 Type-I: Development of a machine learning framework to optimize ReaxFF force field parameters. Co-PI: Ying Hung, Rutgers University. Collaborator: Adri Van Duin, Penn State University. 2018-2020.

PATENT

Statistical predictive modeling and compensation of geometric deviations of 3-D printed products: US Patent US 9,827,717 B2 (jointly filed with the University of Southern California).

PUBLICATIONS

PUBLISHED/ACCEPTED IN REFEREED JOURNALS

41 Roy, K., Ghosh, D., DeBruyn, J. M., Dasgupta, T., Wommack, K. E., Liang, X., Wagner, R. E. and Radosevich, M., "Temporal dynamics of soil virus and bacterial populations in agricultural and early plant successional soils," *Frontiers in Microbiology*, to appear.

40 Branson, Z. and Dasgupta, T. (2020), "Sampling-based randomized designs for causal inference under the potential outcomes framework," *International Statistical Review*, 88(1), 101-121.

39 Sosina, S., Remillard, M., Zhang, Q., Vecitis, C. and Dasgupta, T. (2019), "Response surface optimization in the presence of internal noise with application to optimal alignment of carbon nanotubes," *Technometrics*, 61, 50-65.

38 Colosimo, B. M., Huang, Q. Dasgupta, T. and Tsung, F. (2018), "Opportunities and challenges of quality engineering in additive manufacturing," *Journal of Quality Technology*, 50, 233-252.

37 Lu, J., Ding, P. and Dasgupta, T. (2018) "Treatment Effects on Ordinal Outcomes: Causal Estimands and Sharp Bounds," *Journal of Educational and Behavioral Statistics*, 43, 540-567.

36 Lee, I-Chen, Hong, Y., Tseng, S. and Dasgupta, T. (2018), "Sequential Bayesian Design for Accelerated Life Tests," *Technometrics*, 60, 472-483.

35 Sabbaghi, A., Dasgupta, T. and Huang, Q. (2018), "Bayesian Model Building from small samples of disparate data in 3D Printing," *Technometrics*, 60, 532-544. **Selected for presentation in the Technometrics session at the 2018 INFORMS Annual Meeting at Phoenix, AZ.**

34 Ding, P. and Dasgupta, T. (2018) "A randomization-based perspective of analysis of variance: a test statistic robust to treatment effect heterogeneity," *Biometrika*, 105 (1), 45-56.

33 Zhao, A., Ding, P., Mukerjee, R. and Dasgupta, T. (2018), "Randomization-based Causal Inference from unbalanced Split-Plot Designs" *The Annals of Statistics*, 46, 1876-1903.

32 Mukerjee, R., Dasgupta, T. and Rubin, D. B. (2018), "Using Standard Tools from Finite Population Sampling to Improve Causal Inference for Complex Experiments," *Journal of the American Statistical Association*, 113, 868-881.

31 Remillard M., Branson, Z., Rahill, J., Zhang, Q., Dasgupta, T. and Vecitis, C., (2018) "Tuning Electric-Field Aligned CNT Architectures via Chemistry, Morphology, and Sonication from Micro to Macroscopic Scale," *Nanoscale*, 9 (20), 6854-6865.

30 Branson, Z., Dasgupta, T. and Rubin, D.B. (2017) "Improving Covariate Balance in 2^K factorial designs via Re-randomization," *The Annals of Applied Statistics*, 10, 1958-1976.

29 Hennessey, J., Dasgupta, T., Miratrix, L., Pattanayak, C. W., and Sarkar, P. (2016), "A conditional randomization test to account for covariate imbalance in randomized experiments," *Journal of Causal Inference*, 4, 61-80.

28 Sosina, S., Dasgupta, T. and Huang, Q., (2016) "A stochastic graphene growth kinetics model," *Journal of the Royal Statistical Society (Series C)*, 65, 705-729.

27 Remillard, M., Zhang, Q., Sosina, S., Branson*, Z, Dasgupta, T., and Vecitis, C. (2016), "Electric-field alignment of multi-walled carbon nanotubes on microporous substrates," *Carbon*, 100, 578-589.

26 Ding, P. and Dasgupta, T. (2016), "A Potential Tale of Two by Two Tables from Completely Randomized Experiments", *Journal of the American Statistical Association (Theory and Methods)*, 111, 157-168.

25 Espinosa, V., Dasgupta, T. and Rubin, D. B. (2016), "A Bayesian perspective on the analysis of unreplicated factorial designs using potential outcomes," *Technometrics,* 58, 62-73. **Selected for presentation in the Technometrics session at the 2015 Fall Technical Conference of the American Society for Quality at Houston, Texas**.

24 Lu, J., Ding, P. and Dasgupta, T. (2016), "Construction of alternative hypotheses for evaluation of randomization tests with ordinal outcomes," *Statistics and Probability Letters*, 107, 348-355.

23 Dasgupta, T., Pillai, N. and Rubin, D.R. (2015), "Causal Inference for 2^K factorial designs by using potential outcomes,'' *Journal of the Royal Statistical Society, Series B*, 77(4), 727-753.

22 Joseph, V. R., Dasgupta, T., Tuo, R. and Wu, C. F. J. (2015), "Sequential Exploration of Complex Surfaces Using Minimum Energy Designs,'' *Technometrics,* 57(1), 64-74.

21 Zhang, J., Huang, Q., Sabbaghi, A., and Dasgupta, T (2015), "Modeling, Experimental Design, and Analysis of 3D Printing Processes for Shrinkage Compensation," *IIE*

Transactions (Quality & Reliability Engineering), 47, 431-441. **Featured article** in IE magazine. **Selected for presentation in the IIE Transactions session at the 2014 annual INFORMS conference at San Francisco.**

20 Mandal, P., Dasgupta, T. and Murthy, S.V.S.N. (2015), "Estimation of manpower requirement for field research: a sample survey approach," *International Journal of Industrial and Systems Engineering,* 20(3), 281-305.

19 Huang, Q., Nouri, H., Chen, Y., Xu, K., Sosina, S. and Dasgupta, T. (2014), "Statistical Predictive Modeling and Compensation of Geometric Deviations of 3D Printed Products", *ASME Transactions, Journal of Manufacturing Science and Engineering, Special Issue on Additive Manufacturing (AM) and 3D Printing*, 136(6), 1008-1:1008-9.

18 Sabbaghi, A., Dasgupta, T., Huang, Q. and Zhang, J. (2014), "Inference for Deformation and Interference in 3D Printing", *The Annals of Applied Statistics*, 8(3), 1395-1415.

17 Sabbaghi, A., Dasgupta, T. and Wu, C. F. J. (2014), "Indicator functions and the algebra of linear-quadratic parametrization", *Biometrika*, 101(2), 351-363.

16 Zhu, L., Dasgupta, T. and Huang, Q. (2014), "A D-optimal design for estimation of parameters of an exponential-linear growth of nanostructures", *Technometrics,* 56(4), 432-442. **Selected for presentation in the Technometrics session at the 2014 Fall Technical Conference of the American Society for Quality at Richmond, Virginia**.

15 Dasgupta, T. and Meng, X. L. (2012), "Comment: DoIt and Do it well" (comment on Bayesian Computation Using Design of Experiments-Based Interpolation Technique by V. Roshan Joseph), *Technometrics*, 54, 227-231.

14 Dasgupta, T., Adiga, N. and Wu, C. F. J. (2011), "Another closer look at Dorian Shainin's variable search technique," *Journal of Quality Technology*, 43, 273-287.

13 Dasgupta, T., Weintraub, B. and Joseph, R. (2011), "A Physical-Statistical Model for Density Control of Nanowires," *IIE Transactions (Quality & Reliability Engineering)*, 43, 233-241: **Featured article** in *IE Magazine*, March 2011.

12 Huang, Q., Wang, L., Dasgupta, T., Zhu L., Sekhar, P. K., Bhansali, S., An, Y. (2011), "Statistical Weight Kinetics Modeling and Estimation for Silica Nanowire Growth Catalyzed by Pd Thin Film", *IEEE Transactions in Automation Science and Engineering*, 8, 303-310.

11 Dasgupta, T., Miller, A. and Wu, C. F. J. (2010), "Robust Design of Measurement Systems," *Technometrics*, 52, 80-93.

10 Dasgupta, T. (2009), "A Framework for Integrating the Control and Improvement Phases of Six Sigma Using the Mahalanobis-Taguchi System," *International Journal of Industrial and Systems Engineering*, 4, 615-629.

9 Nunn, C., Thrall, P. H., Bartz, K., Dasgupta, T and Boesch, C. (2009), "Do Transmission Mechanisms or Social Systems Drive Cultural Dynamics in Socially Structured Populations?" *Animal Behavior*, 77, 1515-1524.

8 Xu, S., Adiga, N, Ba, S., Dasgupta, T., Wu, C. F. J. and Wang, Z. L. (2009), "Optimizing and Improving the Growth Quality of ZnO Nanowire Arrays Guided by Statistical Design of Experiments" *ACS Nano*, 3, 1803-1812.

7 Dasgupta, T., Ma, C., Joseph, V.R., Wang, Z.L., Wu, C.F.J. (2008), "Statistical Modeling and Analysis for Robust Synthesis of Nanostructures," *Journal of the American Statistical Association*, 103, 594-603.

6 Dasgupta, T. and Mandal, A. (2008), "Estimation of Process Parameters to Determine the Optimum Diagnosis Interval for Control of Defective Items," *Technometrics*, 50, 167-181.

5 Dasgupta, T. and Wu, C.F.J. (2006), "Robust Parameter Design with Feedback Control," *Technometrics*, 48, 349-360.

4 Dasgupta, T. (2003), "An Economic Inspection Interval for Control of Defective Items in a Hot Rolling Mill," *Journal of Applied Statistics*, 30, 273-282.

3 Dasgupta, T. (2003), "Using the Six-Sigma metrics to measure and improve the performance of a supply chain," *Total Quality Management*, 14, 355-366.

2 Dasgupta, T., Sarkar, N.R., and Tamankar, K.G.T. (2002), "Using Taguchi Methods to Improve a Control Scheme by Adjustment of Changeable Settings," *Total Quality management*, 13, 863-876.

1. Dasgupta, T. and Murthy, S.V.S.N. (2001), "Looking beyond Audit-Oriented Evaluation of Gauge Repeatability and Reproducibility – A Case Study," *Total Quality Management*, 12, 649-655.

MANUSCRIPTS UNDER REVIEW

42 Mukerjee, R. and Dasgupta, T., "Causal Inference from Possibly Unbalanced Split-Plot Designs: A Randomization-based Perspective".

43 Libgober, B. and Dasgupta, T., "Identifying the effect of racial discrimination on legal assistance: a data-scientific approach".

44 Luo, X., Dasgupta, T., Xie, M. and Liu, R., "Using confidence distribution to leverage the potential of Fisher randomization tests: inference, computation and fusion learning".

45 Song, Y., Sengul, M. Y., He, L., van Duin, A., Hung, Y. and Dasgupta, T., "CLAIMED: A CLAssification-Incorporated Minimum Energy Design to explore a multivariate response surface with feasibility constraints".

46 Sengul, Mert; Nayir, Nadire; Gao, Yawei; Hung, Ying; Dasgupta, Tirthankar; C.T. van Duin, Adri, "An Initial Design-enhanced Deep Learning-based Optimization Framework to Parameterize Multicomponent ReaxFF Force Fields".

MANUSCRIPTS IN PREPARATION

47 Pashley, N., Hunter, K., McKeough, K., Dasgupta, T. and Rubin, D. B., "Causal inference from treatment-control studies having a pseudo-factor with unknown assignment mechanism".

48 Dasgupta, T., Hung, Y. and Huang, Q., "Sequential learning of deformation models in additive manufacturing using adaptive data augmentation".

BOOK CHAPTERS

- Dasgupta, T. and Wu, C.F.J. (2006), Six Sigma Quality, Chapter 10 in *Enterprise Transformation: Understanding and Enabling Fundamental Change*, edited by William B. Rouse, John Wiley & Sons, NJ.

BOOK (MANUSCRIPT UNDER PREPARATION)

- Dasgupta, T., and Rubin, D. B., *An Introduction to Experimental Design from a randomization-based perspective*. CRC Press.

REFEREED CONFERENCE PROCEEDINGS

1. Sabbaghi A.**,** Huang Q., Dasgupta T. (2015). Bayesian additive modeling for quality control of 3D printed products. In: *Eleventh Annual IEEE International Conference on Automation Science and Engineering*, August 2015. Pages 774-779. Publisher: IEEE.
2. Huang, Q., Nouri, H., Xu, K., Chen, Y., Sosina, S., and Dasgupta, T. (2014), "Predictive Modeling of Geometric Deviations of 3D Printed Products – A Unified Modeling Approach for Cylindrical and Polygon Shapes," the tenth IEEE International Conference on Automation Science and Engineering (CASE 2014) , Special Session on Predictive Modeling and Control of Additive Manufacturing, August 18-22, 2014, Taipei, Taiwan. Pages 25-30. Publisher: IEEE.
3. Xu, L., Huang, Q., Sabbaghi, A., and Dasgupta, T. (2013), "Shape Deviation Modeling for Dimensional Quality Control in Additive Manufacturing," Proceedings of the ASME 2013 International Mechanical Engineering Congress & Exposition, November 15-21, 2013, San Diego, USA. 6 pages. Publisher: New York, N.Y.: American Society of Mechanical Engineers.

OTHER PUBLICATIONS

- Dasgupta, T. and Wu, C. F. J. (2005), What's missing in Six Sigma? *Six Sigma Forum Magazine*, 5(1), 39-40.

SOFTWARE FOR RANDOMIZATION INFERENCE

Lee, J. and Dasgupta, T., (2013-2014), *randomizationInference: Flexible Randomization-Based Inference*, R package version 1.0.2. Available at http://CRAN.R-project.org/package=randomizationInference .

ACADEMIC AWARDS, HONORS AND SCHOLARSHIPS

- Recipient of the David Pickard Memorial award from Harvard University in 2012 for excellence in mentoring and teaching.
- Nominated for Harvard University Star Family Award for faculty advising.
- Recipient of the Sigma-Xi Best Thesis Award (2008) from Georgia Tech for Ph. D. Thesis titled "Robust Parameter Design for Automatically Controlled Systems and Nanostructure Synthesis" (Advisor: Professor C. F. Jeff Wu).
- Recipient of the Mary G. and Joseph Natrella scholarship in 2006 (awarded by the Quality and Productivity Section of the American Statistical Association) for *academic excellence, teaching, leadership and service to the statistical community* and the paper "*Deriving optimal conditions for large-scale synthesis of nanostructures*".
- Honorable Mention Outstanding Presentation Award at the Joint Statistical Meetings 2006 from the Section on Physical and Engineering Sciences of the American Statistical Association.
- John Morris fellowship from the Georgia Institute of Technology.
- ISI Alumni Association Gold Medal from the Indian Statistical Institute for excellence in the M.Tech program.

COURSES TAUGHT (Figures within parenthesis indicate my overall rating as the course instructor)

HARVARD UNIVERSITY

1. Stat 140 (Experimental Design): Spring 2008, spring 2009, spring 2010, spring 2011, spring 2013, fall 2014, fall 2016.
2. Stat 131 (undergraduate time Series Analysis and Forecasting): Fall 2008, fall 2009, fall 2010, fall 2011, fall 2012.
3. Stat 231 (graduate time Series Analysis and Forecasting): Fall 2008, fall 2009, fall 2013.

4. Stat 341 (Advanced Experimental Design): Fall 2008, fall 2010, spring 2011, spring 2013.

5. Stat 240 (Matched Sampling and study design, jointly with Donald B. Rubin): Fall 2009, fall 2011, fall 2015.

6. Stat 211 (Statistical Inference): Spring 2013, spring 2014, spring 2015, spring 2016, fall 2016.

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. IELM 5260 (Design of experiments): Summer 2014.

RUTGERS UNIVERSITY

1 Special Topics Course (Causal Inference): Fall 2017.

2 Graduate Probability Theory: Fall 2019, 2020.

EDITORIAL AND PROFESSIONAL ACTIVITIES

- Associate Editor of the *Journal of the Royal Statistical Society (Series B)* (2018 -).
- Associate Editor of *Journal of the American Statistical Association (Theory and methods)* (2017 -).
- Associate Editor of *Technometrics* (2010 - 2018).
- Associate Editor of *Journal of Quality Technology* (2015 -).
- Associate Editor of *IISE Transactions* (2017-).
- Associate Editor of *The Calcutta Statistical Association Bulletin*, India (2013 - 2018).
- Associate Editor of STAT (The electronic journal of the International Statistical Institute) (2011 - 2017).
- Guest Editor (Special Issue on Mahalanobis-Taguchi Systems), *International Journal of Industrial and Systems Engineering*, 4(6), 2009.
- Guest Editor (Special Issue on Advanced Manufacturing), *Journal of Quality Technology*, July, 2018.
- **Chair-Elect** (2013-14) and **Chair** (2014-15) of the Quality, Statistics and Reliability groups of INFORMS.
- Reviewer of EPSRC (Engineering and Physical Sciences Research Council, UK) grant proposals.

- Chair, program committee, IMS/ASA Spring Research Conference: Enabling the interface between statistics and engineering, Harvard University, June 2012.

- Member of the American Statistical Association, INFORMS.

SERVICE ON DEPARTMENT/UNIVERSITY COMMITTEES

- Co-Director of Graduate Studies, Department of Statistics, Rutgers University (June 2017 onward). Main achievements include a major overhaul of the department Ph.D. program including admissions procedure, course curriculum, mentoring and monitoring of student performances, increased diversity. Future goals include improvement of the quality and size of the Master's program.
- Served on the faculty search committee in 2017-18 and 2020-21 in the department of statistics, Rutgers University.
- Chair, Ph.D. Admissions Committee and Master's Selection Committee , Department of Statistics, Harvard University (2011-2015)
- Director of Graduate Studies, Department of Statistics, Harvard University (2009-11)
- Member, University Transportation Committee, Harvard University (2013-14)

STUDENT ADVISING

PRIMARY ADVISOR FOR THE FOLLOWING Ph.D. STUDENTS (Graduated)

1. Li Zhu (2012),
   Dissertation title: Some Optimal and Sequential Experimental Designs with Potential Applications to nanostructure Synthesis and Beyond.
   Current position: Quantitative Trader, GETCO LLC, London.

2. Valeria Espinosa (2014)
   (Co-advisor: Donald B. Rubin).
   Dissertation title: A Bayesian Perspective on Factorial Experiments Using Potential Outcomes.
   Current position: Statistician at Google.

3. Arman Sabbaghi (2014)
   (Co-advisor: Donald B. Rubin).
   Dissertation title: Dilemmas in design: from Neyman and Fisher to 3D Printing.
   Current position: Assistant Professor of Statistics, Purdue University.

4. Jonathan Hennessy (2014)
   (Co-advisor: Mark Glickman).
   Dissertation title: Topics in experimental and tournament design.
   Current position: Quantitative Analyst, Google**.**

5. Peng Ding (2015)
   (Co-advisors: Donald B. Rubin, Luke Miratrix).

Dissertation title: Exploring the Role of Randomization in Causal Inference.
Current position: Assistant Professor of Statistics, University of California, Berkeley.

6. Jiannan Lu (2015)
(Co-advisor: Joseph Blitzstein).
Dissertation title: On Causal Inference for Ordinal Outcomes.
Current position: Data & Applied Scientist at Microsoft.

7. Sobambo Sosina (2016)
(Co-advisor: Joseph Blitzstein).
Dissertation title: Analysis, Modeling, and Optimal Experimental Design under Uncertainty: From Carbon Nano-Structures to 3D Printing.
Current position: Quantitative Financial Analyst at Google.

8. Anqi Zhao (2016)
(Co-advisor: Joseph Blitzstein).
Dissertation title: Time for a new angle! Unravel the mystery of split-plot designs via the potential outcomes prism.
Current position: Assistant Professor of Statistics, National University of Singapore (starting Fall 2019).

9. Zach Branson (2019)
(Co-advisors: Luke Miratrix, Jose Zubizarreta).
Dissertation title: Innovations in Randomization Inference for the Design and Analysis of Experiments and Observational Studies.
Current position: Assistant Professor of Statistics, Carnegie Melon University (starting Fall 2019)

10. Xiaokang Luo (currently third year Ph.D. student at Rutgers University)

DOCTORAL DISSERTATION COMMITTEES

Harvard University

- Kari Lock Frazer (2011): Re-randomization to improve covariate balance in randomized experiments.

- Cassandra Wolos Pattanayak (2011): The critical role of covariate balance in causal inference with randomized experiments and observational studies.

- Tae Yeon Kwon (2012): Three Essays on Credit Risk Models and Their Bayesian Estimation.

- Xiao Tong (2013): Statistical Learning of Some Complex Systems: From Dynamic Systems to Market Microstructure.

- Lei Guo (2013): Bayesian Biclustering on Discrete Data: Variable Selection Methods.

- Daniel Fernandez (2014): Cell States and Cell Fate: Statistical and Computational models in (Epi)Genomics.

- Joseph Lee (2015): Extensions of Randomization-Based Methods for Causal Inference.

- Michael Gelbart (2015): Constrained Bayesian Optimization and Applications. (Biophysics)

- Viviana Garcia Horton (2015): Topics in Bayesian Inference for Causal Effects.

- David Jones (2016): Information: measuring the missing, using the observed, and approximating the complete.

Rutgers University

- Yibo Zhao (2017): New models and methods for applied statistics: topics in computer experiments and time series analysis.

- Elyn Chen (2018): Unsupervised statistical learning from temporal-dependent multi-dimensional data.

- Linglin He (2019): Statistical Emulation and Uncertainty Quantification in Computer Experiments.

- Liwei Wang (2019): Contributions to Crossover Designs and Quantile Analysis for Computer Experiments.

- Modjtaba Dahmardeh (2020): Reliable State Estimation of Lithium-ion Batteries Under Model and Parameter Uncertainties.

- Shenghan Guo (2020): data-enabled process monitoring and predictive analytics for smart manufacturing

Other Universities (as external reviewer)

- Marco Grasso (2015): Profile monitoring of multi-stream sensor data. Department of Mechanical Engineering, Politecnico di Milano, Milan, Italy.

- Han Mei (2018): Robust parameter and tolerance design with computer experiments, City University of Hong Kong.

UNDERGRADUATE THESIS ADVISING

- William Carlson (2012): The Role of Social Media in the Arab Spring (Co-advisor: Sumeeta Srinivasan).

- Michele Zemplenyi (2013): Design and Analysis of a Fractional Factorial Screening Experiment to Identify Small Molecule Inducers of Pancreatic Beta Cells (winner of Hoopes prize, Harvard University's highest award for undergraduate thesis).

- Robert J. Kindman (2014): Quantifying Uncertainty in Oil and Gas Production Forecasts.

- David Haswell (2016): Unraveling the Mystery of A/B Testing: A Causal Inference Perspective and Some New Proposals for Design and Analysis.

INVITED TALKS & PRESENTATIONS (Reverse Chronological Order)

1. Sequential learning of deformation models in additive manufacturing using adaptive data augmentation. Foundations for Accuracy Control in Additive Manufacturing (FACAM) 2020, Los Angeles, CA, February 2020.
2. An email experiment to identify the effect of racial discrimination on legal assistance: a statistical approach. CM Statistics, London, UK, December 2019.
3. Fisher's Randomization Test: A Confidence Distribution Perspective and Applications to Massive Experiments. SAMSI Causal Inference Workshop, NC, USA, December 2019.
4. Design, analysis and optimization of response surfaces in the presence of internal noise. IMS/ASA Spring Research Conference, Blacksburg, VA, USA, May 2019.
5. Fisher's Randomization Test: A Confidence Distribution Perspective and Applications to Massive Experiments. WuFest, Atlanta, GA, USA, May 2019.
6. An Adaptive Data Augmentation Strategy for Fitting Gaussian Process Models with Application to 3D Printing. INFORMS Annual Conference, Phoenix, AZ, USA, November 2018.
7. Randomization Based Inference from Unbalanced Split Plot Designs. AISC–2018 International Conference on Advances in Interdisciplinary Statistics and Combinatorics. Greensboro, NC, USA, October 2018.
8. Discussant, Invited Session on Experimental Design Thinking for Big Data, Joint Statistical Meeting, Vancouver, Canada, August 2018.
9. Randomization based perspectives of randomized block designs and a new test statistic for the Fisher randomization test, Workshop on Design of Experiments, April 30 - May 4 2018, CIRM, Marseilles, France.
10. Handling complex experiments with multiple interventions: methods and examples. Institute of Quantitative Biomedicine, Rutgers University, Piscataway, NJ, USA, November 2017.
11. Sequential learning of deformation models in additive manufacturing. INFORMS Annual Conference, Houston, TX, USA, October 2017.
12. Statistics: A Career in the Academia. On "Career Day" sponsored by the NJ and Princeton-Trenton Chapters of the ASA, New Brunswick, NJ, USA, October 2017.
13. Strategies for designing and analyzing complex experiments with multiple interventions and sequentially exploring complex response surfaces. MIT Lincoln Labs, Lexington, MA, USA, October 2017.

14. Sequential learning of deformation models in additive manufacturing. Department of
Industrial and Systems Engineering, Rutgers University, Piscataway, NJ, USA, September 2017.
15. Sequential learning of deformation models in additive manufacturing through calibration of simulation models. Joint Statistical Meetings 2017, Baltimore, MD, USA.
16. Design and analysis of experiments for new-generation scientific studies: some challenges and potential solutions, Department of Mathematics and Statistics, University of Maryland Baltimore County, MD, USA, April 2016.
17. Design and analysis of experiments for new-generation scientific studies: some challenges and potential solutions, Department of Statistics, North Carolina State University, March 2016.
18. Design and analysis of experiments for new-generation scientific studies: some challenges and potential solutions, Department of Statistics and Biostatistics, Rutgers University, Piscataway, NJ, USA, April 2016.
19. Design and analysis of experiments for new-generation scientific studies: some challenges and potential solutions, Department of Statistics, Temple University, Philadelphia, PA, USA, February 2016.
20. Design and analysis of experiments for new-generation scientific studies: some challenges and potential solutions, Department of Mathematics and Statistics, Boston University, Boston, MA, USA, January 2016.
21. Strategies for designing and analyzing complex experiments to achieve balance with respect to several covariates, RC Bose Plenary Session, Calcutta University Triennial Symposium, Kolkata, India, December 2015.
22. Strategies for designing and analyzing complex experiments to achieve balance with respect to several covariates, Illinois Institute of Technology, Chicago, IL, USA, November 2015.
23. Some potentially useful Bayesian ideas for causal inference from randomized experiments, Department of Statistics, North Carolina State University, Raleigh, USA, September 2015.
24. A potential outcomes-based perspective of the analysis of complex multi-factor experiments with randomization restrictions, New England Statistics Symposium, University of Connecticut, Storrs, April 2015.
25. Strategies for Experimenting and Building Predictive Models to Compensate for Geometric Shape Error in 3D Printed Products, Department of Mechanical Engineering, Politecnico Di Milano, Milan, Italy, January 2015.
26. Exploiting the potential advantages of potential outcomes in the analysis of new-generation scientific experiments, School of Mathematics and Statistics, Arizona State University, Tempe, AZ, USA, November 2014.
27. The Potential of Potential Outcomes in Experimental Design, Department of Statistics,
Virginia Tech, Blacksburg, VA, USA, April 2014.

28. A Bayesian Framework for Assessment of Prediction Uncertainty in Scale-up, INFORMS Annual Conference, Minneapolis, MN, USA, October 2013.
29. A D-optimal design for estimation of parameters of an exponential-linear growth of nanostructures, Spring Research Conference on Statistics in Science and Technology, Los Angeles, CA, USA, June 2013.
30. A D-optimal design for estimation of parameters of an exponential-linear growth of nanostructures, Quality and Productivity Research Conference, GE Global Research Center, Albany, NY, USA, June 2013.
31. Causal Inference from 2k factorial designs, Applied Statistics Division, Indian Statistical Institute, Kolkata, India, USA, January 2013.
32. A D-optimal design for estimation of parameters of an exponential-linear growth of nanostructures, Statistical Quality Control and Operations Research Division, Indian Statistical Institute, Kolkata, India, January 2013.
33. Causal Inference from 2^k factorial designs, Rutgers University, Piscataway, NJ, USA, December 2012.
34. "A potential outcomes model for scale up", INFORMS 2012, Phoenix, AZ, USA, October 2012.
35. "Observational studies with a factorial structure," International Chinese Statistical Association Symposium, Boston, MA, USA, June 2012.
36. "DoIt and Do it well", Spring Research Conference on Statistics in Industry and Technology, Harvard University, Cambridge, USA, June 2012
37. A D-optimal design for estimation of parameters of an exponential-linear growth of nanostructures, Northern Illinois University, Dekalb, Chicago, IL, USA, April 2012.
38. Statistical methods in the design and analysis of experiments related to synthesis of nanostructures, Northern Illinois University, Dekalb, Chicago, IL, USA, April 2012.
39. Causal Inference from 2^k factorial designs, University of Connecticut, Storrs, CT, USA, January
2012.
40. A Physical-Statistical Model for Density Control of Nanowires (IIE Transactions invited session), INFORMS 2011, Charlotte, NC, USA, November 2011.
41. Causal Inference from 2^k factorial designs, Boston University, Boston, MA, USA, October 2011.
42. Causal Inference from 2^k factorial designs (invited talk), DEMA 2011 organized by the
Isaac Newton Institute of Mathematical Sciences, Cambridge, UK, August 2011.
43. Another closer look at Dorian Shainin's variable search technique, Joint Statistical Meeting, Miami, August 2011.
44. Causal Inference from 2^k factorial designs, Harvard University Statistics Colloquium, Cambridge, MA, USA, August 2011.
45. Sampling from computationally expensive probability distributions, Workshop on Design and Analysis of Experiments in Modern-day Science and Technology, Harvard University, Cambridge, MA, April 2011.

46. Causal Inference from 2^k factorial designs: an initial exploration of the importance of additivity, Workshop on Design and Analysis of Experiments in Modern-day Science and Technology, Harvard University, Cambridge, MA, April 2011.
47. Sequential Minimum Energy Designs, International Conference on Frontiers of Interface between Statistics and Sciences (in the honor of Prof. C R Rao on the occasion of his 90th Birthday), Hyderabad, India, January 2010.
48. Design and analysis of experiments to improve yield and quality of nanostructure synthesis. Workshop on "Statistical Methods for Nanoresearch" organized by Georgia Institute of Technology, Atlanta, GA, December 2009.
49. A Locally D-Optimal Design for an Exponential-Linear model Governing Nanostructure Growth, IMS New Researcher's Conference, Baltimore, MD, USA, July 2009.
50. Design and Analysis of Experiments to Improve Yield and Quality of Nanostructure Synthesis, Department of Industrial and Systems Engineering, University of South Florida, Tampa, FL, USA, May 2009.
51. A Physical-Statistical Model for Density Control of Nanowires, INFORMS 2008, Washington DC, USA. November 2008.
52. Robust Design for Dynamic and Measurement Systems, Department of Mathematics and Statistics, Boston University, MA, USA, October 2008.
53. Robust Parameter Design for Automatically Controlled Processes and Nanostructure Synthesis, Department of Statistics, University of Georgia, Athens, August 2008
54. Robust Design, Modeling and Optimization of Measurement Systems, ASA Quality and Productivity Research Conference 2008, Madison, WI, ISA, June 2008.
55. Sequential Minimum Energy Designs for Synthesis of Nanostructures, Spring Research Conference on Statistics in Industry and Technology 2008, Atlanta, GA, USA, May 2008.
56. Statistical methods in Nanostructure Synthesis, Charlton College of Business, University of Massachusetts, Dartmouth, MA, USA, April 2008.
57. Sequential Minimum Energy Designs for Synthesis of Nanostructures, INFORMS 2007, Seattle, WA, USA, Nov 2007.
58. Robust synthesis of nanostructures, Joint Statistical Meeting 2006, Seattle, WA, USA, August 2006.
59. Deriving optimal conditions for large-scale synthesis of nanostructures (Poster), Joint Research Conference (combining Spring Research Conference on Statistics in Industry and the Quality and Productivity Research Conference) 2006, Knoxville, TN, USA, June 2006 (Natrella scholarship winner).
60. Robust parameter design with feedback control, Joint Statistical Meeting 2005, Minneapolis, MN, USA, August 2005.
61. Robust parameter design with feedback control, Spring Research Conference on Statistics in Industry June 2004, NIST, Gaithersburg, MD, USA.