Arka P. Ghosh

Professor
3216 Snedecor Hall, Department of Statistics,
Iowa State University, Ames, IA 50011-1210
apghosh@iastate.edu, 515-294-7851.
http://www.public.iastate.edu/~apghosh
https://sites.google.com/view/apghosh/

(I) **Degrees:**

Ph.D.	University of North Carolina (UNC), Chapel Hill, USA	Statistics	Aug. 2005
	(Thesis: Control problems for queueing networks in heavy traffic, *Adv.: A. Budhiraja*)		
M.S.	University of North Carolina (UNC), Chapel Hill, USA	Statistics	May 2005
M.Stat.	Indian Statistical Institute (ISI), Calcutta, India	Statistics	June 2000
	(Specialization: Mathematical Statistics and Probability)		
B.Stat.	Indian Statistical Institute (ISI), Calcutta, India	Statistics	June 1998

(II) **Professional Experience:**

Iowa State University appointment:

Professor (tenured)	Statistics	May 2019 - present
Associate Professor (tenured)	Statistics	May 2011 - May 2019
Assistant Professor	Statistics	Aug. 2005 - May 2011
Courtesy appointment	Mathematics	Aug. 2008 - present
Courtesy appointment	Ind. & Manuf. Sys. Eng. (IMSE)	Aug. 2015 - present

(III) **Teaching:**

(a) Courses Taught(F: Fall, S: Spring, SS: Summer, $*$: distance section, xw: separate online section,)

- **Stat 105: Intro to Stats for Engineers:** F15 (1,xw), S17, F17, SS18(xw), F18,
- **Stat 305: Engineering Statistics:** S09(2), S10(2), F10[c4†], S11(2), F11(2), S12(xw), S13, F13 (1,xw), S14, F14(xw), S15(xw), F16, S18(xw), F19, F20(xw)
- **Stat 322: Probabilistic Methods for Electr. Engineers:** F05, S08, F09, S20
- **Stat 330:Probability and Statistics for Computer Science:** S21 (xw)
- **Stat 347:Probability and Statistical Theory for Data Science:** F21
- **Stat 430: Empirical Methods for Comp. Sc. Research:** S06, S07
- **Stat 447 (now 588): Stat. Theory for Research Workers.** SS14, SS16, SS17
- **Stat 542: Theory of Probability and Statistics (I):** F10(2*)
- **Stat 588: Stat. Theory for Research Workers** SS19
- **Stat 641: Foundations of Probability Theory:** F13,F14,F15,F16, F17, F18, F19, F20, F21
- **Stat 642 (now 641): Measure Theory and Probability Theory:** F06, F08
- **Stat 690: Intro. to Measure Theory:** SS12

(b) Courses Coordinated (cn: coordinating n sections)

- **Stat 105: Intro to Stats for Engineers:** F15(c3), S16(c2), SS16(c1), SS17(c1), F17(c2), S18(c1), F18(c1), S19(c1)
- **Stat 305: Engineering Statistics:** F10(c4), F11(c5), S12(c5), SS12(c1), S13 (c1), F13 (c5), S14(c6), F14(c7), S15(c7), F15 (c7), S16(c6), SS16(c2), F16(c8), S17(c6), SS17(c2), F17(c7), S18(c7), SS18(c2), F18(c8), S19 (c7), SS19(c1), F19(c7), S20(c8), F20 (c9)

(c) Course and curriculum development:

Stat 430: Developed this new course on *Empirical Methods For Computer Science Research* and taught it in Spring of 2006 and 2007. Student projects from this lead to significant parts of their dissertations and publications in the relevant fields (see [43], [42] and [46] in publications).

Stat 305 online: Developed asynchronous version of Stat 305 course that was offered as an online course in Spring of 2012.

Stat 226 online: Helped Eric Smith (lecturer, Stat.) develope asynchronous version of Stat 226 course in 2014. It was supported by the Online Course Development Grant from the LAS.

Stat 105 online: Developed asynchronous version of Stat 105 course in Summer of 2015. It was supported by the Online Course Development Grant from the LAS.

Stat 105 and 305 online (update): In Fall 2017 and Spring 2018, these two courses are being updated and adapted to Canvas LMS. It is supported by the Online Course Development Grant from the LAS.

Stat 305 online (redevelopment): Summer and Fall 2019 - supported by the Online Course Development Grant from the LAS.

Quality Matters(QM): Attended workshop on QM certification and for courses (Spring 2021).

(IV) **Advising:**

(a) Ph. D. Students:

(1) Kanak Choudhury (co-advisor: Kris De Brabanter) 2020-
(2) Sungchan Park (Stat.) 2020-
(3) Dong Dai (Mathematics) Graduated Spring 2019
(4) Oscar Aguilar (co-advisor: A. Roitershtein, Statistics): Graduated Fall 2019
(5) Keguo Huang (Mathematics): Graduated Sum. 2017
(6) Steven Noren (co-advisor: A. Roitershtein, Math.) graduated in Spring 2017
- Recipient of Brown Grad. Fellowship (ISU) in 2015
(7) Kubilay Dagtoros (co-advisor: A. Roitershtein, Math.) - Graduated Spring 2017
(8) Subhomoy Ghosh (co-advisor: A. Roitershtein, Statistics) - Graduated Summer 2013
(9) Reza Rastegar (co-advisor: A. Roitershtein, Mathematics) - Graduated Spring 2012
- Recipient of R. J. Lambert Teach. Award-2012, Math. Dept. Res. Excel. Award(ISU)-2011
(10) Anna Peterson (co-advisor: R. Maitra, Statistics) - Graduated Spring 2011

(b) M. S. Students:

(1) Kubilay Dagtoros (MS in Statistics) - Current
(2) Steven Noren (conc. MS in Stat., co-Advisor: A. Roitershtein, Math.) - Grad. Spring 2017
(3) Emily Carroll (co-Advisor: A. Roitershtein, Mathematics) - Graduated Fall 2016
(4) Ghani Ebrahimi (IMSE) - Graduated Summer 2015
(5) Paul Jennings (co-advisor: S. Basu, Computer Science) - Graduated Spring 2011
(6) Wenjun Qin (co-Advisor: A. Roitershtein, Mathematics) - Graduated Summer 2011
(7) Enhan Zhang (Statistics) - Graduated Summer 2010
(8) Anna Peterson (co-advisor: R. Maitra, Statistics) - Graduated Spring 2008

(c) Undergraduate:

Advised 2 students in Summer of 2009 in the Research Experience for Undergraduates (REU) program organized by the departments of Statistics and Mathematics at Iowa State University (co-advised with A. Roitershtein, Mathematics). Advised honors project for 1 student in Stat 305 in Spring 2011, Spring 2014.

(d) Committees: 30 Ph.D comm. and 18 M.S comm. so far

(V) **Publications:**

(a) Working papers and Preprints

[1] Large Sample Approximation for LS-SVM Regression. (K. De Brabanter, K. Choudhury, A. P. Ghosh) *(working paper).* (2020)

[2] Statistical Estimation of a Random Graph Model with Covariates. (A. P. Ghosh, S. Park) *(working paper).* (2020)

[3] Dynamic Portfolio Allocation in Presence of Missing Historical Data. (O. Aguilar*, A. P. Ghosh, A. Roitershtein) *(working paper)* (2020)

[4] Out-of-Sample Performance of Portfolio Allocation Strategies with Grouping and Clustering. (O. Aguilar*, A. P. Ghosh, A. Roitershtein) *(working paper)* (2020)

[5] Effect of pooling of family oral fluids on the probability of detection of PRRSV RNA by RT-rtPCR. (O. Osemeke, M. Almeida, G. Trevisan, G. Silva, A. P. Ghosh, D. Linhares) *Submitted* (2021)

[6] Shift transform approach to the two-sided ballot theorem (K.Dagtoros, A. P. Ghosh; S. Pant; A. Roitershtein), *Submitted* (2021)

(b) Published Journal Articles (refereed)

[7] Evaluating staffing algorithms for queueing networks using real data from call-centers. (D. Dai*, A. P. Ghosh, K. Huang*) Forthcoming in *Int. J. of Operation. Research* (2021+)

[8] Favorite Sites of a Persistent Random Walk. (A. P. Ghosh, S. Noren*, A. Roitershtein). *Journal of Mathematical Analysis and Applications,* Volume 501, Issue 2, 15 September 2021, 125180 (2021)

[9] Rate Control of a Queue with Quality-of-Service Constraint under Bounded and Unbounded Action Spaces. (A. Ebrahimi*, A. P. Ghosh). *Operations Research Letters.* Volume 48, Issue 6, November 2020, Pages 737-743 (2020)

[10] Hospital-Wide Medication Reconciliation Program: Error Identification, Cost-Effectiveness, and Detecting High-Risk Individuals on Admission. (D. Uhlenhopp, O. Aguilar*, D. Dai*, A. P. Ghosh, M. Shaw, C. Mitra) *Integrated Pharmacy Research and Practice.* 2020: Pages 195—203, (2020)

[11] A Markovian influence graph formed from utility line outage data to mitigate cascading (K. Zhou, I. Dobson, Z. Wang, A. Roitershtein and A. P. Ghosh) *IEEE Transactions on Power Systems* vol. 35, no. 4, pp. 3224-3235, (2020)

[12] Merging K-means with hierarchical clustering for identifying general-shaped groups. (A. D. Peterson*, A. P. Ghosh, R. Maitra) [Student author listed first] *Stat* Volume7, Issue 1, 2018, e172, `http://onlinelibrary.wiley.com/doi/10.1002/sta4.172/epdf` (2018)

[13] Asymptotically Optimal Control of N-Systems with Many-Server and H_2^* Service Times. (A. P. Ghosh, K. Huang*) *Queueing Systems*, Vol. **86**(1), p. 35-60 (2017)

[14] Iterated Routh's Triangles (E. Carroll*, A. P. Ghosh, X. H. Nguyen and A. Roitershtein) *Journal for Geometry and Graphics* **(21) 2** p. 153–168, (2017)

[15] On the range of the transient frog model on $\mathbb{Z}$. (A. P. Ghosh, S. Noren*, A. Roitershtein) *Advances in Applied Probability.* **49.2**, p. 327-343, (2017)

[16] Discrete-time Ornstein-Uhlenbeck process in a stationary dynamic environment. (A. P. Ghosh, W. Qin*, A. Roitershtein). *Journal of Interdisciplinary Mathematics.* 19 (1): 1–35 (2016)

[17] Colored maximal branching process. (O. Aydogmus, A. P. Ghosh, S. Ghosh*, A. Roitershtein). *Theory of Probability and its Applications.*, 59 (4): 663–672 (2015).

[18] Scheduling control for Markov-modulated single-server multiclass queueing systems in heavy traffic (A. Budhiraja, A. P. Ghosh, X. Liu). *Queueing Systems* 78(1): 57–97, (2014)

[19] A directionally reinforced random walk. (A. P. Ghosh, R. Rastegar*, A. Roitershtein). *Proceedings of the American Mathematical Society.* 142(9): 3269–3283 (2014)

[20] Optimal Rate for a Queueing System in Heavy Traffic with Superimposed On-Off Arrivals (A. P. Ghosh). *Stochastic Models*, Vol.29 (4), 2013, pages 497-517 (2013).

[21] Heavy traffic approximations of a queue with varying service rates and general arrivals. (R.T. Buche, A. P. Ghosh and V. Pipiras). *Stochastic Models.* Vol.28 (1), p. 63–108, (2012).

[22] Controlled Stochastic Networks in Heavy Traffic: Convergence of Value Functions., (A. Budhiraja and A. P. Ghosh). *Annals of Applied Probability*, Volume 22, Number 2, pp 734-791 (2012).

[23] A Two-phase Approximation for Model Checking Probabilistic Un-Bounded Until Properties of Probabilistic Systems (P. Jennings*, A. P. Ghosh and S. Basu). [Authors listed with student first] *Trans. on Software Eng. & Methodology (TOSEM).* Vol. 21, No. 3, Article 18, (2012). `https://dl.acm.org/citation.cfm?doid=2211616.2211621`

[24] An Ergodic Rate Control Problem for Single Class Queueing Networks. (A. Budhiraja, A. P. Ghosh and C. Lee), *SIAM J. Control Optim.* 49, pp. 1570-1606 (2011).

[25] Large deviation bounds for functionals of Viterbi paths. (A. P. .Ghosh, A. Roitershtein, E. Kleiman*). *IEEE Transactions on Information Theory.* Vol.57 (6) p. 3932–3937 (2011).

[26] Random linear recursions with dependent coefficients. (A. P. Ghosh, A. Roitershtein, D. Hay*, V. Hirpara*, R. Rastegar*, A. Schulties*, J. Suh.) *Stat. & Probab. letters.* 80, p. 1597 –1605 (2010).

[27] Optimal buffer size and dynamic rate control for a queueing network with reneging in heavy traffic. (A. P. Ghosh and A. Weerasinghe), *Stochastic Processes & their Appl.* 120, p. 2103-2141. (2010).

[28] Heavy Traffic Analysis of a Simple Closed Loop Supply Chain. (A. P. Ghosh, S. M. Ryan, L. Wang, A. Weerasinghe), *Stochastic Models*, 26: p. 549 – 593, (2010).

[29] Optimal control of a stochastic network driven by a fractional Brownian motion input. (A. P. Ghosh, A. Roitershtein and A. Weerasinghe), *Advances in Applied Probability*, Vol. 42, p. 183-209 (2010).

[30] Growth of preferential attachment random graphs via continuous-time branching processes. (K. B. Athreya, A. P. Ghosh and S. Sethuraman), *Proceedings Mathematical Sciences*, Volume **118**, Number 3 / August, 2008, p. 473-494, (2008).

[31] Optimal buffer size for a stochastic processing network with a drift (A. P. Ghosh and A. Weerasinghe) *Queueing systems*, Volume **55**, Number 3 / March, 2007, p. 147 - 159 (2007).

[32] Diffusion approximations for controlled stochastic networks: An asymptotic bound for the value function. (A. Budhiraja and A. P. Ghosh), *Annals of Applied Probability*,**16**(4), p. 1962-2006 (2006).

[33] A large deviations approach to asymptotically optimal control of crisscross network in heavy traffic. (A. Budhiraja and A. P. Ghosh), *Annals of Applied Probability*, Vol 15, no. 3, p. 1887-1935 (2005).

[34] A simple statistical method for recognition of hand-written numerals. *Calcutta Statistical Association Bulletin*, 54, no. 213-214, p. 81-91 (2003).

(c) Book Chapters (refereed)

[35] Book Chapter: 'Introduction to Diffusion Processes.' *Wiley Encyclopedia of Operations Research and Management Science (EORMS)* (2011).

[36] Book Chapter: 'Backward and Forward equations for Diffusion processes.' *Wiley Encyclopedia of Operations Research and Management Science (EORMS)* (2011).

[37] Heavy traffic methods in wireless systems: towards modeling heavy tails and long range dependence. (R. T. Buche, A. P. Ghosh, V. Pipiras, and J. X. Zhang). *IMA Volumes in Mathematics and its Applications Series, Vol. 143: Wireless Communications, Springer-Verlag.* (Editors: P. Agrawal, D. M. Andrews, P. J. Fleming, G. Yin, and L. Zhang) vol 143, 2007, X, p. 53-74, (2007).

(d) Published Articles in Conference Proceedings (refereed)

[38] Family oral fluids: understanding when and how much to pool. (O. Osemeke, M. Almeida, G. Trevisan, G. Silva, A. P. Ghosh, D. Linhares) National Hog Farmer. Apr 22, 2021

[39] A Statistical Cost-Benefit Analysis for Improving Patient Medication History with the Aid of Pharmacy Technicians. (O. Aguilar*, J. Burge, D. Dai*, A. P. Ghosh, J. Maki, C. Mitra, D. Uhlenhopp, J. Webb) Proceedings of *Society Of Hospital Medicine 2020* Annual Meeting, San Diego, (April 2020),

[40] A Bounded Statistical Approach for Probabilistic Model Checking of Unbounded Until Properties. (R. He, H. Wu, A. P. Ghosh, S. Basu). *The Proceedings of 25th IEEE/ACM International Conf. on Automated Software Engineering, Antwerp, Belgium.* (2010).

[41] Approximate Model Checking of PCTL involving Unbounded Path Properties. (S. Basu, A. P. Ghosh and R. He) *Lecture Notes in Computer Science. Springer Berlin / Heidelberg* Volume 5885, P. 326-346 (2009).

[42] Modeling of available bandwidth of end-to-end paths. (W. Putthividhya, A. P. Ghosh and W. Tavanapong), *Proceedings of IEEE International Symposium on Parallel and Distributed Processing and Applications (ISPA 2008), Sydney, Australia*, p. 27-34 (2008).

[43] Estimating statistical significance of pairwise protein local alignments using a clustering classification approach based on amino-acid composition . (A. Agrawal, A. P. Ghosh and X. Huang), *Bioinformatics Research and Applications: Lecture Notes in Computer Science*, Volume 4983/2008, Springer Berlin-Heidelberg, p. 473-494, (2008).

[44] Heavy traffic limits in a wireless queueing system with long range dependence (R. T. Buche, A. P. Ghosh and V. Pipiras), *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007, p. 4447–4452 (2007).

(e) Softwares:

[45] *PRISM-U2B.* (S. Basu, A. P. Ghosh, R. He and P. Jennings). A tool that extends (using the method in [41]) the scope of the PRISM model-checker (`http://www.prismmodelchecker.org/`) for estimating probability for satisfying unbounded until PCTL properties.
`http://www.cs.iastate.edu/~sbasu/pmck/`

(f) Unrefereed Publications:

[46] Statistical Verification and Validation of an Energy-Balanced Model for Data Transmission in Sensor Networks. (N. V. Subramanian and A. P. Ghosh), *ISU Comp. Science Technical Report*, (2007).

(VI) **Honors and Awards:**

(a) Grants (Received):

(1) *Online Course Development Grant* (2019) from the college of Liberal Arts and Sciences at Iowa State: for redevelopment of Stat 305 online $9000.

(2) Simons Foundation: Collaboration Grant for Mathematicians: *Stochastic modeling & analysis of networks.* (PI). $42K, (Sept. 2018 - Aug. 2022).

(3) *Online Course Development Grant* (2017) from the college of Liberal Arts and Sciences at Iowa State: for update of Stat 105 and 305 online course $8000.

(4) *Online Course Development Grant* (2015) from the college of Liberal Arts and Sciences at Iowa State: for conversion of Stat 105 as an online course $9000.

(5) *Online Course Development Grant* (2013) from the college of Liberal Arts and Sciences at Iowa State: for conversion of Stat 226 as an online course $9000.

(6) *Faculty Professional Development Assignment (FPDA) Grant:* Fall 2012.

(7) *Online Course Development Grant* (2011) from the college of Liberal Arts and Sciences at Iowa State: for conversion of Stat 305 as an online course $9000.

(8) *IMA Participating Institutions (PI) Conference Proposal (2009)* for organizing Ames Symposium in Probability and Statistics, (in honor of Krishna B. Athreya) September 18-19, Ames, Iowa, 2009, $3000.

(9) NSF Proposal DMS-0608634 (2006): *Collaborative Research: Heavy Traffic Limit Models and Control Analysis for Wireless Queueing Systems - Incorporating Long Range Dependence and Heavy Tails.* I am the PI on this grant, with my part being $191064, Sept 2006 - Aug 2010. Other Collaborators R.T. Buche (NC state) and V. Pipiras (UNC-Chapel Hill)).

(b) Awards:

(1) *#CyThX Honoree for Teaching (2020)*
`https://www.celt.iastate.edu/2021/09/16/cythx-teaching-spotlight-arka-ghosh`

(2) *LAS Award for Early Achievement in Research* (2011), Iowa State University.

(3) Nominated for the *LAS Award for Early Achievement in Teaching* (2009) from the department of Statistics, Iowa State University.

(4) *Bose-Nandi Award* (2005). For the best paper in Applied Statistics in Calcutta Statistical Association Bulletin for the publication [34]. (Calcutta Statistical Association).

(5) *Laha Award* (2005). To attend the Joint Statistical Meetings/IMS Annual Meeting. (Institute of Mathematical Statistics)

(6) *Excellence in Teaching Award* (2004). For undergraduate teaching (Department of Statistics and Operations Research, University of North Carolina, Chapel Hill).

(7) *SAMSI Graduate Student Fellowship* (2003-2004). Research fellow in the program of "Network Modeling for the Internet" in Statistical and Applied Mathematical Sciences Institute (SAMSI), North Carolina.

(8) *Wassily Hoeffding Fellowship* (2001). For best performance in the first year of PhD program (Statistics Dept., University of North Carolina, Chapel Hill).

(9) *Prasanta Chandra Mahalanobis Gold Medal* (2000). For most outstanding student in M-Stat program (Indian Statistical Institute, Kolkata, India).

(VII) **Presentations:** [Presentations by co-authors are not listed]

(a) Invited:

(1) Tulane Mathematics Colloquium, Tulane University, New Orleans, LA (April 2019).

(2) Mathematics Colloquium, Illinois State University, Normal, IL (April 2019).

(3) Department Seminar, Theoretical Statistics and Mathematics Unit, Indian Statistical Institute - Delhi (Jan 2019).

(4) Monday Colloquium, Theoretical Statistics and Mathematics Unit, Indian Statistical Institute - Kolkata (Jan 2019).

(5) Tenth lnternational Triennial Calcutta Symposium on Probability & Statistics, Kolkata, India. (Dec. 2018)

(6) Annual meeting of International Indian Statistical Assoc.(IISA), Univ. of Florida, Gainsville (May 2018)

(7) Annual meeting of International Indian Statistical Assoc.(IISA), Hyderabad, India, (Dec 2017)

(8) 2017 INFORMS Annual Meeting, Houston, TX (Oct. 2017)

(9) Annual meeting of International Indian Statistical Association (IISA), Oregon State University, Eugene, Oregon (Aug. 2016).

(10) Department Colloquium, Department of Statistics and Applied Probability, National University of Singapore, Singapore. (Jan. 2016).

(11) Ninth International Triennial Calcutta Symposium on Probability & Statistics, Calcutta, India. (Dec. 2015).

(12) INFORMS Applied Probability Society (APS) meeting in Istanbul, Turkey (July 2015)

(13) International Statistics Conference, 2014, Colombo, Sri Lanka (IASSL) (Dec 2014) (could not attend)

(14) Annual meeting of International Indian Statistical Association (IISA), Univercity of California, Riverside, CA (July 2014)

(15) INFORMS Annual Meeting, Minneapolis (Oct. 2013)

(16) INFORMS Applied Probability Society (APS) conference, San Jose, Costa Rica (Jul. 2013)

(17) Special Session: Stochastic Processes with Applications to Physics and Control, AMS Sectional Meeting, Ames, IA (Apr. 2013)

(18) The International Conference on the Theory, Methods and Applications of Nonlinear Equations, Texas A&M, Kingsville (Dec. 2012) (could not attend)

(19) Eighth International Triennial Calcutta Symposium on Probability and Statistics, Kolkata, India (Dec. 2012).(could not attend)

(20) The Intern'l Workshop in Applied Probability, Jerusalem,Israel (June 2012). (could not attend)

(21) American Mathematical Society's Regional Meeting, University of Kansas, Lawrence, Kansas (March 2012)

(22) Guest lecture, Kaplan University, Des Moines, Iowa (May 2011).

(23) IISA Conference on Probability, Statistics, and Data Analysis, North Carolina State University, Raleigh, North Carolina (Apr. 2011).

(24) Statistics seminar, Dept. of Statistics, Univ. of Missouri, CO, (Mar. 2011).

(25) The First International Conference on Theory and Applications of Statistics, Dhaka University, Bangladesh (Dec. 2010).

(26) Statistics Colloquium, Department of Statistics, Texas A&M University, (Feb. 2010).

(27) International Conference on Statistics, Probability, Operation Research, Computer Science and Allied Areas, Visakhapatnam, India (Jan. 2010).

(28) Department Colloquium, Department of Mathematics, Tulane University, New Orleans, LA (Nov. 2009).

(29) Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting 2009, San Diego CA, (Oct. 2009).

(30) Statistics seminar, Department of Statistics, Colorado State University, (Oct. 2008).

(31) International Symposium on the Mathematical Theory of Networks and Systems (MTNS 2008), Virginia Tech., Blacksburg, VA, (July-Aug., 2008).

(32) International conference on Recent Advances in Probability, Indian Statistical Institute, Calcutta, India (part of the institution's Platinum Jubilee (75th year) celebration). (Dec. 2007).

(33) Probability/Comp. Finance seminar, Department of Mathematical Sciences, Carnegie Mellon University. (Oct. 2007).

(34) The 14th Applied Probability Society of Institute for Operations Research and the Management Sciences (INFORMS) Conference, in Eindhoven University of Technology & EURANDOM, Eindhoven, Netherlands. (July 2007).

(35) Spring Colloquium, Department of Statistics and Actuarial Sci., Univ. of Iowa. (Feb. 2007).

(36) Seminar, Statistical Sciences Group, Los Alamos National Laboratory. (Jan. 2007).

(37) Seminar, Theoretical Statistics and Mathematics Unit, Indian Statistical Institute, Calcutta, India (June 2006).

(38) 12th International Conference on Statistics, Combinatorics, Mathematics and Applications (SCMA), Auburn University. (Dec. 2005).

(39) Invited Seminar, Dept. of Statistics, Iowa State University, Ames, IA (Feb. 2005).

(40) Invited Seminar, Dept. of Statistics, University of Michigan, Anna Arbor, MI (Feb. 2005).

(41) Invited Seminar, Dept. of Statistics, University of South Carolina, Columbia, SC (Jan. 2005).

(b) Contributed:

(1) The Fifth International Workshop in Applied Probability, Madrid, Spain (July 2010).

(2) Statistical modelling and inference for networks (Statworks), Bristol, UK (June - July 2010).

(3) Conference on Stochastic Processes & their Applications, Berlin, Germany (July 2009).

(4) Probability at Warwick Workshop (P@W, 2009), Warwick University, U.K. (July 2009).

(5) Conference on Stochastic Processes and their Applications, UIUC. (July 2007).

(6) 6th International Triennial Calcutta Symp. on Probability & Stat, Calcutta, India. (Dec. 2006).

(7) Conference on Stochastic Processes & their Applications, Paris, France. (July 2006).

(8) Joint Statistical Meeting, Minneapolis. (Aug. 2005).

(9) Conference on Stochastic Processes & their Applications, Santa Barbara (July 2005).

(10) Joint Statistical Meeting, San Francisco. (Aug. 2003).

(11) Workshop on Congestion Control and Heavy Traffic Modeling, Statistical and Applied Mathematical Sciences Institute (SAMSI) (2003).

(12) 5th International Triennial Calcutta Symp. on Probab. & Stat., Calcutta, India. (Dec. 2003).

(VIII) **Service:**

(a) Editorial Work:

(1) *Managing Editor (2010-2017) of Stochastic Systems:*
Stochastic Systems is a new open-access online journal of the Applied Probability Society (APS) of the Institute for Operations Research and the Management Sciences (INFORMS) and the Institute of Mathematical Statistics (IMS). (`http://www.i-journals.org/ssy/`)

(b) Conferences Organization and other service to the discipline:

(1) Reviewer for XLRI, Jamshedpur (india) for QS Global University Rankings (2021)

(2) Young statistical scientist award committee *International Indian Statistical Assoc.*, (2021)

(3) Organizer (& chair) of the session on Queueing Networks, Judge for student poster competetion. *Annual meeting of International Indian Stat. Assoc.* , Hyderabad, India (Dec 2017)

(4) Organizer of a session on Modeling and Analysis of Queueing Systems, *Annual meeting of International Indian Statistical Assoc. (IISA)*, Oregon State Univ, Eugene, Oregon (Aug. 2016).
(5) Chair of the session on Stochastic Systems in *INFORMS Applied Probability Society (APS) meeting* in Istanbul, Turkey (July 2015)
(6) Organizer (and chair) of the session on Queueing Networks, *Annual meeting of International Indian Statistical Association (IISA)*, Riverside, CA (July 2014)
(7) Organizer, Session Chair, *AMS Sectional meeting* in Ames, IA (April 2013)
(8) Organizer, *Ames Symposium of Probability and Statistics (ASPS)*, Ames, Iowa (Sept. 18-19) sponsored by IMA, Departments of Statistics, Mathematics, Economics, Computer Science, College of Arts and Sciences and the Provosts office of Iowa State University. (Sept 2009).
(9) Session Chair, Invited Session on Statistical theory and methods, *Conference Celebrating the 75th anniversary of the Statistical Laboratory*, Department of Statistics and Statistical Laboratory, Iowa State University, Ames IA, (June 2009)
(10) Chair of the Contrib. Program, *Spring Research Conference (SRC)*, Ames, Iowa, (May, 2007).

(c) University/College Committees:

I have been in the these committees in the College of Liberal Arts and Sciences (LAS) at ISU:

2013-2016	Representative for the Statistics department in the *LAS Assembly*.
2010-2013	Representative for the Statistics department in the *LAS Assembly*.
2011-2012	Executive Committee of the LAS Assembly.

(d) Departmental Committees:

Strategic Planning/External Review Committee	'05
MS/Ph.D Prelim Exam Committee	'06, '07, '08, '09, '16, '17, '18
Admissions Committee	'06, '07, '08
Graduate Committee	'09
Curriculum Committee	'09
Question Writer for MS/Ph.D Exams	'07, '09, '10, '11, '13, '14, '16, '18
Seminar Chair	F'10, S'13, F'15, F'19
Local Conferences Committee	'09
Snedecor Hall Renovation Committee	'07, '08
Library Committee	'05, '06
Faculty Search Committee	'12 (sub), '13, '14(Chair), '18(Math)
Undergraduate Committee	'13, '15, '16, '17, '18, '19
Promotion and Tenure	'14(Math), '16(Math)
Online education coordinator	'14, '15, '16, '17, '18, '19
Online Course Coordinator & Canvas/CELT Liaison	'20, 21
Committee on Instruction	'14
Snedecor reopening committee (COVID 19)	'20
LAS working group #4 (COVID 19)	'20
Inclusive Classroom coordinator for Stat	'21
Professional Masters Comm.	'21 (Chair)
Webpage Comm.	'21

(e) Refereeing for Journals/Conferences:

• *Annals of Applied Probability*, • *Queueing Systems*, • *SIAM Journal on Control and Optimization*, • *Electronic Journal of Probability*, • *Journal of Applied Probability*, • *Electronic Communications in Probability.* • *Statistical Methodology*, • *Mathematics of Operations Research*, • *Operations Research*, • *Sankhyā (Series A)*, • *Acta Applicandae Mathematicae*, • *The American Statistician*, •

Computers & Operations Research, • *Journal of Statistical Planning and Inference*, • *NSA Mathematical Sciences Grants Program*, • *2008 American Control Conference (Seattle, Washington).* • *Nonlinear Analysis: Hybrid Systems.*• *Stochastic Systems* • *Netherlands Organisation for Scientific Research (NWO) – the Dutch Research Council* • *Mathematical Reviews* • *Stochastic Processes and Their Applications*, • *SIAM Journal on Control and Optimization (SICON)*, • *Israel Science Foundation Grant (ISF)* • *Mathematical Reviews/MathSciNet* • *Communications in Statistics, Computers & Industrial Engineering*

(f) Membership in Professional Organization:

(1) *Institute of Mathematical Statistics (IMS).* Member since 2000, (Life-)member since 2008.

(2) *American Statistical Association (ASA).* Member since 2000.

(3) *Society for Industrial and Applied Mathematics (SIAM).* Member since 2005.

(4) *Applied Probability Society (APS)* - subdivision of *Institute for Operations Research and the Management Sciences (INFORMS)*: Member since 2007.

(5) *Calcutta Statistical Association (CSA).* (Life-)member since 2006.

(6) *International Indian Statistical Association (IISA).* (Life-) member since 2009.

(g) Synergistic Activities:

(1) Member of the Board of Trustees: *Creative Artists Studio of Ames.* 2021-

(2) Faculty advisor (Student Org): *Bangladesh Student Association.* 2021-

(3) Mentor for F. Sabzikar (Assistant Prof., Stat). 2017-2019.

(4) Faculty advisor (Student Org): *Bangladeshi Comm. of Iowa State Univ. (BCISU).* 2009-2016.

(5) Faculty mentor for the *Research Experiences for Undergraduates (REU)* program sponsored by the NSF, organized by the Math. & Statistics Departments of Iowa State, (Summ. '09).
The final project has been submitted for publications and listed as [26] in the publication list.

(6) Faculty mentor of V. Kalivarapu in the *Preparing Future Faculty (PFF)* program by Center for Excellence in Teaching (CELT) in Iowa State (Fall 2007).