

Tapan P Bagchi

Personal Information

- Date of Birth : February 4, 1946
- Marital Status : Married
- Nationality : Indian
- E-mail id : tapan.bagchi@nmims.edu tapan_bagchi@yahoo.com

Work Experience

Director, [NMIMS, Shirpur Campus](#), July 2011 onward

Professor, Vinod Gupta School of Management and Dept of Industrial Management & Engineering, [IIT Kharagpur](#), Superannuated, July 2008 – July 2011

Director, Research & Technology, NDS InfoServ, Mumbai, January – December 2007;
Concurrently Adjunct Professor, IE&OR, [IIT Bombay](#) and SP Jain Institute of Management & Reserch, Mumbai, January 2007 – June 2008

Special Assignments on Deputation from IIT Kanpur

- Senior Professor and Head, OM and Centre of Project Management, [SP Jain Institute of Management & Research](#), Mumbai, February 2006 – January 2007
- Dean, [SP Jain Center of Management](#), Dubai, May 2005 – February 2006
- Director, [National Institute of Industrial Engineering](#) (NITIE), Mumbai
 - Two and a half years as Director of a b-School ranked 6th in India in 2004

Twenty years as full professor ([IIT Kanpur](#), [University of Toronto](#), and [University of Texas in Dallas](#))

- Founding Chairman, IIT Kanpur MBA program: Faculty recruitment, Student selection, Curriculum and program development, and Fund raising
- UG/PG/MBA teaching and research in Industrial Engineering and Operations Management, Computing, IT/MIS, Database Design, Software Engineering, OR/Management Science, Applied Statistics, Genetic Algorithms, Low Earth Orbit Satellite Task Scheduling, and War Gaming
- Chair of the Department; Head Institute Student Counseling Service; Chair Senate Library Committee; Chair Senate Scholarship Committee
- Completed three sponsored R&D projects and authored six books

Courses taught included Operations and IT management, Digital Simulation, Decision Analysis including AHP and Statistical Decision Theory, Probability and Statistics, Database Design, Computational Methods in Optimization, Genetic Algorithm applications in Management Science; SPC, TQM/ISO 9000/QS 9000/Six Sigma, and Taguchi Methods; Designed and taught seven UG/PG/MBA courses

Sixteen years with EXXON-Mobil Corp. New York

- Engineering/R&D/Manufacturing manager and staff corporate planner. Direct responsibility for developing production and investment stewardship for EXXON's 600 kton/yr specialty product line running 12 plants worldwide
- Located business opportunities and initiated two new production ventures. Introduced IT in planning, materials management, and quality management

Academic Experience

NMIMS Shirpur, July 2011 Onward

- Campus Director on contract at NMIMS Deemed to be University's Shirpur Campus, Complete Academic and Administrative duties overseeing a 50-acre residential campus with UG/PG engineering and pharma schools enrolling 1700 students and 104 faculties. *Institution building* is the objective.
- Faculty strength upped by 60% in two years; Mechanical Workshop and Language Lab commissioned; BOSCH Automation Centre of Excellence erected; Initiated over twenty faculty development workshops. Major push on teaching excellence and research by faculty. Introduced Outcome-based Session Plans in teaching and Synoptic Answers for test evaluation.
- Publish 2-3 research papers/year in international journals; Lectures on [Youtube](#)[®].

IIT Kharagpur, July 2008 - July 2011

- Jointly appointed Professor, Vinod Gupta School of Management and Department of Industrial Engineering & Management
- Designed a new Five-year Integrated B Tech-M Tech program for IIT Kharagpur on *Quality Engineering, Design, and Manufacturing*; Obtained Senate's approval; Raised funds from industry and installed a Chair; Program launched in 2011

IIT Bombay, January 2007 - June 2008

- Adjunct Professor, Industrial Engineering & Operations Research

SP Jain Institute of Management & Research, Mumbai, India 2005-2007

- Senior Professor and Head, OM and Centre of Project Management, SP Jain Institute of Management & Research, Mumbai, February 2006 - January 2007
- Dean, SP Jain Centre of Management, Dubai, May 2005 - February 2006

National Institute of Industrial Engineering (NITIE), Mumbai, India 2002 - 2005

Director

- Complete administration of a nationally acclaimed post graduate b-school graduating 135 MBA, 90 M Tech (industrial engineering) and 3 Ph D equivalents yearly. Faculty strength 49; total employees administered 384. Academic, program and personnel administration, recruitment, personnel development, facilities planning, budgeting, and estate management for 1500 campus residents. Major initiatives in students' enrollment expansion, academic rejuvenation, research publications and infrastructure upgradation.

Indian Institute of Technology Kanpur, India 1987 - 2002 onward on deputations

Professor of Industrial and Management Engineering

- UG and PG teaching/research in applied probability and statistics, production management, managerial economics, decision analysis, management information systems, database design, simulation, SQC, design of experiments, and Taguchi Methods. Designed five new UG/post graduate courses over nine years.
- Developed three business cases on quality practices in Indian auto parts industry
- Provide consultancy services and in-plant Training to industry in statistical methods in Six Sigma, TQM/ISO 9000, plant simulation, SPC and MIS/IT
- Arrange and supervise industry internship for Indian and foreign engineering students in leading Indian industries

Concurrently Chair of the Department 1998-2000

- Recruited new faculty and raised Department's strength by 80% in three years
- Launched a new 2-year academic degree program, the technology-endowed IIT Kanpur MBA
- Initiated distance learning through Web-based and other tools; produced prototype lectures for e-broadcast by the Institute; taught through WebCT
- Formulated new research based on pedagogical issues in learning through the e-media
- Formalized Annual Departmental Plans, Budget development and administration; Expanded Lab and infrastructure; Budget raised by over 150% in three years
- Administered Institute's academic and personnel policies, Pushed for increased publications by faculty and students
- Conducted strategy studies/SWOT sessions involving faculty, administration, alumni and industry leaders to help position Department as a front-runner in technology, IT and manufacturing management teaching

Concurrently Head, Institute Counseling Service 1989-90

- Institute In-charge of student counseling on academic, adjustment and placement
- Headed a body of 44 faculty counselors and 75 student guides

- My mission was to provide counsel in distress/despair and career choices, and to nurture, discuss, and develop the students' interests, potential, and aspirations

University of Texas at Dallas, School of Management, USA, 2001-02

- Led MBA and Ph D seminars in Operations Mgmt, MIS and Mgmt of Quality.
- Developed WebCT-based instructional material and a complete distance-learning package on the management of quality; Tested electronic curricula

Hebrew University, Jerusalem, Israel, 1997

Adjunct Professor, Center for Quality Sciences

- My mission was to initiate collaboration between the host and IIT Kanpur
- Supervised R&D initiatives in TQM and product design by Taguchi methods
- Provided consultancy to food industry aspiring to export to Europe

University of Toronto, Toronto, Canada, 1994 - 95

CLTA Full Professor in Industrial Engineering

- UG/PG teaching in Decision Analysis/Game Theory, OM, IT and Simulation

Asian Institute of Technology, Bangkok, Thailand, Fall 1989

- PG teaching in IT – MIS and Simulation
- Led a team of six multinational faculty to establish the MBA program at AIT Bangkok; Designed curricula/courses and initiated teaching in IT and MIS

Academic Profile

Doctor of Science, Quality Engineering,

IEM IIT Kharagpur, March 2012,

Thesis: *“Selected Topics in Quality Engineering”*

Chair of Doctoral Scrutiny Committee: Professor Damodar Acharya

Certificate in Decision and Risk Analysis

Massachusetts Institute of Technology, Cambridge, USA, July 1982

Guided by Professors Ralph L Keeney and Alvin R Drake (MIT)

Post Doctoral research in Industrial Engineering

University of Toronto, Canada, November 1971 - November 1972

Doctor of Philosophy, Industrial Engineering

University of Toronto, Toronto, Canada, October 1971,

Thesis: *“Contributions to the Theory of Bulk Queues”*,

Supervisor Prof JGC Templeton Ph D (Princeton)

University of Toronto Open Fellow

Master of Applied Science, Industrial Engineering,
University of Toronto, Toronto, Canada, June 1969,
Thesis: "*Performance of Production Lines with Buffer Stocks*",
Supervisor Prof John Buzacott Ph D (Birmingham)
University of Toronto NSERC Scholar

Bachelor of Technology, Mechanical Engineering (5-year program),
Indian Institute of Technology, Kanpur, India, June 1967,
B Tech Project: *Design, fabrication, and critical appraisal of an unconventional
energy conversion device: A Thermoelectric Refrigerator*,
Class rank: Top tenth; IIT JEE AIR in 1962: 52
Merit Scholar

Awards & Achievements

- Best Paper Award, International Conference on Economics & Financial Management, IISRO 2013, Dubai
- Outstanding Teacher Citation at NMIMS Shirpur, 2013
- Outstanding Scholar Citation at NMIMS Mumbai's 2012 Convocation
- Best Technical Paper Award, Institution of Engineers (India), 1997 and 2000
- Director's Citation, Outstanding Undergraduate Tutorship in Manufacturing Processes, IIT Kanpur, 1996
- APUS Outstanding Teaching Nomination for UG teaching in Decision Analysis, University of Toronto, 1995
- P C Mahalonobis Plaque, Int'l Conf. on Quality Engineering, Bangalore 1993
- Plaque, North India Regional Chapter of Cost Accountants, 1989
- Certificate, National Center for Citizen Involvement, Washington, DC for Outstanding Volunteer Service, 1982
- Extraordinary Contribution Award, EXXON (PARAMINS) 1980
- University of Toronto Open Fellow, 1970; NSERC Research Award 1967 & 1969.
- Merit Scholar, IIT Kanpur, 1963 and 1965; High School 1960
- Gold Medal for standing first in High School Examination Center, 1960

Publications

Books

1. "[Multiobjective Scheduling by Genetic Algorithms](http://www.wkap.nl/book.htm/0-7923-8561-6)", Kluwer Academic Publishers Boston 1999, ISBN 0-7923-8561-6, <http://www.wkap.nl/book.htm/0-7923-8561-6>
2. "ISO 9000: Concepts, Methods, and Implementation", Wheeler Publishing, New Delhi, 1996, second edition, ISBN 81-85814-24-4.
3. "Taguchi Methods Explained: Practical Steps to Robust Design", Prentice-Hall India Ltd., 1992, ISBN 0-87692-808-4.

4. "Interactive Relational Database Design: A Logic Programming Implementation", Springer-Verlag New York, 1989, ISBN 3-540-51881-9.
5. "Statistical Methods & Inspection Techniques in Quality Control: An Introduction", ISTE Govt. of India (MHRD), 1989.
6. "Numerical Methods in Markov Chains and Bulk Queues", Springer-Verlag, New York, 1972, ISBN 3-540-05996-2.

Chapters in Books

1. "Analytics in Quality Assurance—The Global Trend" in *An Application on Computational and Financial Econometrics*, Ed. R P Pradhan, Bloomsbury, London, 323-331, 2013.
2. "Statistical Process Control" in Indira Gandhi Open University's Distance Education program on TQM, 2000.
3. "Cost of Quality", *Encyclopedia of Industrial Engineering*, U Cincinnati, 1998.
4. Chapter 11 in *Modeling and Analysis of Large Systems*, A Tripathy, Oxford & IBH, 1991.
5. Chapter III C in *Challenges of Change in Engineering*, G K Lal and L P Singh, Tata McGraw-Hill, 1990
6. Chapter on Heat & Mass Transfer, *Recent Advances in Chemical Engineering*, D N Saraf and D Kunzru, Tata McGraw-Hill, 1989

Digital Portals Created

NPTEL II IIT Kharagpur, 40-session [Video lectures on Six Sigma](#), available on [Youtube.com](#)

NPTEL I IIT Kharagpur, 26-session Video lectures on Project Management

A Web portal containing e-notes and PDF files on the management of quality including exercises, lecture slides, objective tests, and hyperlinks to key references, 2002; contents cover material to pass Six Sigma black belt and AQC certification (2002); Plans are under way to make this portal available to all Indian academic institutions and interested industry and to help conduct on-line tests

Recent Professional talks delivered

1. Justifying Six Sigma in Manufacturing (2013)
2. Macroeconomic Modeling of India's Domestic Air Travel Demand (2008)
3. LEO Satellite Task Support using Genetic Algorithms (2005)
4. Workspace Design and Knowledge Worker Productivity (2004)
5. Multiobjective Robust Design (2001)
6. Frontiers of Modern Management (2001)

Recent Refereed Papers

1. Bagchi, Tapan P (2014). Bayesian Design of Inventory Systems to Minimize Expected Operating Costs, *Journal of Management Policy and Practice*, (Accepted).
2. Bagchi, Tapan P, Rahul Samant and Milan Joshi (2014). SVM Classifiers based on Imperfect Training Data, *MESA Journal*, (Accepted).
3. Bagchi, Tapan P (2013). [Working Capital and Profitability – Establishing the Causality](#), *Journal of Accounting and Management*, Vol 3(2), pp. 27-52.
4. Bagchi, Tapan P (2013). How Working Capital Impacts Profitability, (Communicated).
5. Bagchi, Tapan P (2013). [Refining AI Methods for Medical Diagnostics Management](#), *NMIMS Management Review*, Vol XXIII, Oct-Nov, 67-90.
6. Bagchi, Tapan P (2013). Impact of Imperfect Training on SVM Classifiers, (Communicated to *ACM Transactions on Intelligent Systems and Technology*).
7. Bagchi, Tapan P (2013). Bayesian Design of Retail Inventory Policy for ERP-based Supply Chains, *Techno-Path: Journal of Science, Engineering and Technology Management*, (Accepted).
8. Bagchi, Tapan P (2013). Impact of Defective Training on SVM Classifier Design, (Communicated to *Logistics and Supply Chain Management Journal*).
9. Bagchi, Tapan P (2013). Defect Reduction Justification by Quantifying Hidden Costs in Bearing Production, *IJOQM*, Vol 19(1), 1-23.
10. Pradhan, R P and Tapan P Bagchi (2013). [Effect of Transportation Infrastructure on Economic Growth in India: The VECM Approach](#), *Research in Transportation Economics*, Elsevier, 38, February, 139-148.
11. Pradhan, R P, Tapan P Bagchi, Khorshed Chowdhury and Neville R. Norman (2013). [Growth, Foreign Investment and Trade-Openness Interactions in Ten OECD Countries: A Panel-VAR Approach](#), *Int. J. of Banking, Accounting and Finance*, Inderscience, Vol 4(4), 273-293.
12. Pradhan, R P and Tapan P Bagchi (2012). [Economic Growth and Health in India: A Panel Cointegration Assessment](#), *International Journal of Healthcare Technology and Management*, Inderscience 13(4), 223-241.
13. Bagchi, Tapan P (2012). [Justifying Six Sigma Projects in Manufacturing Management](#), *NMIMS Management Review*, Vol XXII, April-May, pp. 73-96.
14. Bagchi, Tapan P (2012). Defect Reduction Justification by Quantifying Hidden Costs in Bearing Production, *IJOQM*, March 2012, Vol 18(1), pp. 1-23..
15. Pradhan, Rudra and Tapan P Bagchi (2011). [The Expenditure-GDP Nexus: Evidence from a Panel of SAARC 7 Countries](#), *International Journal of Public Policy* (Accepted).
16. Bagchi, Tapan P and H Bharat Kumar (2011). A Solution Approach for the Resource Constrained Time-Resource Crashing Project Scheduling Problem, *ICIF Proceedings*, Vol 1, 1-18.

17. Lasrado, Flavy and Tapan P Bagchi (2011). [A Cross-Cultural Evaluation of the Contemporary Workplace and its Managerial Implications](#), *International Journal of Business, Management and Social Sciences*, Vol 2 (1), 1-15
18. Bagchi, Tapan P (2010). Statistical Models for Software Defects and Testing Strategies, (Accepted) *OPSEARCH*
19. Bagchi, Tapan P (2010). [A Note on Risks in Software Development with Imperfect Testing](#), *OPSEARCH*, April 06 2011 (Springer)
20. Bagchi, Tapan P and Flavy Lasrado (2010). A Cross-cultural Evaluation of Contemporary QWL and its Managerial Implications, 7th AIMS International Conference on Management, *Proceedings*
21. Bagchi, Tapan P (2009). [Risks in Software Development with Imperfect Testing](#), *Int. J. Advanced Operations Management*, 1(1), 1-29
22. Bagchi, Tapan P (2009). [Models for Software Defects and Testing Strategies](#), *ACM SIGSOFT Software Engineering Notes*, Vol 35 (2), 1-4
23. Bagchi, Tapan P (2009). [Near Optimal Ground Support in Multi-Spacecraft Missions: Model Development and Results](#), *IEEE Transactions on Aerospace and Electronic Systems*, Vol 45 (3), 1-14.
24. Mishra, Sanjeev and Tapan P Bagchi (2008). Robust Design of Failure-prone FMSs (submitted).
25. Mishra, Sanjeev and Tapan P Bagchi (2008). Modeling of Failure-prone FMSs using Closed Queuing Network (submitted).
26. Mishra, Sanjeev and Tapan P Bagchi (2008). Modeling of Failure-prone FMSs using Closed-Loop Production Lines (submitted).
27. Mishra, Sanjeev and Tapan P Bagchi (2008). Modeling of Failure-prone FMS using Disaggregation and Aggregation Technique (submitted).
28. Bagchi, Tapan P, Narayan Rangaraj and Manik Bahadur (2008). An Econometric Forecast of India's Domestic Air Travel (in review)
29. Bagchi, Tapan P (2006). [Information Asymmetry – The Case of Guerrilla Combat](#), *International Journal of Operations and Quantitative Management*, December.
30. Maiti, Rina and Tapan P Bagchi (2006). [Effect of Different Multipliers and their Interactions during Manual Lifting Operations](#), *International Journal of Industrial Ergonomics*, June, 36 (11). pp. 991-1004.
31. Bagchi, Tapan P, J N D Gupta and Chelliah Sriskandarajah (2006) "[A Review of TSP Based Approaches for Flowshop Scheduling](#)," *European J. of Operations Research*, 169 (3), 816-854
32. Bagchi, Tapan P, Sanjay Kumar, Garima Shahi, Sagar R Kapse (2004) "LEO Spacecraft Task Scheduling by AI-Based Search," *International Journal of Industrial Engineering: Theory, Applications and Practice*, Vol 1, pp. 5-13, March
33. Bagchi, Tapan P, Sanjay Kumar, Garima Shahi, Sagar R Kapse and P Soma (2003) "Optimal Spacecraft Support in Remote Sensing Missions," *OPSEARCH*, September, 40 (3), 152-179

34. Bagchi, Tapan P, Sanjeeva Naranpanawe and Chelliah Sriskandarajah (2003) "A Blocking Flowshop Scheduling Problem with Material Handling Constraint", *International Journal of Quality Management*, March, 1-20
35. Bagchi, Tapan P (2003) "[Multiobjective Robust Design by Genetic Algorithms](#)", *Materials and Manufacturing Processes*, 18 (3), 341-354.
36. Bagchi, Tapan P, Eitan Naveh (2002) "Toward a Competence in Agility", *J. Agile Manufacturing*, April
37. Bagchi, Tapan P (2001) "[Pareto-Optimal Solutions for Multi-objective Production Scheduling Problems](#)," *Proceedings, International Conference on Evolutionary Multicriteria Optimization*, 2001, Zurich, Lecture Notes in Computer Science, Springer, ISBN 3-540-41745-1
38. Bagchi, Tapan P, Raman, Krishan and Sharma, Puneet (2000) "Multiobjective Robust Design of Electronic Devices", *OPSEARCH*, Vol 37, No. 3, 191-203
39. Jain, Nitin, Bagchi, T P and Wagner, Edouard (2000) "Flowshop Scheduling by Hybridized GA: Some New Results", *Int'l Journal of Industrial Engineering*, Vol 7, No. 3, 213-223
40. Kumar, Subodha, Bagchi, T P and Sriskandarajah, C (2000) "[Lot Streaming and Scheduling Heuristics for m-Machine No-wait Flowshops](#)", *Computers and Industrial Engineering*, 38, 149-172
41. Craffa, V, Ianes, S, Bagchi, T P and Sriskandarajah, C (2000) "Minimizing Makespan in a Blocking Flowshop using Genetic Algorithms", *IJP Economics*
42. Bagchi, T P (1999) "Global Competitiveness: Cost of Quality Provides all the Measures", *IE(I) Journal-PR*, Vol. 80, May
43. Bagchi, T P and V K Jain (1998) "Competitiveness and Total Quality Management: The Synergy is no Surprise", *International Journal of Industrial Engineering*, 5(3)
44. Bagchi, T P and Shu Lin (1997) "Factorial Design Applications in Sensitivity Analysis", *OPSEARCH*, Vol. 34, No. 4
45. Bagchi, T P (1997) "Total Quality Management: The Tools and Implements", *IE(I) Journal*, Vol 78, May
46. Bagchi, T P (1996) "Total Quality Management: The Mindset", *IE(I) Journal*, 77
47. Bagchi, T P and Kalyanmoy Deb, (1996). Calibration of GA Parameters: The Design of Experiments Approach, *Computer Science and Informatics*, Vol. 26, No. 3.
48. Bagchi, T P and J G C Templeton, (1994) "Multiple Criteria Robust Design using Constrained Optimization", *J. Design and Manufacturing*, Vol 4
49. Bagchi, T P and J G C Templeton, (1993) "Constrained Optimization: An Effective Alternative to Taguchi's Two Steps to Robust Design", *OPSEARCH*, Vol 30, No. 3
50. Bagchi, T P and Madhu Ranjan Kumar, (1993) "Multiple-criteria Robust Design of Electronic Devices", *J. Electronic Manufacturing*, Vol 3
51. Bagchi, T P (1992) "Sequential Tests to monitor Lot Attribute Quality in the presence of Inspection Errors", *OPSEARCH*, Vol 29, No. 3
52. Bagchi, T P and J G C Templeton, (1992) "Numeric Sensitivity of Dodge's CSP-1 Plan to Inspection Errors", *Institution of Engineers (India) Journal*, July

53. Bagchi, T P (1992) "Inspection Errors and Consumer and Producer Risks", *OPSEARCH*, Vol 29, No. 2
54. Rahul Singh and T P Bagchi (1992) "Decision Theoretic Derivation of Sampling Plans", *Industrial Engineering Journal (India)*, Vol XXI, No. 3, March
55. Bagchi, T P (1991) "Impact of Inspection Errors on Consumer and Producer Risks in Sequential Sampling", *Industrial Engineering Journal (India)*, Vol XX, No. 10.
56. Bagchi, T P (1991) "Use of Large-Scale Modeling to Assist in Spare Production Capacity Policy Formulation" in *Modeling and Analysis of Large Systems*, Oxford & IBH
57. Bagchi T P, V K R Baratam and S Saha, (1990) "[Dependency Inference Algorithms for Relational Database Design](#)", *Computers in Industry* (Elsevier), Vol 14
58. Bagchi, T P and J G C Templeton (1973) "[Finite Waiting Space Bulk Queuing Systems](#)", *Journal of Engineering Mathematics*, Vol 7(4), Oct.
59. Bagchi, T P and J G C Templeton (1973) "[A Note on the Mx/Gy/1 Bulk Queuing System](#)", *Journal of Applied Probability*, Vol 10
60. Bagchi, T P and A A Cunningham (1972) "[Bayesian Approach to the Design of Queuing Systems](#)", *INFOR Journal*, Vol 10 (1), February

Earlier research in queuing theory and decision analysis, published in *Journal of Applied Probability*, *Canadian OR Society Journal*, *J Engineering Math* and *AICHE J*.

Conference Presentations

1. Bagchi, Tapan P (2014). Working Capital and Profitability – Establishing the Causality, [POMS Annual Meeting](#), *Proceedings*, May 9 – 12, Atlanta, GA
2. Bagchi, Tapan P (2014). SVM Classifiers based on Imperfect Training Data, [POMS Annual Meeting](#), *Proceedings*, May 9 – 12, Atlanta, GA
3. Bagchi, Tapan P and Sajal Das (2013). Working Capital and Profitability – Establishing the Causality, *Proceedings, ICEFM' 2013*, Dubai, Best Paper Award.
4. Bagchi, Tapan P, Rahul Samant and Milan Joshi (2013). SVM Classifiers Built using Imperfect Training Data, *Proceedings, ICMTEA2013*, Dehradun.
5. Bagchi, Tapan P (2013). [Bayesian Design of Stochastic Inventory Systems](#), [POMS Annual Meeting](#), *Proceedings*, May 3 – 6, Denver
6. Bagchi, Tapan P and Gurumurthy, Kalyanaram (2012). [Forecasting the Decision of a Firm: When to Litigate the Patents Expiry Date and when to Introduce Next Innovation](#), ISF2012, *Proceedings*, June 24-27, Boston
7. Pradhan, R P and Tapan P Bagchi (2012). The Effect of Human Health on Sustainable Development in India: [The State Level Analysis](#), [Cambridge Business and Economics Conference](#), Cambridge University, Cambridge, *Proceedings*, June 27- 28.
8. Bagchi, Tapan P and R Pradhan (2012). Human Health and Sustainable Development in India: A State Level Analysis, *Proceedings, POMS Annual Conference*, Chicago.

9. Bagchi, Tapan P and Rahul M Samant (2012). [Teaching PERT to MBAs – An Experiment in Pedagogy](#), *Proceedings*, 2012 Conference on Economics Marketing and Management, IPEDR Vol. 28, Kuala Lumpur
10. Bagchi, Tapan P, Siddharth Singh, Rajmani Prasad, Aditya HK, JND Gupta and Fan Tseng (2011). Stochastic Bounds for Production Schedules by EVT, *Proceedings*, POMS 2011, Reno Nevada, USA
11. Bagchi, Tapan P, Aditya HK and JND Gupta (2011). EVT-based Lower Makespan Bounds for a 2-Machine 3-Operation Flowshop, *Proceedings*, POMS 2011, Reno Nevada, USA
12. Lasrado, Flavy and Tapan P Bagchi (2010). [A Cross-Cultural Evaluation of Contemporary QWL and its Managerial Implications](#), *Proceedings*, POMS 2010, Vancouver
13. Bagchi, Tapan P and Rajmani Prasad (2010). [Toward Gage R&R Guidelines that Improve the Power of Statistically Designed Experiments](#), *Proceedings*, POMS 2010, Vancouver
14. Bagchi, Tapan P (2009). Risks in Software Development using Imperfect and Incomplete Testing, *Proceedings*, ICOQM-9, Los Angeles, June 27-30
15. Bagchi, Tapan P and Poonam Sharma (2009). Defect Reduction by Six Sigma: Quantifying hidden costs in Bearing Production, *Proceedings*, ICOQM-9, Los Angeles, June 27-30
16. Bagchi, Tapan P (2009). [Software Development when Testing is Incomplete or Imperfect](#), *Proceedings* of POMS 2009 Conference, Orlando, May 1-3
17. Bagchi, Tapan P and R K Gupta (2007). [Software Development using Taguchi Methods](#), *POMS 2007 Conference*, Dallas
18. Kumar, Sanjay and Tapan P Bagchi (2007). [Modeling and Results of Satellite Ground Support Optimization](#), *POMS 2007 Conference*, Dallas
19. Bagchi, Tapan P (2006). Simulating Force Multiplier Effects in Warfare, *Seventh Int. Conf. On Oper. & Quant. Management* August 3-5.
20. Bagchi, Tapan P (2006). Bagchi, Tapan P (2006). Force Multiplier Effects in Combat Simulation, *APIEMS 2006 (7th Asia Pacific IE and Mgmt Sc Conference)* at AIT Bangkok, December 17-20, 2006.
21. Bagchi, Tapan P (2006). Optimal Ground Support in Multi-Spacecraft Missions: Model Development and Results, Accepted for presentation at the *ICAICT 2007 Conference* at Gangwon-Do, Korea, February 12-14, 2007.
22. Sambandam, N and Tapan P Bagchi (2003), "Optimum and Genetic Algorithmic Methods for Cost Reduction in Flowshop Scheduling", Delhi Dec 19-21
23. Bagchi, Tapan P (2003), "Advanced Methods for Robust Design: An Application to Electronic Filters", Annual Int'l Conf. SOM Indore Dec 19-21
24. Bagchi, Tapan P (2003), "Multiobjective Robust Design by Metaheuristic Methods", IAPQR 2003 Kolkata Dec 10-14
25. Bagchi, Tapan P and C Srishkandarajah (2003), "Flowshop Scheduling and the TSP Paradigm", APORS 2003, Delhi, Dec 8-10

26. Bagchi, Tapan P and Sanjeev Mishra (2002), "Modeling and Robustness Evaluation of Failure-prone FMS", Int'l Conference on Development, ORSI XXXV Annual Convention, Chennai, Dec 22-30
27. Bagchi, Tapan P , C Sriskandarajah and Sanjeewa (2002), "A Flowshop Scheduling Problem with Blocking", Int'l Conference on Development, ORSI XXXV Annual Convention, Chennai, Dec 22-30
28. Bagchi, Tapan P and R Chakravarty (2002), "[Force Multiplier Incorporation in Combat Simulation](#)", Proceedings, SRCA 2002-FIM IX: 9th Int'l Conference of Forum for Interdisciplinary Mathematics on Statistics, Combinatorics and related areas, Allahabad, Dec 21-23
29. Bagchi, Tapan P, C Sriskandarajah and Sanjay Kumar (2002) "Optimization Methods for Spacecraft Support with Visibility Clash", *Proceedings*, POMS 2002 Conference at San Francisco, April 5-8
30. Bagchi, Tapan P (2002). Spacecraft Support Optimization in Remote Sensing Task Scheduling, International Symposium on Scheduling, *Proceedings*, JSME, Tokyo, 55-57
31. Bagchi, Tapan P (2001), "Optimal Spacecraft Support in Telecommunications Task Scheduling," *Proceedings*, ICOTA 2001, The 5th International Conference on Optimization: Techniques and Applications, December 15-17, Hong Kong
32. Bagchi, Tapan P, Sanjay Kumar, C Sriskandarajah and P Soma (2001) "Optimal Spacecraft Support in Remote Sensing Task Scheduling Part - 1 & 2," *Proceedings*, Thirty Fourth Annual Convention of ORSI, Jadavpur University, December 27-29, Kolkata
33. Bagchi, Tapan P (2000) "Advanced Quality Engineering using Genetic Algorithms", INFORMS Spring 2000 Meeting Salt Lake City, Utah, May 7-10
34. Bagchi, Tapan P (2000) "LEO Satellite Visibility Clash Resolution by Genetic Algorithms", OR-2000 XXXIII Annual Convention of the O R Society of India, Ahmedabad, *Proceedings*
35. Bagchi, Tapan P (2000) "A New Method for Planning LEO Satellite Mission Support", Institution of Engineers (India) Lucknow Annual Technical Session, *Proceedings*
36. Soma, P, JD Rao, S Venkateswarlu, Santhalakshmi, Sanjay Kumar, Sanjeev Swami and T P Bagchi (2000) "An Exact and a Metaheuristic Method for Optimum Resource Allocation", ICOQM III Conference, Sydney Australia, *Proceedings*
37. Soma, P, JD Rao, S Venkateswarlu, Santhalakshmi, Sanjay Kumar, Sanjeev Swami and T P Bagchi (2000) "An Exact and a Metaheuristic Method for Optimum Resource Allocation in Clashing LEO Satellite Visibility Windows", Indian Society of Remote Sensing Annual Symposium, *Proceedings*
38. Jain, Nitin and Bagchi, Tapan P (2000) "Hybrid GAs: Some New Results in Flowshop Scheduling", IASTED International Conference on Modelling and Simulation MS'2000, 15-17 May, Pittsburgh, PA USA, *Proceedings*.

39. Bagchi, Tapan P, K Jayaram and T D Srinivas (1999). Pareto optimal production scheduling by meta-heuristic methods, Pareto optimal production scheduling by meta-heuristic methods, PICMET '99, *Proceedings*.
40. Bagchi Tapan P, S Kumar (1998) "Scheduling Jobs in the m-Machine, no-wait, lot streaming flowshop, INCOM'98, 24-26 June, Nancy-Metz, France, *Proceedings*
41. Bagchi Tapan P, Subodha Kumar and C Sriskandarajah (1998) "Lot Streaming Heuristics for the *m*-Machine, No-wait, Lot Streaming Flowshop, Symposium on Industrial Engineering and Management, May 19-22, Ryerson Polytechnic University, Toronto, Canada, *Proceedings*
42. Bagchi Tapan P (1997) Competitive Design by Quality Engineering, Delphique, India, Vol. 3, *Proceedings*
43. Bagchi Tapan P, Subodha Kumar and C Sriskandarajah (1997) "Scheduling Heuristics for the m-Machine, No-wait, Lot Streaming Flowshop, ICCIM'97, 21-24 October, Singapore, *Proceedings*
44. Bagchi Tapan P, and JGC Templeton (1997) "Multiobjective Robust Design using Genetic Algorithms", 14th ICPR International Conference on Production Research, 4-8 August, Osaka, Japan, *Proceedings*
45. Bagchi Tapan P, (1997) "[Competitiveness and TQM: Is the Synergy really a Surprise?](#)", PICMET'97 Portland International Conference on Management of Engineering and Technology, July 27-31, Portland, Oregon, USA, *Proceedings*
46. Bagchi Tapan P, Krishan Raman and Puneet Sharma (1997) "Multicriteria Robust Design using Nondominated Sorting Genetic Algorithms", III ISSAT International Conference on Reliability and Quality in Design, March 12-14, Anaheim, California, USA, *Proceedings*
47. Bagchi Tapan P, (1997) "Quality Engineering: An Introduction", XIIth National Convention, IE(India), January 31-February 2, *Proceedings*
48. Bagchi Tapan P, Deepak Saxena, Jugal Prasad, Subodha Kumar, AK Shah (1997) "Injection Molding Productivity Improvement by Revisiting Design of Experiments", ICOQM International Conference, Jaipur, January 5-8
49. Bagchi Tapan P, Krishan Raman and Puneet Sharma (1996) "Multicriteria Robust Design using Enhanced Genetic Algorithms", 76th Annual Technical Meeting, UP State Institution of Engineers (India), November 16-17, (Best Paper Award)
50. Bagchi Tapan P and Chelliah Sriskandarajah (1996) "A Genetic Algorithm to Minimize Makespan in a Blocking Flowshop", 1996 Asia Pacific DSI Conference, June 21-22, Hong Kong, *Proceedings*
51. Bagchi Tapan P (1996) "Blocking Flowshop Scheduling using Genetic Algorithms", Optimization Days 1996 International Conference (INFOR), May 13-15, Montreal, Canada
52. Bagchi Tapan P (1996) "Guiding Simulation Runs by Genetic Algorithms in Product Design", IASTED International Conference on Modeling, Simulation and Optimization, May 6-9, Gold Coast, Australia
53. Bagchi Tapan P (1996) "Software Quality: Would ISO 9000 Impact It?" INFORMS Spring 1996 Conference, May 5-8, Washington DC, USA

54. Bagchi T P (1995) "Candybars to Chromosomes: The Evolution of Quality Engineering", National Conference on Science-Technology Interface, November 9-11, Calcutta, *Proceedings*
55. Bagchi T P, Krishan Raman and JGC Templeton (1995) "Effectiveness of Evolutionary Searches in Robust Design", INFORMS International Conference, June 25-28, Singapore
56. Bagchi T P, and Shu Lin (1995) "Efficient Evolution of Sensitive Decisions in Tree-based Analysis", INFORMS International Conference, June 25-28, Singapore
57. Bagchi T P (1995) "Statistical Experiments in Product/Process Design: How the Japanese Do It", National Conference on Science-Technology Interface, November 9-11, Calcutta, *Proceedings*
58. Bagchi, T P and J G C Templeton (1994) "Global Optimization as Robust Design Methodology", CORS'94, Montreal, May
59. Bagchi, T P and J G C Templeton (1994) "Robust Design Engineering using Variance Transfer", ISSAT International Conference, Seattle, WA, March
60. Bagchi, T P (1993) "Quality Improvement Methods and Achievements", invited paper, National Conference on Quality in the Global Economic Context, Calcutta.
61. Krishan Raman and T P Bagchi (1993) "A Genetic Algorithm Based Approach to seek Robust Designs", Operational Research Society of India XXVI Annual Convention, December
62. Gupta, Arun K and T P Bagchi (1993) "Selecting Acceptance Sampling Plans: The Artificial Neural Net Route", Operational Research Society of India XXVI Annual Convention, December
63. Bagchi, T P (1993) "Some Innovations in Robust Design", Operational Research Society of India XXVI Annual Convention, December
64. Bagchi, T P and J G C Templeton (1993) "Sequential and Continuous Sampling under Inspection Error", CORS Conference, Toronto, May
65. Bagchi, T P and J G C Templeton (1993) "A Constrained Optimization Refinement of Taguchi's 2-step Robust Design", CORS Conference, Toronto, May
66. Bagchi, T P (1992) "Measurement and the International Quality Management Standard ISO 9000", All India Seminar on Instrumentation Systems for Quality Control in Industries, Institution of Engineers, Raipur, December 21, 1992
67. Bagchi, T P and J G C Templeton (1992) "Multiple Criteria Robust Design", CORS Annual Meeting, Toronto, June 1-3
68. Bagchi, T P (1991) "Effect of Inspection Errors on Consumer and Producer Risks in Sequential Sampling", International Conference on Information and Systems (ICIS) Oct. 9-11, Zhejiang University, Hangzhou, China
69. Bagchi, T P and Rahul Singh (1991) "Decision Theoretic Derivation of Sequential Sampling Plans", International Conference on Information and Systems (ICIS) Oct. 9-11, Zhejiang University, Hangzhou, China
70. Bagchi, T P and J G C Templeton (1991) , "The Sensitivity of Dodge's CSP-1 Plan to Inspection Errors", ORSA Annual Meeting, San Diego, CA, November

71. Bagchi, T P (1991) "Planning Industrial Experiments to get Results from Taguchi Methods", invited paper, NIQR National Convention, Jamshedpur, November
72. Bagchi, T P (1991) "Design of Sequential Sampling Plans when the Inspector's Performance is not Error Free", NIQR national Convention, Jamshedpur, November
73. Bagchi, T P (1990) "The Push Toward Total Quality Control (TQC)" *Proceedings*, Fifth Indian Engineering Congress, December
74. Bagchi, T P (1989) "An Effective Method for Scaling Up Gas-Liquid Batch Contacting", ICACE International Conference Proceedings
75. Bagchi, T P and V K Chaudhri (1988) "A Turbo Prolog Implementation of Automating Relational Database Design", Annual ORSI Conference
76. Bagchi, T P (1988) "Planning for the Optimum Capacity in the Design of a Plant when Demand is known to Fluctuate", Annual ORSI Conference

Research

Major Projects

1. Optimal Sizing of Regional Aircraft (IIT Bombay, sponsor NAL, Bangalore, 2008)
2. "Development of Scheduling Algorithm and its Software Implementation for Multi-satellite Operations Scheduling by Genetic Algorithms", Sponsor Indian Space Research Organization (system implemented by ISTRAC, ISRO in 2002)
3. "Extecim" Eurindia scientific project on e-commerce and intelligent manufacturing—launched by IIT Kanpur and IIT Bombay jointly with Ecole de Mines, Nantes and Politecnico de Torino to promote collaborative research and student exchange (published, 2002)
4. Combat Modeling and Simulation—Extensions of Lancaster Combat Models to introduce evaluation of the effects of Force Multipliers in combat (presented at ORSI National Convention, 2002)
5. "Rule-Bound and Autonomous: Specifying Conditions for the Successful Implementation of the Worldwide Quality Assurance Standard ISO 9000", Sponsors NSF and University of Minnesota, USA (published, 2000)

Sample Working Papers

1. Bagchi, Tapan P, Nasiba Mandal and Suresh Kurumbanshi (2014). Robust Design of Differential Amplifiers by Constrained Optimization.
2. Bagchi, Tapan P and Sajal Das (2013). Why is Wal-Mart's Delayed Payment Strategy so effective?
3. Bagchi, Tapan P, Rahul Samant and Milan Joshi (2013). SVM classifiers built using Imperfect Training Data.
4. Bagchi, Tapan P and Gurumurthy Kalyanaram (2012). Patent Greening Strategy – To litigate or to promote R&D.
5. Bagchi, Tapan P (2006). Simulating Force Multiplier Effects in Warfare, *SPJIMR Working Paper #1*, May.

6. Bagchi, Tapan P (2006). Information Asymmetry – The Case of Guerrilla Combat, *SPJIMR Working Paper #2*, June.
7. Bagchi, Tapan P (2006). Optimal Ground Support in Multi-Spacecraft Missions: Model Development and Results, *Working Paper #3*, September.
8. Bagchi, Tapan P (2006). Force Multiplier Effects in Combat Simulation, *SPJIMR Working Paper #4*, August.
9. Bagchi, Tapan P (2006). PERT by Excel: A Quick Estimation of Project Overrun Risk by Monte Carlo Methods, *SPJIMR Working Paper #5*, October.
10. Desai, Gautam, Rahujl J Patil and Tapan P Bagchi (2006). CCPM Simulation by MS Project: Assessing the Impact of Critical Chain in Project Planning, *SPJIMR Working Paper #6*, November.
11. Bagchi, Tapan P (2006). Optimal Ground Support in Multi-Spacecraft Missions: Model Development and Actual ISRO Results, *SPJIMR Working Paper #7*, November.

Guided Projects

1. "Paradigms of Failure-Prone FMS and their Extensions, *Ph D Thesis*, Sanjeev Mishra, 2004
2. "LEO Satellite Visibility Clash Resolution using Greedy Search, Tabu Search, Simulated Annealing and Genetic Algorithms", *M Tech Thesis*, Sagar Ramesh Kapse, 2000-2001
3. "A Constraint-Satisfaction Heuristic for Scheduling Telemetry, Tracking and Commanding Operations of IRS Satellites", *M Tech Thesis*, Garima Shahi, 2000-2001 (journal paper)
4. "LEO Satellite Operations Scheduling: An Approach using Genetic Algorithms", *M Tech Thesis*, Sanjay Kumar, 1999-2000 (Best Paper Award; Conference and journal papers)
5. "Core Course Scheduling using Genetic Algorithms", *M Tech Thesis*, Satyaveer Singh Chauhan, 1999-2000
6. "Multiobjective Optimization of Injection Molding Process Parameters: A Study using Genetic Algorithms", *M Tech Thesis*, P N Rao, 1998-99
7. "A Study of Hybridized Genetic Algorithms: An Application to Flowshops and Job Shops", *M Tech Thesis*, Nitin Jain, 1998-99 (Conference paper and journal paper)
8. "A Parametric Study to enhance Performance of Genetic Algorithms in Multiobjective Optimization", *M Tech Thesis*, T D Srinivas, 1997-98 (Conference paper)
9. "A New Approach for Multiobjective Flowshop & Job Shop Scheduling", *M Tech Thesis*, K Jayaram, 1997-98 (Conference paper)
10. "An Application of Genetic Algorithms in No-wait Lot Streaming Flowshop Scheduling", *M Tech Thesis*, Subodha Kumar, 1997 (Two conference papers and one journal paper)
11. "An Application of Genetic Algorithms in No-wait Lot Streaming Flowshop Scheduling", *M Tech Thesis*, Subodha Kumar, 1997 (Two conference papers and one journal paper)

12. "Multiobjective Product Design Guided by Genetic Algorithms", *M Tech Thesis*, Jugal Prasad, 1997
13. "A New Multi-variate Control Chart using SPRT", *MSc (Statistics) Thesis*, Akhila Vishwanathan, 1997 (Department's Citation for Excellence)
14. "An Evaluation of GAs in University Time Tabling", *M Tech Thesis*, A Tripathy, 1997
15. "Multiobjective Robust Design using Genetic Algorithms", *M Tech Thesis*, Puneet Sharma, 1996
16. "Scheduling The Generalized Job Shop: A Solution using Genetic Algorithms", *M Tech Thesis*, Ankur Bhatnagar, 1996
17. "Genetic Algorithms in the Search for Robust Designs: An Evaluation", *M Tech Thesis*, Krishan Raman, 1994
18. "The Artificial Neural Network Paradigm for the Design of Acceptance Sampling Plans", *M Tech Thesis*, A Gupta, 1994
19. "CUSUM Charts Under Inspection Error", *M Sc Thesis*, Puneet Prakash, 1992 (Departmental Commendation)
20. "Risk Optimized Sequential Sampling Plans", *M Tech Thesis*, Rahul Singh, 1991 (Two conference papers and one journal paper)
21. "Facility Development for Optimum Pipe Routing and Multifacility Location in Process Plant Layout Planning", *M Tech Thesis in CAD*, S K Prusty, 1991
22. "Sequential Tests for Measuring Inspection Performance", *M Sc (Statistics) Thesis*, Barathi Sethuraman, 1990 (Best Project Award, 1990)
23. "Design and Implementation of a Support System for Quality Assurance Decisions using Control Charts and Acceptance Sampling", *M Tech Thesis*, Sunil Kumar, 1990
24. "Dependency Inference by Hypothesis Testing with Data Instances (for Relational Database Design)", *M Tech Thesis*, V K R Baratam, 1989 (one journal paper)
25. "Microcomputer Implementation of Karmarker's Algorithm for Linear Programming Problems", *M Sc (Statistics) Thesis*, V Sivasubramanian, 1988 (Best Project Award 1988)
26. "A Turbo Prolog Implementation of some Normalization Algorithms in Relational Database Design", *M Tech Thesis*, Vinay K Chaudhri, 1988 (two journal papers)
27. "Inventory Management for Medicine Store at a Health Centre", *M Tech Thesis*, Swagata Saha, 1988
28. "PROMIS: A Project Review and Management System", *M Tech Thesis*, S Ranganath, 1988

Seminars/ Workshops/Conferences Organized/Conducted

(Over 40 national and international)

Lectures delivered as Expert faculty

- Lean Six Sigma, 2014
- SVM for Classification – An Overview, 2013
- Patenting vs. Worth of Litigation in Drug development, 2012

- Macroeconomic Modeling of India's Domestic Air Travel Demand (2008)
- LEO Satellite Task Support using Genetic Algorithms (2005)
- Workspace Design and Knowledge Worker Productivity (2004)
- Multiobjective Robust Design (2001)
- Frontiers of Modern Management (2001)

Professional Affiliation

- Member, Academic Council, NMIMS Deemed-to-be University, since 2011
- Expert, Academic Advisory Group, PMI India, since 2009
- Elected Director, Vocational Services, Rotary International, Juhu Mumbai Chapter, 2007
- Member, Board of Governors, NITIE, Mumbai, 2002-4
- Member, Board of Governors, National Productivity Council, India, 2004
- Chapter President, Operations Research Society of India, Mumbai Chapter, 2003
- Elected to the Executive, Institution of Engineers (India), Kanpur Chapter (1997, 2000)
- Registered Professional Engineer, Ontario, Canada (licensed to practice Industrial, Mechanical & Aerospace Engineering, since 1969)
- Fellow, Institution of Engineers, India, since 1990
- TQM/SPC/Reliability trainer at the electronics division of LML Limited, a leading two-wheeler manufacturer in India (1997 onward)
- Adjunct Professor, Center for Quality Sciences, the Hebrew University, Jerusalem, Israel (1997)
- Faculty Advisor to Canadian Society of Industrial Engineers, Toronto Chapter (1993-94); Managed and planned all Chapter activities and liaison with industry and professional bodies
- Head, Institute Students Counseling Service (1989-90)
- Senate Convener, Scholarship Committee (1990 and 1999) and Convener, Institute Time Tabling Task Force (1993). Determined feasibility of computerizing IIT Kanpur's UG/PG teaching time table
- Senate Chairman (1995-97) Institute Library Committee, IIT Kanpur; Formalized 25-year expansion plan for the Central Library
- Conducted in-plant Courses on Quality Assurance and Computer Applications in Business for TISCO (1987), JK (1988, in Hindi), TELCO, GEC (1990), ORDNANCE FACTORIES (1991), LML (1992 to 2002) and INDAL (1995); ISO 9000 for various Process Industries (1992 to 2002)
- Guided Kanpur Dehat Entrepreneur (KLPL Pvt. Ltd.) in obtaining technical collaboration, process know-how, and production technology from Malaysia to set up a Rs. 10 million latex gloves manufacturing factory (1990)
- Developed Indian Society for Technical Education's package for college teachers on Statistical Methods in Quality Control (1989)

- Successfully launched software development venture and sold product to Healthcare industry in New Jersey (1979-80)
- Elected by the student body to IIT Kanpur Gymkhana Secretary (Hobbies) Chair (1966)



January 26, 2014