

Dr. Srinivasan G

Professor IIT Madras

Academic Background

- PhD in Industrial Engineering and Management from Indian Institute of Technology Madras, India (1990)
- MS by Research from Indian Institute of Technology Madras, India (1987)
- BE (Honours) from Anna University, Madras, India (1984)

Areas of Interest

Courses taught:

- Fundamentals of Operations Research
- Advanced Operations Research
- Production and Operations Management
- Supply Chain Management
- Manufacturing Systems Management
- Operations Research Applications
- Services Operations Management

Research interests and supervision:

- Cellular Manufacturing Systems
- Flexible Manufacturing Systems
- Scheduling
- O.R. Applications

Selected Journal Publications

International Journals

- Srinivasan, G., Narendran, T.T. and Mahadevan, B. (1990) An assignment model for the part families problem in Group Technology. *International Journal of Production Research*, Vol.28, No.1, 145-152. (Times Cited = 265)
- Srinivasan G. and Narendran T.T. (1991) GRAFICS - A nonhierarchical clustering algorithm for Group Technology. *International Journal of Production Research*, Vol 29, no 3, 463-478. (Times Cited = 200)
- Ganesh M.V. and Srinivasan G. (1994) A Heuristic method for the Cell formation Problem in Group Technology. *Computers and Industrial Engineering*. Vol 26, 193-201. (Times Cited = 10)
- Srinivasan G. (1994) A Clustering algorithm for machine cell formation in Group Technology using minimum Spanning Trees. *International Journal of Production Research* Vol 32, No 9, 2149-2158. (Times Cited = 98)
- Venkat Ramana Murthy Ch and Srinivasan G. (1995) Fractional Cell Formation in Group Technology. *International Journal of Production Research*. Vol 33, no 5, 1323-1337. (Times Cited = 37)

- Hemant Kumar N S and Srinivasan G. (1995) Predicting the Quality of the final product using Multivariate Statistical Techniques - A case study - Computers and Industrial Engineering, Vol 29, Nos 1-4, 37-42. (Times cited = 11)
- Sekar Vembu and Srinivasan G. (1995) Heuristics for Operator Allocation and Sequencing in Just-in-time flowline Manufacturing Cell - Computers and Industrial Engineering, Vol 29, Nos 1-4, 309-314. (Times Cited =4)
- Srinivasan G. (1995) Cell Formation using Zero-one Matrices - Experiences with Real-life data and Inferences - Computers and Industrial Engineering, Vol 29, Nos 1-4, 303-308.. (Times Cited = 2)
- Sudhir V, Muraleedharan V.R. and Srinivasan G (1996) Integrated Solid Waste Management in Urban India: A Critical Operational Research Framework - accepted for publication in Socio Economic Planning Sciences. Vol 30. 163-181. (Times Cited = 46)
- Hemant Kumar N S and Srinivasan G (1996) A genetic algorithm for job shop scheduling - A case study. Computers in Industry. Vol 31. 155-160. (Times Cited = 41)
- Bhaskar K and Srinivasan G (1997) Static and Dynamic operator allocation problems in Cellular Manufacturing Systems. International Journal of Production Research, Vol 35, 3467-3481 (Times Cited = 38)
- Sekar Vembu and Srinivasan G (1997) Heuristics for Operator allocation and sequencing in product-line-cells with manually operated machines. Computers and Industrial Engineering. Vol 32. 265-279. (Times Cited =17)
- Sudhir V, Srinivasan G and Muraleedharan V R (1997) Planning for sustainable solid waste management in Urban India. System Dynamics review, Vol 13 223-246. (Times Cited =79)
- G.Srinivasan and Emory W Zimmers, Jr (1998) Fractional Cell Formation - Issues and Approaches. International Journal of Industrial Engineering- Theory, Applications and Practice. Vol. 5, 257-264. (Times Cited =6)
- C.A Marangos, V. Govande, G. Srinivasan and E.W Zimmers Jr. Algorithms to minimize completion time variance in a two machine flowshop. Computers and Industrial Engineering.35 101-104 (1998) (Times Cited =6)
- Sekar Sundararajan, Srinivasan G, Walt O Staehle and Emory W Zimmers, Jr. Application of a Decision Support System for Operational Decisions. Computers and Industrial Engineering.35 141-144 (1998)(Times Cited =11)
- K. Gowrishankar, Chandrasekharan Rajendran and G. Srinivasan Flow shop scheduling algorithms for minimizing the completion time variance and the sum of squares of completion time deviations from a common due date, European Journal of Operational Research, Volume 132, Issue 3, 1 August 2001, Pages 643-665 (Times Cited =37)
- O Mahesh and G Srinivasan (2002) Incremental cell formation considering alternative machines, International Journal of Production Research, Vol 40, 10, pp. 3291-3310 (Times Cited =33)
- G Viswanath Kumar and G Srinivasan (2003) A Branch and Bound Algorithm for minimizing Completion Time Variance on Single Processor, Computers and Operations Research, Volume 30, Issue 8, July 2003, Pages 1135-1150 (Times Cited =34)
- O Mahesh and G Srinivasan (2003) Pilot cell formation problem to minimize total work content, International Journal of Industrial Engineering - Theory, Applications and Practice, Volume 10, Issue 3, 298-307.(Times cited = 1)
- Viswanathkumar Ganesan, Appa Iyer Sivakumar and G Srinivasan, (2006) Hierarchical minimization of completion time variance and makespan in jobshops, Computers and Operations Research, Volume 33, Issue 5, 1345-1367. (Times cited = 17)
- O.Mahesh and G.Srinivasan, (2006) Multi-objectives for incremental cell formation problem. Annals of Operations Research, Volume 143, Number 1, 157-170. Times cited = 3)
- B Srirangacharyulu and G Srinivasan(2010) Completion time variance minimization in single and multi machine systems, Computers and Operations Research, 37, 62-71 (Times cited = 9)
- G Kumara Raja Singh, G Srinivasan (2010) Operator assignment/reassignment problems in incremental cell formation, International Journal of Manufacturing Technology and Management, Vol 20, No 1/2/3/4 pp 222-241.
- B Shoban Babu and G. Srinivasan (2010) Impact of Volume, Routing and Product Mix Flexibilities on the Performance of a Job Shop: A Simulation Study. Special edition of International Journal of Enterprise Network Management (Times cited = 2)

- V.S. Unnikrishnan and G. Srinivasan (2010) G. Srinivasan (2010) "The impact of freight discount on the design of a product recovery network" Int. Journal of Business Performance and Supply Chain Modelling, Vol 2 No. 1 1-24. (Times cited = 2)
- B. Srirangacharyulu and G. Srinivasan (2011) "Minimizing mean squared deviation of job completion times about a common due date in multi machine systems" European Journal of Industrial Engineering, Vol 5, No 4, 424-447. (Times cited = 3)
- B. Srirangacharyulu and G. Srinivasan (2012) "Minimizing variance of job completion times in a single machine" accepted for publication in International Journal of Operations Research, Vol 13, No. 1, 110-127 (Times cited = 2)
- B. Srirangacharyulu and G. Srinivasan (2013) "An exact algorithm to minimize mean squared deviation of job completion times about a common due date" European Journal of Operations Research, Vol 231, Issue 3, 547-556. . (Times cited = 2)
- Shrey Ginoria and G.L. Samuel and G. Srinivasan (2015) "Optimisation of a machine loading problem using a genetic algorithm-based heuristic", International Journal of Productivity and Quality Management, Vol. 15, No. 1.

NPTEL Courses

- Fundamentals of Operations Research (22 video lectures) (total viewership = 20 lakhs)
<http://nptel.ac.in/courses/112106134/>
- Advanced Operations Research (39 video lectures) (total viewership = 15 lakhs)
<http://nptel.ac.in/courses/112106131/>
- Operations and Supply Chain Management (41 video lectures)
<http://nptel.ac.in/courses/110106045/>
- Manufacturing Systems Management (40 video lectures)
<http://nptel.ac.in/courses/110106044/>
- Operations Research Applications – Linear and Integer Programming (Web course)
<http://nptel.ac.in/courses/110106059/> (The first four courses are also available on youtube)

Consulting

Research Based Industrial Consulting

- A project on Software for Life Cycle Cost Estimation for Aircraft has been completed
- A project on Software for Statistical Analysis has been completed
- A project on Software for Fault tree analysis has been completed
- A project on Modules for convoy scheduling has been completed

Industrial Consulting

- A project on Cell Management System has been completed (Jun-Sep 1994)
- A project on Scheduling operations for sheet metal work has been undertaken (Jun-Sep 1996)
- A project on Methods Improvement and Layout has been completed (Jun-Sep 1996)
- A project on Design of Cellular Manufacturing Systems has been completed (Jun-Dec 1996)
- A project on Software for Operations Management has been completed (July 1998 – May 1999)
- A project on Manpower Assessment has been completed (Co-investigator – Dr T T Narendran) (March 1999- Jan 2000)
- A project titled Optimization of Warehouse Storage Space has been completed (April 2001 – July 2001)
- A project titled Demand Planning has been completed (Oct 2001-Feb 2002)

Projects

- Development of a Decision Support System for Aggregate Planning and Scheduling of Cellular Manufacturing Systems has been approved by the Ministry of Human Resources Development, Govt. of India, under support for Research and Development in Institutions of Engineering and Technology. Project duration is 2 years (1994-1996)
- A Decision Support System for Cell Formation in Group Technology under the Young Scientist Scheme of the Ministry of Science and Technology, Govt. of India. Project duration is 2 years (1994-1996).
- Joint Coordinator for A Project titled A Decision Support System for Earthmoving Operations under the Interdisciplinary projects Scheme of IIT Madras.
- Joint Coordinator for a project on Software for Synchronous Manufacturing under Indo-German project of BMBF. Co-investigator – Dr C Rajendran.

Books Authored

- G Srinivasan (2007) Operations Research – Principles and Applications, Prentice Hall of India (P) Ltd, New Delhi. (ISBN – 978-81-203-3075-7)
- G Srinivasan (2010) Operations Research – Principles and Applications (Second Edition), Prentice Hall of India (P) Ltd, New Delhi. (ISBN – 978-81-203-4208-8)
- G Srinivasan (2010) Quantitative Models in Operations and Supply Chain Management, PHI Learning (P) Ltd, New Delhi, (ISBN – 978 – 81-203-3981-1).

Fellowships/Awards

- Awarded the BOYSCAST fellowship of the Ministry of Science and Technology, Government of India for Advanced training in Total Quality Management for the period Jan-Dec 1997.
- Visited Lehigh University, USA as a Visiting Scholar under the BOYSCAST fellowship during Jan-Dec 1997.