



EDUCATION

April 1998 – December 2002	PhD in Mechanical Engineering , Bharathiar University, Coimbatore, India
June 1994 - March 1997	Master in Engineering (Production Engineering) - I class PSG College of Technology, Bharathiar University., Coimbatore India
June 1988 - March 1992	BE (Mechanical Engineering), - I Class, with Distinction , PSG College of Technology, Bharathiar University, Coimbatore, India

EMPLOYMENT

June 2010 onwards	Associate Professor , Mechanical Engineering Department, CIT, Coimbatore – 641 014.
January 2009 – June 2010	Sr. Lecturer , Mechanical Engineering Department, Coimbatore Institute of Technology, Coimbatore – 641014.
Sept 2005 – January 2009	Asst Professor , Department of Mechanical Engineering Birla Institute of Technology and Sciences, Pilani – Dubai, UAE.
Oct 2004 - August 2005	Lecturer , Engineering Department, Al Musanna College of Technology, Sultanate of Oman.
Nov 1999 onwards	Senior Lecturer , Mechanical Engineering Department, Coimbatore Institute of Technology, Coimbatore (On leave on loss of pay for foreign assignments).
Nov 1994 – Nov 1999	Lecturer , Mechanical Engineering Department, Coimbatore Institute of Technology, Coimbatore.
June 1993 - Nov 1994	Sr. Sales Engineer , BATLIBOI & Co, Coimbatore.
June 1992 - Dec 1992	GET (Graduate Engineering Trainee) L&T, Chennai.

TEACHING EXPERIENCE

(Chronological Order)

Coimbatore Institute of Technology, Coimbatore -641014 (January 2009 to till date)

ADMINISTRATIVE RESPONSIBILITIES

State Coordinator for Part Time – BE / BTech admissions for the academic years 2011,2012 & 2013.

Responsibilities includes coordination and execution all activities in concern with Directorate of Technical Education, Chennai, Starting for issue of notification, processing of application, conduct of the counselling and publishing of the reports on behalf of the Secretary, PT(BE/B.Tech) admissions.

Member - CORE COMMITTEE @ CIT

Member of **CORE COMMITTEE** constituted by the Correspondent CIT to work for the development of the institute. The following are the responsibilities vest on me.

- a. Strengthen the **INDUSTRY- INSTITUTE RELATIONSHIP**.
- b. Strengthen the **ALUMNI PARTICIPATION** in the development of the institute.
- c. Develop cordial relationship with the press and general public.
- d. Contribute prolifically to the overall development of the institute.

ACADEMIC RESPONSIBILITIES

Research Activities

1. Development of a lab view academia @ CIT under progress.
2. Design and development of template for solving dynamic balancing of revolving and reciprocating masses of oil free compressors for M/s Elgi Equipment. Successfully completed and the design is under use by the client.
3. Design and Development of Template for heat load calculations for rotary air compressors for M/s Elgi Equipment ongoing project with a potential of generating good quantum of revenue.
4. Design and Development high efficiency air blowers for reciprocating compressor for M/s Elgi Equipment ongoing project with a potential of generating good quantum of revenue.
5. Design of a vibration analysis system for rotary and reciprocating compressors for M/s Elgi equipment. Project under preliminary discussion.

6. Received a sum of **Rupees fourteen thousand and eighty thousand only (Rs. 14,85,000/-)** from AICTE – RPS, for the research work entitled “ Trajectory planning for a 3. DOF wire controlled robot manipulator for upper arm post stroke treatments”.
7. Presented proposal at AICTE, New Delhi on 9th March 2010 in connection with the research work entitled “**Kinematic analysis of a Parallel Robot with Three Degrees of Freedom with a Passive segment using Virtual instrument**”.
8. A collaborative research with **Auckland University of Technology (AUT), New Zealand** in the area of Rapid Manufacturing is currently under progress. Experimental investigations are carried out at AUT in requirement to the models developed at CIT.
 1. Dr. Sarat Babu, Sr Lecturer, AUT visited CIT and delivered a special lecture on Rapid Prototyping to the faculty and students.
 2. Working paper entitled “Simulation studies on optimal inventory levels in push-pull hybrid series manufacturing system with multiple products” currently under progress.
 3. Working paper entitled “Construction Plant Breakdown Criticality Analysis – United Arab Emirates Perspective” under progress.
9. Peer Reviewer to **International Journal on Production Research (IJPR)**, International Journal for Advanced manufacturing (IJAMT) and IMech E – part B, Institution of Engineers UK.

(TEACHING LEARNING PROCESS)

1. Actively involved in the revising the Under Graduate and Post Graduate course curriculum for the academic year 2013 onwards.
2. In Charge of Mechatronics Laboratory - responsible for the overall development of the lab - design of new systems and experiments to the students in line with their curriculum.
3. Conduct training programs for the CIT final students who are appearing for GATE / IES and other competitive examinations.
4. Conduct training program for School students preparing for competitive examination.
5. Currently Authoring a Book on “**Design of Manufacturing systems – Theory and Practice**” – accepted for publication by M/s Cengage India, (Apart of Cengage International).
6. Life Member – Indian Society for Technical Education (ISTE) and Institution of Engineers (IE).

Industry Consultancy

- The technical article (**working paper**) entitled “**Determination of Optimal inventory levels in a hybrid push – pull serial manufacturing system with multi part types**” documents the consultancy work carried out in a leading screw compressor manufacturing plant. To minimise the inventory levels at the bottlenecks in the system.

- Education Consultant to a School in Salem to in introducing Finishing Schools for IIT-JEE / AIEEE training program for the students.

BITS – PILANI, DUBAI (BPD)(September 2005 to January 2009)

In BPD, as a faculty, I was vested with the task of initiating and developing the first degree program in Mechanical Engineering. My responsibilities are framing the syllabi, developing the laboratories and smooth conduct of the Program. The following are specific tasks accomplished:

1. Teaching, Evaluation and continuous monitoring of the progress of students in First degree program in Mechanical Engineering.
2. In charge, Manufacturing Process Laboratory & CAD laboratory
 - Design and development of the mentioned laboratories.
 - Responsible for the smooth conduct of the laboratory activities.
 - Design of practical exercises/assignments, evaluation components, maintenance of the machines and systems.
 - Managing the laboratory personnel and train them for continuous improvement.

STUDENT COUNSELLOR

- Maintaining student's records and counselling students with poor academic performance.
- Counselling student regarding academics and in extracurricular activities.

ADMINISTRATIVE ACTIVITIES

Placement Coordinator

As a placement coordinator, I was involved in coordinating the overall activities of the placement activities in the college. The activities include, Survey of employer details in U.A.E. Identifying prospective employer who are in need of fresh graduates. Further these employers are communicated and placement activities are organised at the institute to help students to start a good career.

RESEARCH ACTIVITIES (Institute – Industry activities)

The Practice School (PS) program at BPD is a platform for Industry – Institute interaction. During the PS program the students work in the industry as interns for 7.5 months, which is closely monitored by the faculty. As a Practice School (PS) Faculty & Mentor for the students, guidance and monitoring is carried out for an effective execution of project works assigned to them by the Industry. Other activities include good harmonization of activities between the Institute and the Industry, in connection with PS and ensure smooth conduct of the program.

COIMBATORE INSTITUTE OF TECHNOLOGY (November 1994 - September 2004)

Joined Coimbatore Institute of Technology (CIT) in the year 1994 as lecturer and completed Master Degree in the year 1997, and Doctorate in the year 2002. Apart from teach under graduate and graduate students in Mechanical engineering, I have actively participated in the Research and development and Consultancy activities. The following are some specific tasks accomplished:

- Introduction of interdisciplinary courses in the Mechanical Engineering curriculum, enabling mechanical engineering students to get job in IT industries.
- Development of Course structure and syllabi for the new course ME (Advanced Manufacturing Technology).
- Presented Research Proposal to various government funding agencies.
- Installation, development of CAD/CAM laboratory.

Student Counsellor

- Maintaining student records.
- Advising students regarding their growth both in academics and in extracurricular activities.

Academic / Administrative Activities

The following are the conferences/seminars/ symposium organised at CIT in which, I had taken up key roles/ responsibilities.

1. Organising committee member -- International Conference on Responsive Supply Chain (RSC –2004), CIT, 2004.
2. Organising committee member -- International Conference on Digital Aided Modelling and Simulation (DAMS – 2003), CIT, 2003.
3. Co-Coordinator, Workshop on Synchronous Manufacturing Systems – 2001, CIT.
4. Treasurer, IFAMS- 2000 conducted by Department Of Mechanical Engineering, CIT.
5. Organising committee member -- Summer School on “Computer Integrated Industrial Systems”, 1998.

List of Guest lectures delivered at various institutions in Tamil Nadu.

- *Special Guest lecture on “Intelligent Manufacturing – Fuzzy logic in QFD” summer school at Kumaraguru College of Technology, Coimbatore, 2004.*
- *Special Guest lecture on “Fuzzy logic in Manufacturing” - summer school at Kongu Engineering College, Perundurai, Erode, 2004.*
- *Special Guest lecture on “An investigation on Kaizen in SMEs” - Summer School at Erode Sengunthar College of Engineering and Technology, Erode, 2004.*

- *Special Guest lecture on “Modelling and Simulation – Random Variate generation and model validation” Faculty Improvement Programme Sponsored by Anna University, Kongu Engineering College, Erode, 2003.*
- *Special Guest lecture on “Synchronous Manufacturing & Quality Function Deployment” – Recent trends in modelling the manufacturing systems, Regional Engineering College, Trichy, 2002.*
- *Special Guest lecture on “Introduction to Tabu Search” –winter course on “Genetic Algorithms”, CIT, Coimbatore, December 2001.*
- *Knowledge representation techniques in AI and Expert Systems - Role of AI in Manufacturing systems - Science and Technology Entrepreneurs Park - Trichy Regional Engineering College (STEP -TREC), Trichy (1999 &2000), Sponsored by Department of Science and Technology.*

List of quality improvement programs attended to acquire technical skill sets.

- *Trained in **DENFORD CNC** systems at **MTAB – DENFORD**, 2001.*
- *Winter School on “Genetic Algorithms” - AICTE-QIP- ISTE, 2001.*
- *Seminar on Industry - Institute Interaction - Conducted by CII Southern Region, 2000.*
- *Summer School on” Emerging Trends in Manufacturing”, - AICTE - QIP - ISTE, 1999.*

Workshop conducted

- *Conducted a two day international workshop on colour control in fly ash as a function of the particle size” in collaboration with University of New South Wales, Sydney Australia.*

CONSULTANCY PROJECTS

The following are some of the consultancy projects executed with Industries.

Flat reverse for Carding Machine – LR100 (Lakshmi Reiter), for a effective cleaning and fluff removal from the flats at M/s Sliver Tex Ltd.

The firm is engaged in manufacturing and retrofitting of Carding Machines for textile mills. LR 100 Cards Manufactured by Lakshmi Machine Works is based on Reiter’s design in which the flats move in the direction of the doffer. While in DK760 the direction was reverse. It was found that cleaning in DK 760, was more effective. After a detailed study, it was found that flat reversal improves the fluff removal. Reversal of the flats direction was suggested and successfully implemented.

Design of Pneumofil system for recondition LR cards.

In addition to the flat reversal, the design of Pneumofil was found to be inadequate, a detailed study on the system was performed and an enhanced exhaust air removal system was implemented.

Development of silk spinning machine for M/s Silver Tex Ltd – A project for Silk Board of India.

Developed low cost silk spinning and reeling machines for the silk board. The design details were provided by the silk board, fabrication, machining and installation were done by the firm. I was involved in the material procurement, production planning and erection of the first silk reeling machine.

RESEARCH INTEREST

Analytical Hierarchy Process (AHP) , Quality Function Deployment (QFD), Neuro & Fuzzy Based Decision Support Systems, System Simulation, Just In Time (JIT), Theory Of Constraints (TOC), Push –Pull Hybrid systems

RESEARCH PUBLICATIONS

- 1) Sarat Singameni, Olaf Diegel, Darius Singh and Rajam Ramasamy: Rapid Manufacturing and Re Configurable Manufacturing systems (conference paper accepted for publication).
- 2) Paramasivam.V, Senthil .V, Rajam N.Ramasamy (2011)Decision making in equipment selection: an integrated approach with digraph and matrix approach, AHP and ANP, The International Journal of Advanced Manufacturing Technology, June, Volume 54, Issue 9-12, pp 1233-1244
- 3) P.B. Ahamed Mohideen, M. Ramachandran, Rajam Ramasamy Narasimmalu, (2011) "Construction plant breakdown criticality analysis – part 1: UAE perspective", Benchmarking: An International Journal, Vol. 18 Iss: 4, pp.472 – 489.
- 4) Rajam Ramasamy, N., and Selladurai. V. 2005, An analysis of imparting CPI (Continuous Process Improvement) in SME's, *Journal of Industrial Engineering* Vol: XXXIV, No: 5.
- 5) Rajam Ramasamy, N., Selladurai.V., 2004, Fuzzy Logic approach to prioritise Engineering Characteristics in Quality Function Deployment, *The International Journal of Quality and Reliability Management*, Vol21(9),1012 – 1023.
- 6) Rajam Ramasamy, N., Selladurai, V., Gunasakeran.A. 2002, Implementation of JIT in Small and Medium Industries, *Work Study*, Vol 51(2), 85 – 90.
- 7) Sivasubramanian, R., Selladurai, V., and Rajam Ramasamy, N., 2000, Drum-Buffer-Rope (DBR) Approach and its effect on the Performance of Synchronous Manufacturing System (SMS), *Industrial Engineering Journal*, Vol. XXIX (6), 18 – 23.

- 8) Sivasubramanian, R., Rajam Ramasamy, N., Selladurai, V., 1998, Effect of Drum Buffer Rope (DBR) approach on the performance of Synchronous Manufacturing System (SMS), *Production Planning and Control*, Vol 11(8), 820 - 824.
- 9) Rajam Ramasamy, N., Selladurai, V., and Sivasubramanian, R., A study on Priority assignment to various elements of kaizen in a Garment unit, *in Proceedings of the International Conference on Logistics and Supply Chain Management, Coimbatore, 2001*, 495 – 500, Allied Publishers.
- 10) Rajam Ramasamy, N., Sivasubramanian, R., and Selladurai, V., Continuous improvement – A tool for the small and medium enterprises to improve the throughput, *in Proceedings of the national conference on Computer integrated design and manufacturing, Coimbatore 2001*, 349 – 354, Allied publishers.
- 11) Rajam Ramasamy, .N. Selladurai, .V. and Sivasubramanian. R, An analysis on Implementation of Pull Type Management for small industries – An Experience, *in Proceedings of the International Conference on Intelligent Flexible Autonomous Manufacturing Systems towards Rapid Design Exploration and Optimisation, Coimbatore, 2000*, 863 – 872, Tata McGraw Hill.
- 12) Sivasubramanian, R., Selladurai, V., and Rajam Ramasamy, N., The Throughput Analysis on Synchronous Manufacturing System Performance, *Proceedings of International Seminar on Manufacturing Technology Beyond 2000, Bangalore, 1999*.168 – 175.
- 13) Sivasubramanian, R., Selladurai, V., and Rajam Ramasamy, N., the cost / throughput analysis on the performance of a Synchronous Manufacturing System, *Proceedings of National Conference on Agile Engineering, Birla Institute of Technology, Ranchi, 1999.*, 45 – 57.
- 14) Rajesh, K., Sivasubramanian, R., Rajam Ramasamy, N., and Selladurai, V, and Rangaraj, N., Job scheduling using genetic algorithm, *Proceedings of One day National Conference on Intelligent Manufacturing Systems – A Technology Watch, Coimbatore, 1998.*, j.6.1 – j.6.8. Coimbatore Institute of Technology, Coimbatore.
- 15) Rajam Ramasamy, N., Sivasubramanian, R., and Selladurai, V., Study of Just in Time Technique for Developing Country: a survey, *Proceedings of 21st National Systems Conference NSE-DRDL, Hyderabad, 1998.*, 431 – 435, Allied Publishers.
- 16) Selladurai, V., Sivasubramanian, R., Rajam Ramasamy, N., and Chandrasekeran, K., Simulation and Modelling of Manufacturing Systems for higher throughput, *Proceedings of National seminar on Emerging Trends in manufacturing Processes, Ranchi, 1997.*, T.12.1 – T.12.5.
- 17) Rajam Ramasamy, N., Selladurai, V., Natarajan, R., and Muthusamy, P.K., Modelling and simulation of a Simple factory to study the complex behaviours, *in Proceedings of INCARF, New Delhi, 1996*, 356 – 360, Narosa Publishers.

18) Sivasubramanian, R., Rajam Ramasamy, N., and Selladurai, V., An analysis of FMS in Batch production, in *Proceedings of INCARF, New Delhi, 1996. 174 – 179, Narosa Publishers.*

INDUSTRIAL EXPERIENCE

Graduate Engineering Trainee – L& T Chennai - (June 1992 – December 1992).

- Training in various department of Engineering with specific focus on sales coordination.

Senior Sales Engineer (Textile air engineering Dept) at M/s Batliboi & Co. – (June 1992 – Nov 1994)

At Ms. Batliboi & Co, I was an actively involved in selling Heating Ventilation and Air Conditioning (HVAC) projects for textile Industries. The job involves design, equipment selection, execution and commissioning of tailor made HVAC projects.

SKILLS

Computation skills

CAD	AutoCAD, CATIA, and ANSYS.
CAM	Generation of CNC codes using Master CAM.
Factory Simulation	PROMODEL & ARENA
Mathematical computation	Matlab & Simulink with other toolboxes
General	MS office & other general softwares.

Technical Skills

1. Hands on experience in Heat load calculation, design, and selection of equipment for tailor made HVAC projects.
2. Hands on experience in Design and control of production process in Casting and Machining operations

Communication & leadership Skills

1. Capable of addressing gathers of wide class of audience
2. Work in small groups and steer the team to success as a leader.
3. Leadership qualities.

Achievements

1. Member core committee – CIT

2. Worked at Sultanate of Oman and United Arab Emirates.
3. Very high level of student appreciation - Student feed back or more than 95% for the course handled at BITS – Pilani, Dubai.
4. Countries Visited – Sultanate of Oman, United Arab Emirates, Australia, and Singapore.

REFERENCE

- 1) **Dr. A.Gunasekaran, Chair** person, Decision and information Sciences, Charlton College of Business, University of Massachusetts, North Dartmouth, MA – 024747-2300. USA. Ph: 508 999 9187, fax : 508 999 8646. Email: agunasekaran@umassd.edu.
- 2) **Dr. V.Selladurai**, Professor, Department of Mechanical Engineering, Coimbatore Institute of Technology, Coimbatore – 641014, Ph: 0091 422 2570635 Email:
- 3) **Dr. Sarat Babu Singameni**, Senior Lecturer, School of Engineering, Mail no C-44, Auckland University of Technology, Auckland, NewZealand Ph: +64 9 921-9999 extension 8002 email. sarat.singameni@aut.ac.nz.

N.RAJAM RAMSAMY