**SRI SAI RAM ENGINEERING COLLEGE**

**DEPARTMENT OF MECHANICAL ENGINEERING**

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| Name: | *Paste your recent photo*<br>  <br>Dr.S.Ramachandran |
| Designation: | Professor |
| Area of Specialization: | Product Design, Direct Element Methods, Industrial Robotics |
| Experience: | Teaching-26 years |
| | Industry 16 years |
| Number of Workshops/ Conferences/ FDP Attended: | WORSHOP-<br>NATIONAL/INT. CONFERENCE- 1 |
| Publication: | Journal: 7<br>National 1<br>**International 6** |
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| | Conference:<br>National: 1<br>**International: 25** |
| General: | Nil |
| Staff Achievement | Under my guidance 4 DST funded Green Energy projects are being executed.<br>Under my guidance 4 DST funded projects on green energy has been submitted. |

Professional Experience:

| Sl. No | College/Organization | Designation | Period From To | Total period | Nature of work |
|---|---|---|---|---|---|
| **Academic** | | | | | |
| 1. | Hindustan College of Engineering | Assistant Professor | Feb 1992 to August 1995 | 3 years | Teaching |
| 2. | University Malaya, Kuala Lumpur Malaysia | Associate Professor in CAD/CAM Unit | May 1997 to May 2002 | 5 Years | Teaching and Research |
| 3. | Sri Muthukumaran Institute of Technology | Professor | June 2002 to June 2008 | 6 years | Teaching |
| 4. | Sri Sairam Engineering College | Professor | January 2013 To Tilldate | 10 years | Teaching |
| **Industrial** | | | | | |
| 1. | Ashok Leyland Ltd Ennore | Senior Development | March 1978 to December 1987 | 9 years | To develop Prototype bus |

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| | | Engineer | | | 1. Integral Single Deck bus<br>2. Integral Double Deck Bus<br>3. 50 ‘ vestibule Bus<br>4. Establishment of CAE center |
| 2. | National Institute ofOcean TechnologyIIT Madras | Scientist D & Mission Head | September 1995<br><br>May 1997 | 2 years | To design and develop deep seabed mining systems |
| 3. | National Institute of Ocean Technology Pallikaranai Campus | Advisor | June 2008 to June 2013 | 4 years | To design. Develop and test marine current t turbines for extracting Green energy from Sea. |

International Conferences Attended:2

Ph.D Guidance : 1 (2016)

Title : **Experimental investigations on the use of parallel manipulator for chest compressions during cardio pulmonary resuscitation procedure**

Papers published in the international conferences : 25

Short Term Course (Refresher courses) Attended: NIL

Faculty/Staff Development /Training Program (Orientation programmes) Attended:NIL

Resource person In FDP:3
FDP arranged for writing proposals : 1

Workshops Attended: NIL

Events organized:NIL

Funded Projects:NIL

List of publications in international journals:

| Sl No | Title of Paper | Journal/Conference |
|---|---|---|
| | Research Papers 1-21 Published based on research at IIT Madras | |
| 1. | Finite Element Approach to the Dynamics of a Machining Robot. | International Journal of Computer Applications in Technology, UK, Vol 1, No44, 20-243 |
| 2. | Reliability studies on Assembly Robots using FEM | International Journal of Advanced Robotics, Japan, Vol 7, No 4, 1993, 385-393. |
| 3. | A Finite Element Approach to the Design and Dynamic Analysis of Platform type Robot Manipulators | International Journal of Finite Elements in Analysis and Design, USA. Vol 10, No 4, 1992, 335-350. |
| 4. | A survey of Finite Element Method for the Dynamic Analysis of Robot Manipulators | AMSE Periodical on modeling and simulation and control B. Vol 27, No:1, Winter 1989 -1990 , 23-34. |
| 5. | A generalized approach for finding the minimum deflection path for Assembly Robots using Finite Element Method | AMSE Periodical on modeling and simulation and control B. Vol 27, No:1, Winter 1989 -1990 , 35-50. |
| 6. | Numerical and experimental determination of fundamental resonant frequencies of Platform Manipulators for varying geometry. | International Symposium of Intelligent Robotics, Bangalore, Jan 1993, 883-898 |
| 7. | An FEM approach for the study of vibration characteristics of robot manipulators constructed from fiber reinforced composite materials | International Conference on Design and Computer Integrated Manufacturing DACIM 91, PSG College of Technology, 1991. |
| 8. | Studies on the dynamics of servo-controlled robots using FEM | Proceeding of the Eighth World Congress on Theory of Machines and Mechanisms, Czechoslovakia, August 1991. |
| 9. | Analytical Investigations on the Dynamics of Platform Manipulators using FEM | Proceeding of the Eighth World Congress on Theory of Machines and Mechanisms, Czechoslovakia, August 1991. |
| 10. | Flexibility effects in the reliability analysis of Robot Manipulators | International Conference on Automation, Robotics and Computer Vision, Singapore, Sep 1990, 1320-1325. |

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| 11. | An FEM approach for Robot path planning under dynamic conditions | 10th International Symposium on Engineering Applications in Mechanics EAM, Queen's University, Kingston, Canada, May 1990, 67-72 |
| 12. | An approach for the design and dynamics analysis of light weight platform type manipulators using FEM | 10th International Symposium on Engineering Applications in Mechanics EAM, Queen's University, Kingston, Canada, May 1990, 347-352 |
| 13. | Estimation of resonant frequencies of platform type manipulators using FEM | Fifth International Symposium on linkages and computer methods (Theory and practice of Mechanism) Bucharest, Romania, 1989, 513-524 |
| 14. | Determination of minimum deflection path for Assembly robots using FEM | Ibid, Bucharest, Romania, 1989, 525-530 |
| 15. | An FEM approach for estimating joint control parameters of an Industrial Robot with elastic links | International Conference on Robotics and CIM, 1989, 321-322 |
| 16. | A survey of FEM application for the dynamic analysis of robot manipulators | International Conference on Modelling and Simulation , Shenzhen, China, Nov 1988. |
| 17. | A generalized approach for finding the minimum deflection path for assembly robots using FEM | International Conference on Modelling and Simulation , Shenzhen, China, Nov 1988. |
| 18. | Studies on the dynamics of machining robots | National Conference on Metal cutting and metal forming, MIT, Chennai, 1990 |
| 19. | A generalized FEM procedure for the forward and inverse dynamics of robot manipulators | National Conference on CAD/CAM, PSG college of technology, 1989, CAM -2, 1-8 |
| 20. | A generalized FEM procedure for determining the input functions of a machining robot | XIII AIMTDR Conference, Calcutta, Nov 1988, Paper No: RS04, H17-21 |
| 21. | Finite element techniques in Robotics | National workshop on Robotics, Pune, April 1987, 91-95 |
| 22. | Dynamic studies on closed loop | International Journal of Finite Elements |

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| | manipulators constructed from Composites- An FEM Approach | in Analysis and Design , USA, Vol 16, 1994, 53-70. |
| 23. | Conceptual design and development of a new articulating structure moving on spherical wheels for a mobile robot | University of Malaysia, KL. IASTED Conference, Austria, 1999, ADM 032 |
| 24. | Design and development of a closed loop manipulator with pantograph links for assembly tasks | Ibid |
| 25. | Design development and experimental studies on a multi-positional Stewart type robot manipulator | International Conference in China, 2001. |
| 26. | Finite element analysis of plastic components | Malaysia Science Congress Conference 1997. |
| 27. | FEA of mechanical components using ANSYS | Malaysia Science Congress Conference 1997. |
| 28. | Conceptual design and development of a structure moving on spheres for a mobile robot | Malaysia Science Congress Conference 1997 |
| 29. | Design and development of an underwater mobile robot manipulator mounted on a mobile structure moving on spheres | ICARCV 2002, Singapore. |

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30. Rajendra Prasad A, Krishnaraj S. Ramachandran S, Vasudevan N, Suresh SM, An Approach To the Development of a Green energy farm using Free flow Horizontal Axis Water turbine, International Conference on Mechanical and Manufacturing Systems (Feb 24 th - 25 th ) 2016, West Tambaram, Chennai, India.

31. R. Ashok Gandhi, S. Krishnaraj, V. Raviraj, S. Ganapathy and S. Ramachandran, Development and Field Trials of Ultra Low Wind Speed Vertical Axis Wind Turbine, International Conference on Mechanical and Manufacturing Systems (Feb 24 th - 25 th ) 2016, West Tambaram, Chennai, India.

32. G.Babu Rao, Dr.Darius S Gnanaraj and Dr.S.Ramachandran. Design And Simulation Of Parallel Robot To Assist In Cardiopulmonary Resuscitation Procedure. National Seminar on Recent Advances in PIE and Remote Technologies for Nuclear Fuel Cycle (2010). September.

33. G.Babu Rao, S. Darius Gnanaraj, Dr.S.Ramachandran and Dr.R Sivaramkrishnan,"Conceptual Design, Modeling And Positional Analysis Of Hybrid Robot To PerformChest Compressions During Cardiopulmonary Resuscitation" International ScienceCongress Association 3 rd
International Science Congress (ISC-2013), at KarunyaUniversity, Coimbatore, Tamil Nadu, India during 8th – 9th December 2013.

34. Chest Compression System for Cardiopulmonary Resuscitation G. Babu Rao1 , S. Darius Gnanaraj2* , S. Ramachandran3 and Anirban Banerjee4 1,4Karunya University, Coimbatore, India 2 Hindustan University, Chennai, India 3 Sri Sai Ram Engineering College, Chennai, India * Corresponding author's E-mail: darius1958@yahoo.co.in Phone Number: +91- 80567- 3852 Vol. 6(20), Apr. 2016, PP. 2800-2809 2800 Article History: IJMEC DOI: 649123/10196 Received Date: Dec. 12, 2015 Accepted Date: Mar. 24, 2016 Available Online: Apr. 14, 2016 A