



Dr. M.M.M. Sarcar, M.E., Ph.D. (IIT-KGP), FIE, MISTAM, MCMSI,
Professor, Department of Mechanical Engineering,
A.U. College of Engineering (A),
Visakhapatnam. 530 003.

Name: **Mohammed Moulana Mohiuddin Sarcar**

DOB: 3rd April 1953

Native of: Visakhapatnam – AP – India.

My Ph.D. thesis:

“Vision Based Monitoring and feedback Control Systems for Arc Welding Processes”

Guides: Prof. O.P. Gupta and Prof. M.A. Faruqui, IIT, Kharagpur, 1997.

Research Publications

S.No.	Journal/Conference/Symposium	Published	Accepted for publication	Communicated
1	International Journals	4	4	3
2	National Journals	5	3	
3	International Conferences	9+1(<i>Poster</i>)		
4	National Conferences and Seminars	22		

Research Guidance:

Number of M.E./M.Tech. guided: 60

Ph.D.s ongoing: **11**

Ph.D.s awarded: 3

Name of the Candidate	Title of the Thesis	Date of Award
1. C.L.V.R.S.V. Prasad	Vision Based Experimental Investigations for Online Sensing of the Weld pool Width and Centreline Cooling rates in CO2 Welding	09-02-2004
2. Syed Kamaluddin	Analysis of flow behaviour of Aluminium and Aluminium-Magnesium alloys during Cold upsetting	27-07-2007
3. P. Srinivasa Rao	Development of an Expert System for Welding Process Selection	24-08-2008

Membership in Professional bodies:

1. Fellow of *Institution of Engineers*(India)
2. Life member of *ISTAM*
3. Life member of *Condition Monitoring Society of India.*

Visits to Foreign Countries:

1. *International Training* on Pneumatics and Automation at *SMC, Sydney, Australia*, from 11th Dec. to 17th Dec. 2006.
2. Paper presentation at *Hong Kong – Int. Conf. IMECS-2007*- March 21-23, 2007.

Books:

Title: **CAD/CAM**

Co-Authors: Prof. K. Mallikarjuna Rao (JNTU, **Kakinada**)

Mr. K.Lalit Narayana (**Sir C.R.R. College of Engg., Eluru**)

Publishers: **Prentice Hall of India. 2008**

Editor and one of the authors for

Text Books of B.E.(Mech.) Distance Education Course:

1. *Fluid Mechanics and Fluid Machines* of II/IV B.E.(Mech.)
2. *Computer Graphics and Microprocessors* of II/IV B.E.(Mech.)
3. *Advanced Foundry & Welding Technology* of III/IV B.E.(Mech.)

Positions Held:

1. **Associate Director of Admissions**, Andhra University, since March 2008.
2. **Convener**: AUCE, AU Research Forum, since May 2007.
3. **Member of College Research Committee** – AUCE(A).
4. **Member of Board of Studies** of Mech. Engg., **A.U.** College of Engineering(A)
5. **Member of Board of Studies** of Mech. Engg./IPE/PE, **Acharya Nagarjuna University**.
6. Appointed as “**One man Commission** (Inspection Commission)” by **Acharya Nagarjuna University** for granting the temporary Recognition for Research Centre in Mechanical Engineering at KL College of Engineering, Vaddeswaram.
7. Appointed as **Convener** in the **commission** by **Acharya Nagarjuna University** for granting temporary affiliation for the academic year 2001-'02 in respect of M.Tech. in Prodn. Engg. in V.R. Siddartha Engineering College, Vijayawada.
8. **Expert Member** in the Selection Committee for selecting Management Trainees(Technical) for **Rashtriya Ispat Nigam Ltd**, Visakhapatnam during July 2007.
9. Appointed as the **Inspection Commission** by **CDC, A.U.**, to conduct inspection of the Sir C.R.R. college of Engineering, Eluru and to report the question of granting extension of conditional affiliation to Mechanical Engineering course offered for the academic year 2007-'08
10. **Convener** for Faculty & Development cell, **TEQIP**.
11. **Member**, Hearing Committee- **AICTE** during Feb.- May 2008.

Research Projects:

Completed AICTE funded project worth Rs. 6 lakhs during 1996-'98 – VISMIG

Consultancy Works:

1. HSL – testing during ship launch
2. ESSAR – design and test of test RIG.

Community Services Programs conducted under TEQIP:

1. Application of POWER TOOLS – Carpentry. (Phase – I) 6th and 7th March 2006.

Research Publications

International Journals: (8)

1. M.S.R. Niranjana Kumar, **M.M.M. Sarcar**, V. Bala Krishna Murthy, “Effect of Ellipse orientation on the Static Behaviour of Skew Laminated Composite Plate with Elliptical Cutout”, *Int. J. of Material Science (ISSN 0973-4589)*, Vol.2, No.3 (2007), pp. 263-274.
2. Syed Kamaluddin, **M.M.M. Sarcar**, J. Babu Rao, N.R.M.R. Bhargava, “Studies on Flow Behaviour of Aluminum Using Vision System during Cold Upsetting”, *Int. J. of Metallurgical and Materials Transactions B*, Vol.38B, Aug.2007, pp.681-688.
3. M.S.R. Niranjana Kumar, **M.M.M. Sarcar**, V. Bala Krishna Murthy and K.Mohana Rao, “Analysis of Thick Skew Laminate with Elliptical Cutout subjected to Non-linear Temperature Distribution: Major Axis of Ellipse Collinear with Longer Diagonal”, *Int. Journal of Mechanics and Solids*, Vol.3, No.1, 2008, pp.87-98.
4. M.S.R. Niranjana Kumar, **M.M.M. Sarcar**, V. Bala Krishna Murthy and K.Mohana Rao, “Analysis of Thick Skew Laminate with Elliptical Cutout subjected to Non-linear Temperature Distribution: Major Axis of Ellipse Parallel to Inclined Side”, *Int. Journal of Applied Engineering Research*, Vol.3, No.3, 2008, pp.441-450.
5. B.S. Prasad, **M.M.M. Sarcar**, “Experimental Investigation to Predict the Condition of Cutting Tool by Surface Texture Analysis of Images of Machined Surfaces Based on Amplitude Parameters”, paper accepted for publication in *Int. J. of Automation and Control (IJAAC)*.
6. J. Babu Rao, Syed Kamaluddin, **M.M.M. Sarcar**, N.R.M.R. Bhargava, “Finite Element Analysis of Deformation Behavior of Aluminium- Copper Alloys”, paper accepted for publication in *Int. J. of Materials and Design*. (Ref. No.: JMAD-D-08-00126R1)
7. Madhu Sudan, **M.M.M. Sarcar**, N.R.M.R. Bhargava, “Fabrication and Characterization of Aluminium- Copper Composites”, paper accepted for publication in *Int. J. of Alloys and Compounds*. (Ref. No.: JALCOM-D-08-00123R1)
8. J. Babu Rao, Syed Kamaluddin, **M.M.M. Sarcar**, N.R.M.R. Bhargava, “Deformation Behavior of Al-4Cu-2Mg Alloy during Cold Upset Forging”, paper accepted for publication in *Int. J. of Alloys and Compounds*. (Ref. No.: JALCOM-D-08-00548R1)

National Journals : (8)

1. **M.M.M. Sarcar**, M.S.R. Niranjan Kumar, V. Bala Krishna Murthy, “Effect of Skew angle on the Static Behavior of Thick Skew Laminated Composite Plate with Elliptical Cutout”, **National Journal of Technology** (ISSN-0973-1334), Vol.3, Dec.2007, pp.14-20.
2. **M.M.M. Sarcar**, J. Sudheer Kumar, D.Nageswara Rao, “ Prediction of Municipal Solid Waste Generation with Neuro-Fuzzy Technique – A case study” **Environmental Pollution Control Journal**, Vol.10, No.3, Mar.-Apr. **2007**, pp.51-55.
3. **M.M.M. Sarcar**, J. Sudheer Kumar, D.Nageswara Rao, “ Prediction of Municipal Solid Waste Generation with Artificial Neural Networks Model – A case study” **Indian Journal of Environmental Protection**, Vol.25, No.7, July **2005**, pp.595-600.
4. M.S.R. Niranjan Kumar, **M.M.M. Sarcar**, V. Bala Krishna Murthy and K.Mohana Rao, “Analysis of Thick Skew Laminates with Elliptical Cutout subjected to Non-linear Temperature Distribution: Major Axis of Ellipse Collinear with Shorter diagonal”, **JP Journal of Solids and Structures**, Vol.2, No.1, Mar.2008, pp.53-67
5. **M.M.M. Sarcar**, Md. Amir Ali, V.Subba Rao, “Longitudinal Vibrations in fixed-free slender rod with uniform taper”, *Indian Journal of Technology*, Vol.17, Sept.1979, pp.335-338.
6. **M.M.M. Sarcar**, B.S. Prasad, “Measurement of Cutting Tool Condition by Surface Texture Analysis Based on Image Amplitude Parameters of Machined Surfaces – An experimental approach” paper *accepted for publication* in the MAPAN-JMSI, **Journal of Metrology Society of India**.
7. M.S.R. Niranjan Kumar, **M.M.M. Sarcar**, V. Bala Krishna Murthy, “Thermo-Elastic Analysis of Thick Skew Laminated Composite Plate with Elliptical Cutout”, paper *accepted for publication* in the **Journal of Manufacturing Engineering**.
8. Ch.V.S. Parameswara Rao, **M.M.M. Sarcar**, “Optimal parametric evaluation and development of mathematical relations for machining Copper using CNC wire cut Electrical Discharge Machine”, paper *accepted for publication* in the **Journal of Manufacturing Today**.

International Conferences: (9+1)

1. Ch.V.S.P. Rao, **M.M.M. Sarcar**, Sk. Abdul Munaf, “Development of empirical relations at optimal parametric evaluation and mathematical modeling for machining copper with Wire Electrical Discharge Machining (WEDM)”, proceedings of the Int. Conf. on Advances in Manufacturing Engineering (ICAME-2007), MIT, Manpal, Oct.24-26,2007, pp.82-92.
2. Ch.V.S.P. Rao, **M.M.M. Sarcar**, Sk. Abdul Munaf, “Optimal parametric evaluation and development of empirical relations for machining copper using CNC wire cut Electrical Discharge Machine”, proceedings of the Int. Conf. on Advances in Manufacturing Engineering (ICAME-2007), MIT, Manipal, Oct.24-26,2007, pp.93-101.
3. B.S. Prasad, **M.M.M. Sarcar**, P.M. Vali, “Condition Monitoring of Surface Grinding Wheel using Machine Vision”, Proc. of International Multi Conference of Engineers and Computer scientists, March 21-23 of 2007, **IMECS-2007**, pp2161 -2167.
4. P. Srinivasa Rao, **M.M.M. Sarcar**, B. Satyanarayana, “Some aspects in Expert systems for welding process selection”, Proc. of International Conference on Advances in Machine Design and Industrial Automation – **ICAMDIA - 2007**” held at Pune, India (10-12 **Jan. 2007**), pp – AMD 407 to AMD 413.
5. Syed Kamaluddin, J Babu Rao, **MMM Sarcar** and NRMR Bhargava, ‘Effect of Friction on Flow Behaviour of Al-Mg alloys during Cold Upsetting’- International Conference on Industrial Tribology – ICIT 2006, Bangalore, India, Nov 2006.
6. Syed Kamaluddin, J Babu Rao, **MMM Sarcar** and NRMR Bhargava ‘Studies on Flow Behavior of Aluminum Using Vision System During Cold Upsetting’ International Conference 51st Congress of The Indian Society of Theoretical and Applied Mechanics – ISTHAM 2006, Visakhapatnam, India, Dec 2006.
7. P. Srinivasa Rao, **M.M.M. Sarcar**, B. Satyanarayana, “Interactive Expert System for Selection and Evaluation of Welding Techniques”, proceedings of **International Conference** on e-manufacturing: An emerging need for 21st Century World Class Enterprises, The Institution of Engineers(India), Bhopal, Nov.17-19, **2002**, pp.568-576.
8. Ch.V.S. Parameswara Rao, **M.M.M. Sarcar**, “Experimental Investigations for Evaluation of Optimal Parameters for Machining Non-Ferrous Materials using CNC Wire Cut Electrical Discharge Machine”, proceedings of the Int. Conf. on Frontiers in Design and Manufacturing, 1st – 2nd Feb. 2008, ICDM – ’08, pp. 237-239.
9. Babu Rao, J., **M.M.M. Sarcar**, Bhargava, N.R.M.R., Kamaluddin, S., and Appa Rao, J. “Flow Studies on Al-4% Cu Alloy during Cold Up-setting using Vision System and FEA Model” proceedings of the Int. Conf. on Frontiers in Design and Manufacturing, 1st – 2nd Feb. 2008, ICDM – ’08, pp. 255-260.
10. Ch.V.S. Parameswara Rao, **M.M.M. Sarcar**, “Experimental Study on Selection of Wire for Effective Machining with Wire Cut Electrical Discharge Machine”, **Poster presentation** in the Int. Conf. on Frontiers in Design and Manufacturing, 1st – 2nd Feb. 2008, ICDM – ’08, pp.367.

National Conferences and Seminars: (22)

1. Ch.V.S. Parameswara Rao, **M.M.M. Sarcar**, “Optimal parametric evaluation and development of mathematical relations for machining high Carbon, high Chromium steel using CNC wire cut Electrical Discharge Machine”, proceedings of the National conference- Trends in Mechanical Engineering (TIME-2007), Pune, 5-6th Sept. **2007**, pp. 173-177.
2. P. Srinivasa Rao, **M.M.M. Sarcar**, B. Satyanarayana, C.V. Sriram and S.Srikiran, “Attribute variables for Expert System for selection of welding process”, Proc. Of the National Conference on Factory Automation, Robotics and Soft Computing, 18-19 Jan. **2007**, NIT-Warangal, pp.324 – 328.
3. J Babu Rao, Syed Kamaluddin, **MMM Sarcar** and NRMR Bhargava, “Studies on flow behavior of aluminum-copper alloys Using vision system during cold upsetting”, Diamond Jubilee Symposium on Advances in Materials Engineering, IISc, Bangalore, India, Jul.2007.
4. J Appa Rao, J Babu Rao, Syed Kamaluddin, **MMM Sarcar** and NRMR Bhargava, “Studies on Flow Behavior of Copper using Vision System during Cold Upsetting”, National Seminar on Advances in Materials and Processing – AMP 2007, Warangal, India, Feb 2007.
5. K.I.V. Vandana, Dr. K.V. Ramana, **M.M.M. Sarcar**, “ On-line Surface Finish Monitoring during Automated Machining Operation using Vision Sysytem”, Proc. Of National Conference on Condition Monitoring, NCCM-**2006**, Dec.15-16, 2006, NSTL (CMSI), pp.227-231.
6. B.S. Prasad, **M.M.M. Sarcar**, B.Vimala Kumari, T. Mastan Rao, “Condition Monitoring of Surface Grinding Wheel using Machine Vision”, Proc. Of National Conference on Condition Monitoring, NCCM-**2006**, Dec.15-16, 2006, NSTL (CMSI), pp.236 – 250.
7. **M.M.M. Sarcar**, N.V.S. Shankar, P.Ch. Ramesh, “Obstacle avoidance of autonomous vehicle using stereo vision system”, proceedings of the National Seminar on Advances in Image Processing and Robotics, ADIPRO-2005, held at M.I.T., Anna University, Chennai, February 25-26, **2005**, pp.43-50.
8. **M.M.M. Sarcar**, S. Kamaluddin, N.B.R. Mohana Rao, C.V. Sri Ram, “Metal forming behaviour analysis using image processing techniques”, proceedings of National Seminar on ADIPRO-2005, M.I.T., Anna University, Chennai, Feb. 25-26, **2005**, pp. 1-8.
9. **M.M.M. Sarcar**, K. Lalit Narayan, K. Mallikarjuna Rao, “Optimization of welding parameters using neural networks in CO₂ welding process”, proceedings of National Seminar on Design Optimization and Condition Monitoring (DOCM-2004), Aug. 26-27, **2004**, A.U., Visakhapatnam, pp. P-24 to P-29.
10. **M.M.M. Sarcar**, C.L.V.R.S.V. Prasad, “Experimental investigations for arc noise reduction in top side vision system to sense weld parameters in CO₂ welding”, proceedings of National Seminar on Design Optimization and Condition Monitoring

- (DOCM-2004), Aug. 26-27, **2004**, A.U., Visakhapatnam, pp. P-1 to P-6.
11. **M.M.M. Sarcar**, P. Srinivasa Rao, B. Satyanarayana, "Decision support system for welding technique selection", proceedings of National Conference on Developments and Challenges in Manufacturing Engineering (NCDCM-2004), MIT, Mahe, Manipal, March 18-20, **2004**, pp. 579-585.
 12. **M.M.M. Sarcar**, K.I.V. Vandana, C.V. Sri Ram and C.L.V.R.S.V. Prasad, "Surface characterization and roughness measurement of machined components by vision system", proceedings of National Conference on Developments and Challenges in Manufacturing Engineering (NCDCM-2004), MIT, Manipal, March 18-20, **2004**.
 13. **M.M.M. Sarcar**, "Seam tracking through image analysis", Bulletin of Andhra University Research Forum, Vol.8, Nos. 11&12, Feb.&Mar.26, **2003**, pp.34-35
 14. **M.M.M. Sarcar**, C.L.V.R.S.V. Prasad, C.V. Sri Ram, "Minimization and quantification of arc interference in Robot vision system – An experimental approach", proceedings of National Conference on Recent Trends in CAD/CAM, JNTU, Kakinada, March 30, **2002**.
 15. **M.M.M. Sarcar**, C.L.V.R.S.V. Prasad, "IR vision based on-line sensing of weld pool width in CO₂ MAG welding", proceedings of Symposium on Manufacturing Excellence, IIT, Chennai, January 7-8, **2002**.
 16. **M.M.M. Sarcar**, C.L.V.R.S.V. Prasad, "Vision based on-line sensing of center line cooling rates for arc welding", proceedings of 12th ISME Conference, Chennai, January 10-12, **2001**.
 17. **M.M.M. Sarcar**, K. Srinivasa Rao, C.L.V.R.S.V. Prasad, "Study and analysis of microstructure and properties of welded joint with different shielding media", 38th NMD/54th ATM, The Indian Institute of Metals, Bhilai, November 14-17, **2000**.
 18. **M.M.M. Sarcar**, O.P. Gupta, M.A. Faruqui, "Experimental investigations for on-line vision sensing of process parameters in CO₂ welding", proceedings of National Welding Seminar, 1999, The Indian Institute of Welding, Chennai, 24-26th Oct.1999.
 19. P. Srinivasa Rao, B. Satyanarayana, **M.M.M. Sarcar**, "A Review of Methods for Measurement of Profile Error of Complex Surfaces", presented at the **National Seminar** on Emerging Trends in Production Technologies, held at Institution of Engineers (India), vijayawada local centre, 17th Mar.1996.
 20. **M.M.M. Sarcar**, O.P. Gupta, M.A. Faruqui, "Visual sensing, tracking and control of CO₂ MIG welding", proceedings of National Welding Seminar, 1991, The Indian Institute of Welding, Madras, 24-26th Oct.1991, pp.40-46.
 21. **M.M.M. Sarcar**, O.P. Gupta, M.A. Faruqui, "P.C. based monitoring and control system for plasma arc welding", proceedings of the 14th All India Machine Tool Design and Research Conference – Technologies for competitive manufacturing-, 19-21 Dec.1990, IIT, Bombay, pp. 309-314.
 22. **M.M.M. Sarcar**, O.P. Gupta, "On line computer based monitoring of welding arc parameters", Proc. Of National Welding Seminar, 1990, The Indian Institute of Welding, Bombay, 22-24 Nov.1990, pp. IX-6/1 to IX-6/7.

Other Information:

Student Projects of Interest

1. **Rope Climbing Machine (Cliff Hanger)** N.V. Sankar and P.Ch. Ramesh
M.E. (CAD/CAM)
25-01-2004
Tech-Fest - IIT-Mumbai.
2. **SERPROBO
an Autonomous Snake Robot** Y.C.M. Ayyappa
M.E. (CAD/CAM)
2005-2006
3. **“A Computer-Vision based
Automated Calibration System for
Dial gauges”.** Miss Mona of
M.E.(CAD/CAM)
during 2006-'07