



SRM Valliammai Engineering College

(An Autonomous Institution)

SRM Nagar, Kattankulathur-603203, Kancheepuram District, Tamil Nadu

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Department of Mechanical Engineering

Personal Details

Name :	Dr. S.Thirugnanam		
Designation :	Professor		
Educational Qualification :	Ph.D.		
Experience:	29 years		
Area of Specialization :	Production Engineering		
Date of Birth :	03/05/1969		
Date of Joining :	03/06/2009		
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Educational Details

S.No	Degree	Branch/Specialization	Institution / University	Year
1	B.E.	Mechanical Engineering	Madurai Kamaraj University	1990
2	M.E.	Production Engineering	Bharathiar University, Coimbatore	1993
3	Ph.D.	Production Engineering	Bharathiar University, Coimbatore	2003

Professional Society Memberships

1. Life Member in Institution of Engineers (India).
2. Life Member in Indian Society for Technical Education.
3. Life Member in Indian Institution of Industrial Engineering.
4. Member in Indian Science Congress Association.

Publication Details

Journals:

1. **Thirugnanam S**, Vinodh S, Devadasan S.R, "Innovative Quality Circle a technique for coupling innovation and quality through employee participation"- Published in International Journal of services and operations management, Volume 3, No.4, pp.478 – 495, 2007.
2. **Thirugnanam S**, Vinodh S, Devadasan S.R, "Application study of Innovative Quality Circle and its Decision Support System in a gear manufacturing company"- Published in International Journal of process Management and bench marking, Volume 3, No.1, pp.24 – 46, 2009.

3. Velmurugan, C., Subramanian, R., **Thirugnanam, S.**, Kannan, T. and Anandavel. B, "Experimental study on the effect of Sic and graphite particles on weight loss of Al 6061 hybrid composite materials", Journal of Tribology and surface engineering, Volume 2, Number1/2, pp.49-68, 2011.
4. Velmurugan, C., Subramanian, R., **Thirugnanam, S.** and Anandavel, B. "Investigations on Electric Discharge Machining characteristics of Al 6061 hybrid metal matrix composites", International Journal of Engineering, Science and Technology, Volume 3, Number 8, pp. 87-101, 2011.
5. Velmurugan, C., Subramanian, R., **Thirugnanam, S.** and Anandavel, B. "Experimental study and prediction using ANN on mass loss of hybrid composites", Industrial Lubrication and Tribology Volume 64, issue 3 pp.138-146,2012.
6. Velmurugan, C., Subramanian, R., **Thirugnanam, S.** and Anandavel, B. "Investigation of Friction and Wear Behavior of Hybrid Aluminium Composites", Industrial Lubrication and Tribology Volume 64, issue 3 pp.152-163, 2012.
7. Velmurugan, C., Subramanian, R., Ramakrishnan, S.S., **Thirugnanam, S.**, Kannan, T. and Anandavel, B. "Experimental Investigations on the effect of heat-treatment parameters on the Wear behavior of an aluminium hybrid composites", Industrial Lubrication and Tribology, Iss: 4, 2014. pp.545-554
8. Vadivel, P., Velmurugan, C., Kannan, T., Thirugnanam, S., "Tensile Test Investigation on Al-Ti-C, Mg Metal matrix composite by stir Casting Method, Journal of Advances in Chemistry, Volume 13, Number1, 2017, pp.5868-5871.
9. B.Gnanasundara Jayaraja, P. Mathivanan, **S. Thirugnanam**, M.E. Manoj kumar "Review on Al-WC, Carbon Black Hybrid Nano-Composites", International Journal of Innovative Research in Science, Engineering and Technology, Vol. 6, Issue 12, December 2017, pp. 22423-429.
10. P. Mathivanan, **S. Thirugnanam**, B. Gnanasundara Jayaraja, "Behavior of Damping Properties of Cloisite 10A Blended Epoxy Resin Aluminium-Glass Fiber", Reinforced Sandwich Sheets, International Journal of Science and Research (IJSR), Volume 7 Issue 1, January 2018, pp. 105-107
11. B. Gnanasundara Jayaraja, P. Mathivanan, **S. Thirugnanam**, R. Vijayakumar, "A Review On Wear Behaviour Of Al-Fly Ash-Wc-Mg Hybrid Nano Composite Material", International Journal of Engineering and Technology, Vol 10 No 1 Feb-Mar 2018, pp. 1-6.
12. C. Velmurugan, **S. Thirugnanam**, P. Maithili, R. Ranjithkumar, "Optimization Of The Process Constraints In Spark Erosion Machining of Aluminium Alloy Aa 6061 Hybrid Composites Using Artificial Neural Network", Pak. J. Biotechnology, Vol. 15 (2) 303-310 (2018).

13. S.Ragunath C.Velmurugan, T.Kannan,**S.Thirugnanam**, "Evaluation of tensile, flexural and impact properties on sisal/glass fiber reinforced polymer hybrid composites, Indian Journal of Engineering & Materials Sciences, Vol. 25, October 2018, pp. 425-431.
14. C.Velmurugan, B.Poongodi, S.Sivakumar,**S.Thirugnanam**, "An Experimental Study On The Wear Properties Of Aluminium Hybrid Composites, International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) ISSN(P): 2249-6890; ISSN(E): 2249-8001 Vol. 8, Special Issue 7, Oct 2018, 453-460.
15. P.Mathivanan, **S.Thirugnanam**, "Study on the Mechanical Characteristics of hybrid metal fiber panels with resin cloisite 10A mixture", International journal of applied engineering research, Volume 13, Number 23 (2018) pp. 16548-16551.
16. R.Srinivasan, **S.Thirugnanam**, "Mechanical Properties of hybrid fiber reinforced epoxy composites", i-manager's journal on Mechanical Engineering, Vol.10, No.1, November 2019 - January 2020.
17. T. Naresh Kumar, **S.Thirugnanam** Raghuram Pradhan, T. Ganesh, Abburu Venkat Kumar Chowdary Peram Akhil Kumar Synthesize and wet condition based characterizations of GRP / Lye treated sisal fiber hybrid composite Materials Today: Proceedings, Volume 33, Part 7, 2020, Pages 2846-2849
18. A. Rajendra Prasad, M. Kamal, G. Mahesh, **S. Thirugnanam** P. Vignesh, K. Puhazlvanan, Study about emissivity of black chromium (BCr) coated aluminium alloy surface, Materials Today: Proceedings, DOI Link:<https://doi.org/10.1016/j.matpr.2020.06.434>
19. **S. Thirugnanam** R. Srinivasan , Kshitij Anand , Abhishek Bhardwaj , G. Puthilibai , P. Madhu, A. Karthick, Utilization possibilities of waste medium-density fiberboard: A material recycling process, Materials Today: Proceedings, DOI Link: <https://doi.org/10.1016/j.matpr.2021.12.025>
20. **S.Thirugnanam** C.Velmurugan and Binu Kurian Mathew, An Experimental Investigation on Mechanical Properties of Aluminium-7075 Based Graphite and Bagasse Ash Particles Reinforced Metal Matrix Composite, AIP Conference Proceedings.
21. **S.Thirugnanam** C.Velmurugan and Binu Kurian Mathew, A Practical Study On Mechanical Characteristics of Al6061-Ash-SiC Metal Matrix Composites, AIP Conference Proceedings.

Conferences:

1. **Thirugnanam S**, Aravindan P, Ponnambalam S.G “Cell formation in Group Technology – An approach using Neural Networks”. Published in the proceedings of the International conference of CAD, CAM ROBATICS held at PSG College of Technology, Coimbatore, pp. 123 – 132, December 93.
2. **Thirugnanam S**, Krishnaraj D “Higher casting yield through sand control” - Published in the proceedings of the 48th Indian Foundry Congress proceedings, Coimbatore, pp87 – 94, February, 2000
3. **Thirugnanam S**, Devadasan S.R, Krishnaraj D, “Quality - Through TQM” Published in the proceedings of the 49th Indian Foundry Congress proceedings, pp37 – 45, 2001
4. **Thirugnanam S**, Devadasan S.R, “Development of Decision Support system for Innovation Management of Quality Circles”- Presented and Published in International conference on Optimization Techniques and its applications in Engineering and Technology, Sept.22-23, 2001, Agra
5. **Thirugnanam S**, Devadasan S.R, “Development of Decision Support system for Innovation Management of Taguchi methods”- Proceedings 9(Compact Disc) Released by the secretariat of National conference on Quality Engineering in aerospace Technologies, Organised by VSSC, Thiruvananthapuram, Nov 23-24, 2001
6. **Thirugnanam S**, Devadasan S.R, “Development of Decision Support system for Innovation Management of Total Failure Mode and Effects Analysis”, Presented and Published in the proceedings of XVI National convention of Production Engineers, January 19-20, pp124- 129, 2002
7. **Thirugnanam S**, Devadasan S.R, “Innovative Quality circle programme in a Foundry Industry” – Paper is presented and Published in the Second National conference on Quality control in Metallurgical Industries which was held at PSG College of Technology, Coimbatore during December 5-6, 2003
8. **Thirugnanam S**, Devadasan S.R, “Innovation and Quality Strategies in the research world” – Paper is presented and Published in Second International Conference on Quality, Reliability and Information Technology which was organized by Department of Mathematics, Delhi University, at New Delhi during December 18 – 20, 2003.
9. **Thirugnanam S**, Devadasan S.R, “Design and Development of Decision Support Systems for Innovation integrated Quality Circle Programme, ISO 9001:2000 based Quality System model and Total Failure Mode and Effects Analysis technique”, paper is presented and Published in International Conference on Responsive Supply chain and Organizational Competitiveness (RSC – 2004) which was organized by Department of Mechanical Engineering, Coimbatore Institute of Technology, Coimbatore during January 5 – 7, 2004
10. **Thirugnanam S**, et.al, Preparedness study of Innovative Quality Systems – Implementation using DSS paper is presented and published in First National Conference on Innovated TQM, organized by Department of Production Engineering, PSG College of Technology, during February 2005
11. **Thirugnanam S**, et.al, Decision support system for Innovation Managed Quality Circle programme, Paper is presented and published in First National Conference on Innovated TQM, organized by Department of Production Engineering, PSG College of Technology, during February 2005

12. **Thirugnanam S**, Kalidass S, Computer Aided Design of Gray Iron Castings,, paper is presented and published in National Conference on Recent trends in Manufacturing and Technology, organized by Department of Mechanical Engineering, Kumaraguru College of Technology, during February 2005
13. **Thirugnanam S**, J.Roshan Aravinth, Design and Analysis of Pre adjusted Orthodontic Bracket, PDL Tooth and Alveolar Bone for Different Bracket Materials at ICTETSHAM'15.
14. **Thirugnanam S**, S.Siva kumar, "Experimental Investigation of a Mixed- Mode Type Force Convection Solar", paper is presented and published in National Conference on ICAME054-2015, organized by Department of Mechanical Engineering, on 15th & 16th UCEV, Vilupuram, Tamil nadu.
13. **Thirugnanam S**, KarthiGanesh R.K Generating costing system using SAP R/3. Paper is presented and published in National Conference on The Impact of Information Technology on Manufacturing organized by Department of Mechanical Engineering, Kumaraguru College of Technology, during March 2006.
14. **Thirugnanam S**, KarthiGanesh R.K Activity based Costing system using SAP R/3. Paper is presented and published in National Conference on Optimization Techniques in Engineering Sciences & Technologies, organized by Department of Mechanical Engineering, Bannari Amman Institute of Technology, during April 2006.
15. **Thirugnanam S**, Sabaragirivasan R, Design and Fabrication of Bin Picking End Effector Paper is presented and published in National Conference on Optimization Techniques in Engineering Sciences & Technologies, organized by Department of Mechanical Engineering, Bannari Amman Institute of Technology, during April 2006.
16. **Thirugnanam S**, J.Roshan Aravinth, Design and Analysis of Pre adjusted Orthodontic Bracket, PDL, Tooth and Alveolar Bone for Different Bracket Materials at ICTETSHAM'15, Department of Mechanical Engineering, Kumaraguru College of Technology, during February 2005.
17. **Thirugnanam S**, S.Siva kumar, "Experimental Investigation of a Mixed- Mode Type Force Convection Solar", paper is presented and published in National Conference on ICAME054-2015, organized by Department of Mechanical Engineering, on 15th & 16th UCEV, Vilupuram, Tamil nadu.
18. **Thirugnanam S**, R.Srinivasan, Experimental investigation of the Mechanical properties on Aluminum hybrid composite reinforced with Tungsten carbide, National conference on Fascinating advancement in Mechanical Engineering, 26.2.18, RMK College of Engineering and Technology.
19. **Dr.Thirugnanam.S**, Dr.Mathivanan.P, Mr.Vikas. T.R, Enhancing Wear property by Manganese Phosphate coating, National conference on Recent Advances in Mechanical Engineering, College of Engineering and Technology, 28.2.19, Sri Ram Engineering College.
20. R.Srinivasan, **Dr.Thirugnanam S** Mechanical Properties of Hybrid Fiber Reinforced Epoxy composites, First International conference on Smart Automation in Conference on Smart Automation in Computer,

Electrical, Electronics and Communication Engineering (ICSA 2k19),06-09-2019, SRM Valliammai Engineering College, Kattankulathur-603203.

21. R.Srinivasan, **Dr.Thirugnanam S** Experimental investigation on the effect of heat treatment on Aluminium Hybrid Composites Reinforced with Graphite and Aluminium oxide, 3rd National e-Conference on Recent Development in Automobile and Mechanical Engineering, 31-03-2021, Easwari Engineering College Ramapuram, Chennai-600088.

Research and Development Details

No. of Research Projects Completed:

1. D.Sankar S.Santhanu Vignesh pandian S.V.Thennarasu S.Yokesh kumar and Dr.Thirugnanam S, Experimental Investigation on the Effect of Heat Treatment on Aluminium Hybrid Composites Reinforced with Graphite and Aluminium Oxide received a fund of Rs.10,000 for this project from Tamil Nadu State Council for Science & Technology, STUDENT PROJECT SCHEME 2017-2018.
2. Sanjai M, Srinivas M, Srivatsa U, Surya M and Dr.Thirugnanam S, Manufacture of Aluminium metal matrix composite by stir casting technique, received a fund of Rs.7,500 for this project from Tamil Nadu State Council for Science & Technology, STUDENT PROJECT SCHEME 2018-2019.
3. Shwetha Anandhini.V, Sujay.B, Tharik Ajees.J, Thiruselvam.P, and Dr.Thirugnanam S Experimental Investigation of Al 8011 Aluminium alloy reinforced with Aluminium oxide and Boron carbide, received a fund of Rs.7,500 for this project from Tamil Nadu State Council for Science & Technology, STUDENT PROJECT SCHEME 2021-2022.

No. of Patents Filed: 02

1.Title of the Patent : Composite LPG cylinder using GFRP with Al Alloy matrix

Patent number : 202141025442 A

Publication Date : 25/06/2021

2. Title of the Patent :Analysis of the influence of reinforcements on machining characteristics of Al8011

Application No : 202241007885

Filed Date : 15/02/2022

No. of Ph.D. candidates /guiding: 01

Mr.R.Srinivasan – Registration number 17132991279 - Course work completed.

Recognized as a Supervisor (Ref. No: 2020509) Centre for Research, Anna University, Chennai for guiding Ph.D. and M.S. (By Research) scholars under the Faculty of Production Engineering.

Other Particulars

- Recipient of Young Scientist award from Department of Science & Technology (DST)

Resource Person:

S. No.	Organized by	Topic	Organization	Date
1	Nodal Centre for entrepreneurship and management Development – PSG Polytechnic College	Casting defect analysis	Group of local industries	07.12.1999
2	Continuing Education Programmes - PSG Polytechnic College	Quality improvement of castings	Group of local industries	20.07.2001
3	Nodal Centre for entrepreneurship and management Development - PSG Polytechnic College	Design of risers	Group of local industries	29.12.2001
4	Nodal Centre for entrepreneurship and management Development - PSG Polytechnic College	Control Charts, Sampling Techniques	Group of local industries	04.10.2002
5	Nodal Centre for entrepreneurship and management Development – PSG Polytechnic College	Total Quality Management	Group of local industries	23.09.2002
6	Faculty of Mechanical Sciences – PSG College of Technology	Casting Techniques, Gates, runner and riser, metal flow considerations	M/s.Ashok Leyland, Chennai	01.11.2002
7	Faculty of Mechanical Sciences – PSG College of Technology	Special Casting Process and Casting Defects Analysis	M/s.Ashok Leyland, Chennai	25.11.2002
8	Faculty of Mechanical Sciences – PSG College of Technology	Casting techniques, gates, runner and riser, metal flow considerations	M/s.Ashok Leyland, Chennai	26.11.2002
9	Nodal Centre for entrepreneurship and management Development	Arc Welding Techniques	Group of local industries	18.10.2003
10	Kumaraguru College of Technology (KCT)	Fundamentals of CNC Part Programming	PG Students of KCT	17.11.2006
11	Government College of Technology	Employee Involvement using TQM Principles	Faculty from various Engg.Colleges	16.12.2006
12	Kumaraguru College of Technology (KCT)	Innovative Practices in Foundry	UG Students of KCT	12.01.2007
13	Sri Sairam Engineering College	Metrology and Measurement	Faculties	21.07.2021

Other Achievements:

- 1) Assisted in conducting the National conference as a Chairman for the National Conference on The Impact of Information Technology on Manufacturing organized by Department of Mechanical Engineering, Kumaraguru College of Technology, Coimbatore.
- 2) Assisted in conducting the International Conference on Global Manufacturing and Innovation as a chairman, organized by Coimbatore Institute of Technology, Coimbatore.
- 3) Assisted in conducting the International Conference on Supply chain Management as a Co chairman organized by PSG College of Technology, Coimbatore.
- 4) As a Doctoral committee member, offered suggestions for the research scholars appointed by Anna University.
- 5) Qualified in **Graduate Aptitude Test in Engineering (GATE 91)** conducted by IITs.
- 6) Secured top rank position in **NPTEL** online examination on Fundamentals of Manufacturing Processes held in the month of OCT 2017, conducted by IIT Madras.
- 7) Achieved the Production target as per the planned capacity of 96 moulds per shift and brought the rejection percentage from 90% to 6% in Lakshmi Machine Works (LMW) – Coimbatore.
- 8) Coordinator for AICTE - ISTE Sponsored Summer School on Product and Process Design by Taguchi Methods.
- 9) Lead a team as a Principal and presented PPT for the college at institutional level for NBA and got accreditation for four departments CSE, ECE, EEE, ME in QIS COLLEGE OF ENGINEERING AND TECHNOLOGY (AP)– Affiliated to JNT University