NATIONAL INSTITUTE OF TECHNOLOGY
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Name of the faculty : Dr. T. RAMESH

Designation : Professor

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1. Educational Qualifications:

Degree		Specialization	University	Class	Year of Passing
UG	B.E.,	Mechanical Engg	Madras University	I Class	1995
PG	M.E.	Engg. Design	Bharathiar University	I Class	1997
Ph.D.	PhD	Composite Materials	Bharathidasan University	Highly Commented	2006

2. Work Experience (In chronological order):

Sl. No	Name of the Organization	Position Held	Period	
1.	Jayaram College of Engineering & Technology, Thuraiyur	Lecturer	30.07.1997	03.07.1998
2.	J.J. College of Engineering & Technology, Tiruchirappalli	Lecturer	08.07.1998	31.01.2004
3.	J.J. College of Engineering & Technology, Tiruchirappalli	Assistant Professor	01.02.2004	30.03.2006
4.	National Institute of Technology, Tiruchirappalli – 15	Assistant Professor (AGP – 6000)	31.03.2006	30.06.2006
5.	National Institute of Technology, Tiruchirappalli – 15	Assistant Professor (AGP – 7000)	01.07.2006	14.07.2009
6.	National Institute of Technology, Tiruchirappalli – 15	Assistant Professor (AGP – 8000)	15.07.2009	12.03.2018
7.	National Institute of Technology, Tiruchirappalli – 15	Associate Professor	13-03-2018	10.03.2024
8.	National Institute of Technology, Tiruchirappalli – 15	Professor	11.03.2024	Till Date

3. Publication details

Orchid ID	**0000-0001-9087-9693**
Scopus ID	**57242551000**
Google Scholar ID:	https://scholar.google.com/citations?user=kCAARa8AAAAJ&hl=en&oi=ao

a) Number of technical papers published:

International		National	
Journal	**Conference**	**Journal**	**Conference**
54	**04**	**02**	**03**

b) International Journals: (SCI Indexed Journals)

1. **T Ramesh**, KB NB, B NS, AR Kannan, DG Mohan, *Prediction of formability and effects of process parameters on the adhesively bonded composite metallic sheets*, Journal of Adhesion Science and Technology 38 (9), 1378-1394, 2024.
2. N Shivakumar, **T Ramesh**, S Muthukumaran, Mechanical performance of aluminium 6061-infiltrated diamond metal lattice structures, Materials Today: Proceedings, 2024.
3. N Shivakumar, **T Ramesh**, S Muthukumaran, A short review of molecularly inspired strut-based metal lattice structures, Materials Today: Proceedings, 2024.
4. C Pradeep Raja, **T Ramesh**, *Extensive Plastic Deformation to Improve the Mechanical Properties and Electrical Conductivity of Copper through Multistep Cross Rolling,* Journal of Materials Engineering and Performance, 2023, https://doi.org/10.1007/s11665-023-07873-x
5. T. R. Vijaybabu, **T. Ramesh**, Suman Pandipati, Sujit Mishra, G Sridevi, C Pradeep Raja, Rhoda Afriyie Mensah, Oisik Das, Manjusri Misra, Amar Mohanty, Karthik Babu NB, *High Thermal Conductivity Polymer Composites Fabrication through Conventional and 3D Printing Processes: State-of-the-Art and Future Trends, 2023, Macro Molecular Materials and Engineering,* https://doi.org/10.1002/mame.202300001
6. C Pradeep Raja, **T Ramesh**, P Paavai, M Amal Jerald Joseph, *Numerical and Experimental Study on Hydroforming of Thin Metallic Sheets,* Advances in Forming, Machining and Automation, 2023, 97-114. https://doi.org/10.1007/978-981-19-3866-5_9
7. P Kamanat, **T Ramesh**, *Extremisation of Hamiltonian of Eight DoF Rotor System, 2022,* International Journal of Vehicle Structures & Systems 14 (4), 497-502.
8. A Karpagaraj, JAS Edberk, TDB Kannan, DK Rajendran, **T Ramesh**, *Effect of GTAW process parameters on joining stainless steel 316L*. 2022, AIP Conference Proceedings 2460 (1), 070010.
9. C Kailasanathan, PR Rajkumar, N Rajini, GD Sivakumar, T Ramesh, *Characterization and optimization of influence of MoS2 hybridization on tribological behaviours of Mg–B4C composites*, 2021, Bulletin of Materials Science 44 (3), 1-18, https://doi.org/10.1007/s12034-021-02423-4
10. NB Karthik Babu, S Muthukumaran, T Ramesh, S Arokiasamy, *Effect of agro-waste microcoir pith and nano-alumina reinforcement on thermal degradation and dynamic mechanical behavior of polyester composites,* 2021, Journal of Natural Fibers 18 (4), 581-593, https://doi.org/10.1080/15440478.2019.1636745
11. NBK Babu, **T Ramesh**, S Muthukumaran, *Physical, tribological and viscoelastic behavior of machining wear debris powder reinforced epoxy composites*, 2020, Journal of Cleaner Production 272, 122786. https://doi.org/10.1016/j.jclepro.2020.122786

12. CP Raja, **T Ramesh**, *Influence of size effects and its key issues during microforming and its associated processes–A review*, Engineering Science and Technology, an International Journal, 2020. https://doi.org/10.1016/j.jestch.2020.08.007
13. NB Karthik Babu, S Muthukumaran, S Arokiasamy, **T Ramesh**, *Thermal and mechanical behavior of the coir powder filled polyester micro-composites,* Journal of Natural Fibers 2020, 17 (7), 1058-1068. https://doi.org/10.1080/15440478.2018.1555503
14. TDB Kannan, G Tutta, P Sathiya, **T Ramesh**, *POST Weld Heat Treatment of NiTinol Shape Memory Alloy Using Laser Power Source*, 2020, Surface Review and Letters 27 (06), 1950160. https://doi.org/10.1142/S0218625X19501609
15. L Prakash, **T Ramesh**, *Investigation of possible failure patterns of wrapper supports servicing at zones of elevated temperatures,* Materials Today: Proceedings, 2020/5/11. https://doi.org/10.1016/j.matpr.2020.04.240
16. L Prakash, **T Ramesh**, *Sustainability analysis of HRSG modules against high velocity exhaust of advance class Fr9FB gas turbines,* Materials Today: Proceedings, 2020/3/5 *https://doi.org/10.1016/j.matpr.2020.01.610*
17. Elsen, R., Bharadwaj, K., and **Ramesh, T**., *A Parametric Study on Electro Thermally Actuated Novel Compliant Microgripper,* SAE Technical Paper 2019-28-0032, 2019, *https://doi.org/10.4271/2019-28-0032.*
18. M Satthiyaraju, **T Ramesh** , *Effect of annealing treatment on PVDF nanofibers for mechanical energy harvesting applications*, Materials Research Express, 2019, 6(10). *DOI: 10.1088/2053-1591/ab4037*
19. KB NB, **T Ramesh**, *Enhancement of thermal and mechanical properties of novel micro-wear debris reinforced epoxy composites,* Materials Research Express, 2019, 6(10), *DOI: 10.1088/2053-1591/ab404f*
20. T Deepan Bharathi Kannan, Govindu Tutta, P Sathiya, **T Ramesh**, *Post Weld Heat Treatment of NiTinol Shape Memory Alloy Using Laser Power Source,* Surface Review and Letters, 2019, 1950160.
21. NB Karthik Babu, S Muthukumaran, **T Ramesh** *Effect of Agro-waste Microcoir Pith and Nano-alumina Reinforcement on Thermal Degradation and Dynamic Mechanical Behavior of Polyester Composites.* Journal of Natural Fibers, 2019, 1-13.
22. Satthiyaraju, M., **Ramesh, T.** *Nanomechanical, Mechanical Responses and Characterization of Piezoelectric Nanoparticle-Modified Electrospun PVDF Nanofibrous Films.* Arab J Sci Eng 44, 5697–5709 (2019). https://doi.org/10.1007/s13369-018-03694-6
23. M Satthiyaraju, **T Ramesh**, K Jagatheswaran, *Annealing and ZnO Doping Effects on Hydrophilicity and Mechanical Strength of PVDF Nanocomposite Thin Films, Advances in* Manufacturing Technology: Springer, 2019. https://doi.org/10.1007/978-981-13-6374-0_52
24. Karthik Babu N B, **T Ramesh**, *Role, effect and influences of micro and nano-fillers on various properties of polymer matrix composites for microelectronics: A review. Polymers for Advanced Technologies, 29(6), 1568-1585.* ***(Impact factor: 1.907)***.
25. TDB Kannan, P Sathiya, **T Ramesh**, *Metallurgical Aspects and Optimisation of Yb: YAG Laser Welded NiTinol Shape Memory Alloy* Materials Today: Proceedings 4 (2), 1268-1276, 2017
26. T Deepan Bharathi Kannan, AR Shegokar, **T Ramesh**, P Sathiya, *Modelling and experimental investigation on laser welding of nitinol,* Emerging Materials Research, 1-11, 2017
27. Deepan Bharathi Kannan T, P Sathiya, **T Ramesh,** *Experimental investigation and characterization of laser welded NiTinol shape memory alloys,* Journal of Manufacturing Processes (Impact Factor: **1.771**) 25, 253-261, 2017
28. TDB Kannan, **T Ramesh**, P Sathiya, *Application of Artificial Neural Network Modelling for Optimization of Yb: YAG Laser Welding of Nitinol,* Transactions of the Indian Institute of Metals, DOI: 10.1007/s12666-016-0973-x (Impact Factor : **0.502**), 1-9, 2016.
29. TDB Kannan, **T Ramesh**, P Sathiya, *A Review of Similar and Dissimilar Micro-joining of Nitinol,* JOM (Impact Factor: **1.798**), 68 (4), 1227-1245, Feb 2016.

30. S Renold Elsen, **T Ramesh,** *Optimization to develop multiple response hardness and compressive strength of zirconia reinforced alumina by using RSM and GRA*, International Journal of Refractory Metals and Hard Materials (Impact Factor: **2.263**) 52, 159-164, 2016
31. S Renold Elsen, **T Ramesh**, *Shrinkage characteristics studies on conventional sintered zirconia toughened alumina using computed tomography imaging technique*, International Journal of Refractory Metals and Hard Materials (Impact Factor: **2.263**) 54, 383-394, 2016
32. S Renold Elsen, **T Ramesh***, Analysis and optimization of dry sliding wear characteristics of zirconia reinforced alumina composites formed by conventional sintering using response surface method*, International Journal of Refractory Metals and Hard Materials (Impact Factor: **2.263**) 58, 92-103, 2016.
33. R. Bharanidaran, **T.Ramesh**, *A modified post-processing technique to design a compliant based microgripper with a plunger using topological optimization,* The International Journal of Advanced Manufacturing Technology (Impact Factor: **1.568**) , 1-10, First Online: 15 September 2015 DOI: 10.1007/s00170-015-7801-z, 2015
34. R.Bharanidaran, **T.Ramesh**, *Numerical simulation and experimental investigation of a topologically optimized compliant microgripper,* Sensors and Actuators (A) Physical (Impact Factor: **2.201**), Jan. 01/2014; Vol. 205: Pages 156–163, 2014
35. S Renold Elsen, **T Ramesh**, B Aravinth, *Optimization of Process Parameters of Zirconia Reinforced Alumina by Powder Forming Process Using Response Surface Method*, Advanced Materials Research 984, 129-139, 2014.
36. R.Bharanidaran**, T.Ramesh**, *Design and Analysis of Monolithic Microgripper,* International Journal of Scientific and Engineering Research (Impact Factor: 0.4510) Volume 3,Issue 6, June 2012, Volume 3,Issue 6, June 2012.
37. S. Sivasankaran, R.Narayanasamy, **T. Ramesh**, M. Prabhakar, "*Analysis of workability behavior of Al–SiC P/M composites using back propagation neural network model and statistical technique",* Computational Materials Science (Impact Factor: **1.879)** Volume 47, Issue 1, November 2009, Pages 46-59.
38. R. Narayanasamy, **T. Ramesh**, M. Prabhakar, "*Effect of particle size of SiC in aluminium matrix on workability and strain hardening behaviour of P/M composite"*, Materials Science and Engineering: A (Impact Factor: **2.647),** Volume 504, Issues 1-2, 25 March 2009, Pages 13-23.
39. **T. Ramesh**, M. Prabhakar and R. Narayanasamy *'Workability studies on Al–5%SiC powder metallurgy composite during cold upsetting'* The International Journal of Advanced Manufacturing Technology, (Impact Factor: **1.568)** September 2009, Volume 44, Issue 3-4, pp 389-398
40. R. Narayanasamy, **T. Ramesh**, K.S. Pandey, S.K. Pandey, '*Effect of particle size on new constitutive relationship of aluminium–iron powder metallurgy composite during cold upsetting***'** Materials & Design (Impact Factor: **3.997),** Volume 29, Issue 5, 2008, Pages 1011-1026
41. *R. Narayanasamy, **T. Ramesh**, K.S. Pandey "Some aspects on cold forging of aluminium–iron powder metallurgy composite under triaxial stress state condition "*Materials & Design (Impact Factor: **3.997),** Volume 29, Issue 4, 2008, Pages 891-903
42. R. Narayanasamy, **T. Ramesh**, K.S. Pandey, *Some aspects on cold forging of aluminium–alumina powder metallurgy composite under triaxial stress state condition* Materials & Design (Impact Factor **3.997),** Volume 29, Issue 6, 2008, Pages 1212-1227.
43. R.Narayanasamy, **T. Ramesh**, K.S.Pandey, *An experimental investigation on strain hardening behaviour of aluminium – 3.5% alumina powder metallurgy composite preform under various stress states during cold upset forming,* Materials & Design, (Impact Factor **3.997),** Volume 28, Issue 4, 2007, Pages 1211-1223
44. R.Narayanasamy, **T. Ramesh**, K.S. Pandey, "*Some aspects on strain hardening behaviour in three dimensions of aluminium–iron powder metallurgy composite during cold upsetting",* Materials & Design, (Impact Factor: **3.997)** Volume 27, Issue 8, 2006, Pages 640-650.

45. R.Narayanasamy, **T. Ramesh**, K.S. Pandey, *Workability studies on cold upsetting of Al–Al_2O_3 composite material ,* Materials & Design, (Impact Factor: **3.997)** Volume 27, Issue 7, 2006, Pages 566-575**.**
46. R.Narayanasamy, **T. Ramesh**, K.S.Pandey , "*An investigation on instantaneous strain hardening behaviour in three dimensions of aluminium–iron composites during cold upsetting",* Materials Science and Engineering A (Impact Factor: **2.647),** Volume 394,Issues 1-2, 15 March 2005, Pages 149-160.
47. R.Narayanasamy, **T. Ramesh**, K.S. Pandey, "*Some aspects on workability of Aluminium – iron powder metallurgy composite during cold upsetting",* Materials Science and Engineering A, (Impact Factor: **2.647),** Volume 391, Issues 1-2, 25 January 2005, Pages 418-426.
48. R. Narayanasamy, **T.Ramesh** and K.S. Pandey, *'Some aspects on workability studies in cold forging of pure aluminium powder metallurgy compacts'* Materials Science and Technology, Impact Factor : 0.772, Volume 21, Number 8, pp. 912 – 916 (5), (2005).

International Journals: (SCI Non-Indexed Journals)

49. Chendur Singaram Senthilnathan, Kartik Prakash, **Thillaigovindan Ramesh**, Alternate driving mechanism for a lever propelled wheelchair, International Journal of Mechanisms and Robotic Systems, 4(2),81-88, (2018).
50. R. Bharanidaran, **T. Ramesh**, A Numerical Approach to Design a Compliant based Microgripper with. integrated force sensing jaw, International Journal of Mechanics, ISSN: 1998-4448 , Issue 2, Vol. 7, 2013
51. R.Bharanidaran, **T.Ramesh,** *Design of Compliant Mechanism Based Microgripper with Three Finger Using Topology Optimization,* International Journal of Mechanical, Industrial Science and Engineering, Issue 2, Vol. 7, 2013.
52. **T. Ramesh,** M. Prabhakar, R.Narayanasamy, *'Workability studies on Al-20% SiC Powder Metallurgy composites during cold upsetting'* Advances in Production Engineering and Management, Vol. 5, No. 1, Pages 33 – 44, 2010.
53. **T.Ramesh**, M. Prabhakar, R. Narayanasamy, '*Workability studies on AL-15% SiC powder metallurgy composite during cold upsetting,* International Journal of Materials and Structural Integrity (IJMSI), Volume 3 - Issue 1 – 2009, Pages 1 – 27.
54. P. Sathiya, N. Siva Shanmugam, **T. Ramesh** and R. Murugavel, *'Temperature distribution modeling of Friction Stir Spot Welding of AA 6061-T6 using Finite Element Technique'* International Journal of Multidiscipline Modeling in Materials and Structures, Vol. 4, No. 1, pp. 1-14, (2008).

c. National Journals:

1. R. Narayanasamy, **T.Ramesh** and K.S. Pandey, *'Workability Studies on Cold Upsetting of Sintered Copper – Titanium Carbide Composite Materials',* Metals Materials and Processes, Volume 17, No. 2, (2005)
2. **T. Ramesh,** M. Prabhakar, R. Narayanasamy, *'Workability studies on Al-5% and 10% SiC P/M composites'* International Journal of Materials and Product Technology, Impact Factor: 0.31, Vol. 38, No.2/3, 2010 pages 264-274.

5. Ph. D Guidance:

a) Ph. Ds completed : 09

1. Workability studies on Aluminium – SiC powder metallurgy composite materials
2. Design and Analysis of Microgripper for MEMS applications
3. Experimental Investigation and optimization of process parameters for conventionally sintered Zirconia reinforced alumina composites using RSM
4. Micro Joining of NiTinol Shape Memory alloys.
5. Processing and Characterization of Polyvinylidene Fluoride based Composite Fibers for Mechanical Energy Harvesting Applications
6. Development and Characterization of Polymer Matrix Composites for Structural and Microelectronics Applications
7. A Methodology for Selecting and Redesigning Compliant Mechanisms Using Non-Dimensionalized Feasibility Maps
8. Microstructure and Magnetic Property correlation in Rare Earth Free Permanent Magnet – MnBi alloy.
9. Severe plastic deformation through rolling: Grain refinement and microstructural changes on the Formability of thin metallic sheets for Microelectronic applications.

b) Ph. Ds supervising : 06

Full Time : 01

Part – Time : 05

6. Projects Handled

a. Sponsored Research Projects

a. Carbon black and ion-functionalized fillers reinforced high conductivity polymer nanocomposites: an investigation through various additive manufacturing techniques, SERB, CRG, Rs. **29.0 Lakhs**, **Ongoing.**
b. Additive Manufacturing of Carbon Allotropes based Invar Composite for Aerospace Applications, ISRo, STIC, **Rs. 20.0 Lakhs**, **Ongoing.**
c. Design and Analysis of Armour Solutions against Mine Blast for AFVs, DRDO, **Rs. 22.68 Lakhs**, **Completed.**
d. Experimental Investigation and Finite Element Simulation of Workability of Al – TiC Metal Matrix Composite During Cold Upsetting, DST, **Rs.12.96 Lakhs**, **Completed**

b. Consultancy projects to BHEL, Trichy and NLC, Neyveli, **Rs.73 Lakhs**, **Completed**

7. Other activities

- International Edition contributions in the book titled "**Introduction to Finite Elements in Engineering, International Edition",** Tirupathi R. Chandrupatla, Ashok D. Belegundu, 4th Edition, Pearson Ltd., 2015.
- **Flame Retardancy of Bio-based Composites**, a book chapter on Bio-based Composites: Processing, Characterization, Properties, and Applications, First Edition, Wiley Online Library, 2021.
- Undergone a *Month Training program* on **Micro and Nano Machining** at **N**ational **U**niversity of **S**ingapore, during May – June 2008.