


FACULTY PROFILE

DEPARTMENT OF MECHANICAL ENGINEERING

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|---------------------------|---|---|--|---|
| Name of the Faculty | Designation/ Afiliation | Address/Contact | Email (Institute) @kitsw.ac.in |  |
| Dr. ARURI DEVARAJU | ASSOCIATE PROFESSOR OF MECHANICAL ENGINEERING | DEPT. OF MECHANICAL ENGINEERING& KITS, WARANGAL, 506015 | aruri_devaraj@yahoo.com aruri.devaraj@gmail.com | |

| EDUCATION | | | | |
|---------------|---|--|----------------------------|------------------------|
| Degree | Details (specialization) | Institute/University | Month , Year of Registered | Month , Year completed |
| B.Tech | Mechanical Engineering | Kakatiya University Warangal, Telangana, India. | July, 2002 | May, 2006 |
| M.Tech | Mechanical Engineering (Materials Technology) | National Institute of Technology Warangal, Telangana, India. | July, 2007 | July, 2009 |
| Ph.D. | Mechanical Engineering (Friction stir processing & Welding) | National Institute of Technology Warangal, Telangana, India. | July, 2009 | October, 2014 |

| ACADEMIC AFFILIATION CURRENT : PROFESSOR | | | |
|--|--------------------|------------------|--------------------------|
| Details | From (Month, Year) | To (Month, Year) | Name of the Organization |
| ASSOCIATE PROFESSOR OF MECHANICAL ENGG. | 27-07-2019 | TILL DATE | KITS, WARANGAL |
| ASSOCIATE PROFESSOR OF MECHANICAL ENGG. | 01-07-2017 | 25-07-2019 | SREC, WARANGAL |
| ASST.PROFESSOR OF MECHANICAL ENGG. | 15-04-2013 | 30-06-2017 | SREC, WARANGAL |

| RESEARCH INTERESTS |
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| Functionally graded materials (Fused Silica), Friction stir processing & welding (Al & Cu), Electric discharge machining (Super alloys) & Nano composite materials (MMCs). |

| SEMINARS /WORKSHOPS ATTENDED | |
|------------------------------|--|
| 1. | Attended Faculty Development Programme on ICT in Advanced Manufacturing Engineering (27 th May - 01 st June, 2019) |
| 2. | Completed certification course IUCEE International Engineering Educator Certification Program-2018 |
| 3. | Attended 1-day workshop on Challenges in Joining of Advanced Materials -2017 |
| 4. | Attended a national workshop on “Advances in Materials Processing Technologies” at SR engineering college (Autonomous), Warangal. |
| 5. | Attended a national workshop on “Frontiers of Materials and Manufacturing processes” at NITW, Warangal. |
| 6. | Attended a national workshop on “Materials Characterization and Failure analysis” conducted by ASM Chennai chapter at IIT, Madras. |
| 7. | Attended a national workshop on “Eco-friendly Friction stir welding process” at Anna University, Chennai. |
| 8. | Attended advanced technology programme on Current trends in Nano Technology conducted by National Institute of Technology, Warangal. |
| 9. | Attended a training program on CNC Programming and Operation (on TMC-20) and CNC Programming and Operation (on VMC) Fanuc 0i-TB at ATL, Hyderabad. |

| PUBLICATIONS | | | | |
|--------------|--|--|-----------------------------|-------------------|
| Sl. No. | Title and the Authors of the paper | Name of the Journal & Publisher | Year / Vol./ Page No. | SCI/Scopus Yes/No |
| 1. | Influence of Tool Pin geometry on Friction Stir Welded Dissimilar Aluminium Alloys - (AA5083 & AA6061) | <i>Recent Advances in Material Sciences-Springer</i> | <i>Article in press</i> | Scopus |
| 2. | Investigation of Velocity ratios on Mechanical and Microstructural Characterization of Friction Stir Welded Dissimilar 2024 and 7075 Aluminium Alloy | <i>Materials Today: Proceedings – Elsevier</i> | <i>5 (2018) 19250–19254</i> | Scopus |
| 3. | Influence of Tool Rotational speed and Pin Profile on Mechanical and Microstructural Characterization of Friction Stir Welded 5083 Aluminium Alloy | <i>Materials Today: Proceedings – Elsevier</i> | <i>5 (2018) 3518–3523</i> | Scopus |
| 4. | Influence of Cryogenic cooling (Liquid Nitrogen) on Microstructure and | <i>Materials Today: Proceedings – Elsevier</i> | <i>5 (2018) 1585–</i> | Scopus |

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|-----|---|---|---|---------------|
| | Mechanical properties of Friction stir welded 2014-T6 Aluminum alloy | | 1590 | |
| 5. | Tribological Properties of Nano TiB ₂ particle Reinforced 6061-T6 Aluminum Alloy Surface Composites via Friction stir processing | <i>Materials Today: Proceedings – Elsevier (49021)</i> | 5 (2018) 1615–1619 ISSN: 2214-7853 | Scopus |
| 6. | Influence of volume percentage of NanoTiB ₂ particles on Tribological & Mechanical behaviour of 6061-T6 Al alloy nano-surface composite layer prepared via Friction stir process | Defense Technology <i>Elsevier (48940)</i> | 13 (2017) 16-21 ISSN: 2214-9147 | Scopus |
| 7. | Influence of Post-weld Rapid cooling on Grain size and Mechanical properties of Friction Stir Welded AA 2014 | <i>Materials Today: Proceedings – Elsevier</i> | 4 (2017) 3722–3727 | Scopus |
| 8. | Preparation of nano surface layer composite (TiB ₂) _p on 6061-T6 Aluminum Alloy via Friction Stir Processing | <i>Materials Today: Proceedings – Elsevier</i> | 4 (2017) 4065–4069 | Scopus |
| 9. | Influence of Tool Revolving on Mechanical Properties of Friction Stir Welded 5083 Aluminum alloy | <i>Materials Today: Proceedings – Elsevier</i> | 4 (2017) 330–335 | Scopus |
| 10. | Influence of Rotational speed and Reinforcements on Wear and Mechanical properties of Aluminum Hybrid composites via Friction stir processing | Journal of Materials and Design -Elsevier | 45 (2013) 576–585 | SCI |
| 11. | Influence of Reinforcements (SiC&Al ₂ O ₃) and Rotational speed on Wear and Mechanical properties of Aluminum alloy 6061-T6 based surface Hybrid Composites produced by Friction stir processing | Journal of Materials and Design –Elsevier (3964) | 51 (2013) 331-341 ISSN: 0264-1275 | SCI |
| 12. | Wear and Mechanical properties of 6061-T6 Aluminum alloy Hybrid Composites [(SiC+Gr) & (SiC+Al ₂ O ₃)] Fabricated by Friction stir processing | Journal of Materials Research and Technology – Elsevier (24459) | 2013;2(4):362–369 ISSN: 2238-7854 | SCI |
| 13. | Influence of the addition of Gr _p /Al ₂ O _{3p} with SiC _p on Wear properties of Aluminum alloy 6061-T6 Hybrid Composites via Friction stir processing. | Transactions of Nonferrous Metals Society of China– Elsevier (2268) | 23 (2013)1275-1280 ISSN: 1003-6326 | SCI |
| 14. | Study On The Effect Of Cryogenic Cooling On Microstructure And Mechanical Properties Of Friction Stir Welded 2014 Aluminium Alloy | <i>International Journal of Pure and Applied Mathematics (23425)</i> | Volume 118 No. 24 2018ISSN: 1314-3395 1311-8080 | Scopus |
| 15. | Practices In Fsw Welding And Investigate Effect Of Tool Turning Speed On Tensile Properties And Microhardness Of Dissimilar Aluminium Alloys 2024 & 6061 | <i>International Journal of Mechanical Engineering and Technology (IJMET)</i> | Volume 8, Issue 11, November 2017, pp. 165–172, Article ID: IJMET_08_11_019 | Scopus |

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| 16. | Influence Of Taper Tool Profile On Mechanical And Microstructural Characterization Of Friction Stir Welded 5083 Aluminium Alloy | <i>International Journal of Mechanical Engineering and Technology (IJMET)</i> | <i>Volume 8, Issue 11, November 2017, pp. 327–334, Article ID: IJMET_08_11_036</i> | Scopus |
|-----|---|---|--|---------------|

| Publications in Refereed Conference Proceedings: | | | |
|---|--|--|---|
| Sl. No. | Title and the Authors of the paper | Name of the Conference | Year & Place |
| 1. | Synthesis and Characterization of Functionally Graded Ceramic Material for Aerospace Applications | ICIMES-2019 | June 21-22, 2019 at MRCET, Hyderabad, India. |
| 2. | Impact of Finer granules on Tensile & Micrograph characterization of Solid welded AA2014 | International Conference on Materials Processing and Characterization | ICMPC-March-2018 GRIET Hyderabad |
| 3. | Effect of Rotation speed on Mechanical properties of Al Alloys 6061-T6 to 2024 -T6 dissimilar Weldments via Solid State Joining Technique | International Conference on Materials Processing and Characterization | ICMPC-March-2018 GRIET Hyderabad |
| 4. | Study On The Effect Of Cryogenic Cooling On Microstructure And Mechanical Properties Of Friction Stir Welded 2014 Aluminium Alloy | International Conference On Innovative Techniques In Science, Engineering And Information Technology | 11 th –13 th March Icitseit-2018 Vivekananda Engineering college Karimnagar |
| 5. | Investigation of Velocity ratios on Mechanical and Microstructural Characterization of Friction Stir Welded Dissimilar 2024 and 7075 Aluminium Alloy | International Conference on Materials Processing and Characterization | ICMPC-March-2018 GRIET Hyderabad |
| 6. | Influence of SiC nano particles on Microstructure and Mechanical Properties of 6061/SiC _p Aluminum alloy nano composites via Friction stir processing | International Conference on Materials Processing and Characterization | ICMPC-March-2018 GRIET Hyderabad |
| 7. | Influence of Tool Rotational speed and Pin Profile on Mechanical and Microstructural Characterization of Friction Stir Welded 5083 Aluminium Alloy | International Conference on Materials Processing and Characterization | ICMPC-March-2017 GRIET Hyderabad |
| 8. | Preparation of nano surface layer composite (TiB ₂) _p on 6061-T6 Aluminum Alloy via Friction Stir Processing | International Conference on Materials Processing and Characterization | ICMPC-March-2016 GRIET Hyderabad |
| 9. | Influence of Post-weld Rapid cooling on Grain size and Mechanical properties of Friction Stir Welded AA 2014 | International Conference on Materials Processing and Characterization | ICMPC-March-2016 GRIET Hyderabad |
| 10. | Influence of Tool Revolving on Mechanical Properties of Friction Stir Welded 5083 Aluminum alloy | International Conference on Materials Processing and Characterization | ICMPC-March-2016 GRIET Hyderabad |
| 11. | Influence of Cryogenic cooling (Liquid Nitrogen) on Microstructure and Mechanical properties of Friction stir welded 2014-T6 Aluminum alloy | International Conference on processing, materials and energy | ICPMME-2016 29 th & 30 th July, Ongole, A.P. |

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| 12. | Tribological Properties of Nano TiB ₂ particle Reinforced 6061-T6 Aluminum Alloy Surface Composites via Friction stir processing | International Conference on processing, materials and energy | ICPMME-2016 29 th & 30 th July, Ongole, A.P. |
| 13. | Effect of cryogenic treatment (Liquid Nitrogen & Dry ice) on microstructure and mechanical properties of Friction stir welded 2014-T6 Aluminum alloy | Challenges in Joining of Advanced Materials (CJAM) | May-2017 & The Indian Institute of Welding Hyderabad |
| 14. | Tribological Properties of Nano TiB ₂ particle Reinforced 6061-T6 Aluminum Alloy Surface Composites via Friction stir processing | Advances in Material Joining Technologies | May-2015 & The Indian Institute of Welding Hyderabad |
| 15. | Influence of nano-sized TiB ₂ particles on Mechanical properties of AA 6061-T6 nano composite via Friction Stir Processing | International Conference on Emerging Technologies In Mechanical Sciences : | December ICETMS 2015 MRCET Hyderabad |
| 16. | Influence of Fine grained microstructure on Mechanical properties of Friction stir welded AA2014 | International Conference on Emerging Technologies In Mechanical Sciences : | December ICETMS 2015 MRCET Hyderabad |
| 17. | Effect of Tool Rotational speed on Microstructural and Mechanical Properties of Friction Stir Welded 5083 Aluminum alloy | International Conference on Emerging Technologies In Mechanical Sciences | December ICETMS-2015 MRCET Hyderabad |

| RESEARCH GUIDANCE (Ph.D. Level) | | | | | |
|------------------------------------|---------------------|--|--------------------------------|----------|---|
| S. No | Name of the scholar | Title of Thesis/ Area of Research | University | Status | Co-supervisor, if any |
| 1. | A. Ranjith Kumar | Fabrication and characterization of Aluminum Alloy hybrid Composites via Friction stir processing | Annamalai University Tamilnadu | On-going | Dr.S.Sudhakar Asst. Professor Annamalai Univ. Tamilnadu |
| 2. | Md. Shaik Ansar Ali | Influence of ultrafine grained structure on Mechanical properties of Friction stir welded 2014 Aluminum Alloy | KL University Vijayawada A.P. | On-going | Prof.N.V.Narasi mha Rao, KL Univ. A.P. |
| 3. | V. Kishan | Synthesis & Tribological Properties of Nano particles Reinforced 6061-T6 Aluminum Alloy Surface Composites via | JNTU Hyderabad | On-going | Dr.K.PrassanaLakshmi Associate |

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|--|--|--------------------------|--|--|-----------------------|
| | | Friction stir processing | | | Professor JNTU-Hyd |
|--|--|--------------------------|--|--|-----------------------|

| SPONSORED PROJECTS | | | |
|--------------------|--|------------|-----------|
| S.No | Details | Value(Rs.) | Status |
| 1. | Influence of ultrafine grained structure on Mechanical properties of Friction stir welded 2014 Aluminum Alloy F.NO:4-4/2014-15(MRP-SEMUGC-SERO) | 2.4 Lacs | Completed |

| PATENTS | | | | |
|----------|--|---|--------------------|---------------------------|
| Sl.No. | Title of the Patent | Inventors | Application number | Status |
| 1. | Synthesis of functionally graded ceramic composites for Radome application | Dr.A.Devaraju Mr.Jeshrun Mr.K.Karthik Dr. P. Sammaiah | 201941005163 | Published (15-02-2019) |
| 2. | Compressor Less Solar energy powered refrigerator | Dr.A.Devaraju Mr.Jeshrun Dr. P. Sammaiah Mr.M.Nikhil | 201941012757A | Published (02-08-2019) |
| 3. | Abrasive Ceramic Bonded Tool for Friction Stir Welding & Processing | Dr.A.Devaraju Dr.P.Sammaiah Dr.A.Kumar Dr. M Manzoor Hussain | 201841042980 | Filed 2018 |
| 4. | | | | |
| 5. | System and Method for Monitoring Energy Storage And Consumption of Battery | Mr. Kanjarla A Dr. P. Sammaiah Dr.A.Devaraju | 201841042929 | Filed 2018 |
| AWARDS : | | | | |

- ✚ **International Scientific Committee member - 2nd International Conference on Materials Engineering and Industrial Applications (MEIA2017), August 6-7, 2017 in Phuket, Thailand.**
- ✚ **2016-Highly Cited Researcher** by Thomson Reuters.
- ✚ **Organizing Committee Member (Technical Program Committee) - 3rd International Conference on Advanced Composite Materials (ACM-2017), January 3-5, 2017 Bangkok, Thailand.**
- ✚ **Organized national level symposium (Mechquest'16-Technotrendz) in SR Engineering College, Warangal (29th Sep-2016).**
- ✚ **Organized workshop on Aerotrix (RC-aircraft design, fabrication and flying) in SR Engineering College, Warangal (28th & 29th Sep-2016).**

PROFESSIONAL AFFILIATION

| S. No. | Details |
|--------|-------------------------|
| 1 | <i>IIW-Life Member</i> |
| 2 | <i>ASME- Member</i> |
| 3 | <i>IEEE- Member</i> |
| 4 | <i>IIFE-Life Member</i> |

COURSES TAUGHT

| Undergraduate Level | | | |
|---|---|----------------------------|--|
| Courses Taught | | Currently Teaching | |
| Course | Semester, Year, Branch | Course | Semester, Year, Branch |
| <i>Unconventional Machining Processes</i> | <i>IV year II Semester Mechanical Engineering</i> | <i>Engineering Drawing</i> | <i>I year I Semester ECI Engineering</i> |
| <i>Production Technology</i> | <i>II year II Semester Mechanical Engineering</i> | | |
| <i>Metallurgy and Materials Science</i> | <i>II year I Semester Mechanical Engineering</i> | | |

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|--|--|-------------|---|
| <i>Welding Technology</i> | <i>IV year I Semester Mechanical Engineering</i> | | |
| <i>Engineering Mechanics</i> | <i>I year I Semester Mechanical Engineering</i> | | |
| <i>Power plant engineering</i> | <i>III year II Semester Mechanical Engineering</i> | | |
| Postgraduate Level | | | |
| <i>Advanced Materials Technology</i> | <i>I year I Semester Mechanical Engineering</i> | <i>CAED</i> | <i>I year I Semester Mechanical Engineering</i> |
| <i>Special Manufacturing Processes</i> | <i>I year I Semester Mechanical Engineering</i> | | |

ANY OTHER INFORMATION:

EDITORIAL BOARD MEMBER IN:

- 1) Journal of materials research and technology - Elsevier
- 2) Journal of Defence technology Elsevier
- 3) Journal of manufacturing processes - Elsevier
- 4) Materials Today - Elsevier
- 5) *Engineering Science and Technology, an International Journal* - Elsevier

ADMINISTRATIVE EXPERIENCE:

- 1) In-charge, Engineering Workshop
- 2) Coordinator, NBA

Signature of the faculty