CURRICULUM VITAE

Name **GANKIDI MADHUSUDHAN REDDY**

Former Outstanding Scientist and Director
Defence Metallurgical Research Laboratory, DRDO,
Kanchanbagh (PO), Hyderabad - 500 058, Telangana, India.
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Date of Birth: 20-Jan-1963

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Academic Qualifications

Sl.No	Degree	Year	University/Institution	Division/Rank
1	B.Tech (Mech. Engg.)	1985	Kakatiya University, Warangal, AP	First Division with Distinction and University 5th Rank
2	M.E (Welding Engg.)	1987	University of Roorkee, (Now IIT-Roorkee)	First Division with Honours
3	Ph.D (Metallurgy)	1999	Indian Institute of Technology Madras	Best Theses Award #
4	International Welding Engineer	2012	International Institute of Welding, UK	-

 # Thesis Title: *Studies on the application of pulsed current and arc oscillation techniques on Aluminium-Lithium alloy welds*

Positions Held	Institution	Year	
		From	To
Director	DMRL, DRDO, Hyderabad	01-12-2019	31-01-2023
Scientist 'B' through Scientist 'H' (Outstanding Scientist)	DMRL, DRDO, Hyderabad	14-07-1989	30-11-2019
Scientist 'B'	CVRDE, DRDO, Avadi, Chennai	21-12-1987	13-07-1989

Brief Summary of Technological Contributions

Dr G Madhusudhan Reddy 's long professional career of over three & half decades is marked by multifaceted contributions to DRDO in particular and engineering community in general – spanning seamlessly numerous technological innovations, services to Indian armed forces & paramilitary, basic & applied scientific research, collaborative technical efforts in association with industry/R&D/ organizations/academia/government bodies, and a gamut of varied management responsibilities involving technical administration/technology forecasting/HRD to name a few. **Dr Reddy's** merit was rewarded by several organizations and professional right from the early days of his professional life. Some of the prestigious recognitions won in the past such as Technology Leadership Award (2019), DRDO Scientist Award (2013) from DRDO, GD Birla Gold Medal (2019), Binani Gold Medal (1994, 2010), SAIL Gold Medal (2013,2018) from Indian Institute of Metals, Fellow of Indian National Academy of Engineering (FNAE), Fellow of American Society of Metals (FASM), Metallurgist of the Year Award(2007) by Ministry of Steel: Govt. of India, INAE Young Engineer Award (1998), Engineer of the Year Award (2002), Andhra Pradesh Scientist of the Year Award (2006) from Govt. of Andhra Pradesh, Bharat Ratna Sir M. Visvesvaraya Award (2018) from Govt. of Telangana should duly validate his achievements thereby benchmarking his career profile on an absolute scale too.

Dr Madhusudhan Reddy started his professional journey as a Scientist 'B' in December 1987 at the Combat Vehicles R&D Establishment (CVRDE), Chennai. Recognizing his keen aptitude for research in welding science and in light of certain inescapable organizational requirements of DRDO, he was relocated to the Defence Metallurgical Research Laboratory (DMRL), Hyderabad during 1989. His initiatives in the field of materials joining started with post-graduation (Master of Engineering) in welding engineering from Indian Institute of Technology, Roorkee in 1987. Equipped with significant hands on experience in welding research at DMRL, he embarked on focused research in the welding of emerging Aluminum-Lithium alloys towards his doctoral degree at IIT Madras. He was awarded ***Sudarshan Bhat Memorial Prize*** for best thesis by IIT Madras, during the institute's convocation in the year 1999. Subsequently he has focused his research on the welding of armour steels, enhancement of the ballistic performance of armour welds, welding technology for non-weldable aluminum alloys, ceramics-metal brazing, and indigenization of weld consumables for the fabrication of armour vehicles during the period. To overcome the problems in welding of several advanced materials, the past 35 years have witnessed significant contributions from **Dr. Reddy** to the development of welding science and technology, to enable joining of several similar and dissimilar combinations of advanced engineering materials.

Dr Reddy has risen to the rank of Outstanding Scientist/Scientist 'H' in DRDO through his absolute hard work and dedication, being elevated to the position of Director DMRL during November 2019. During his tenure as Director, the national laboratory DMRL excelled on all parameters of performance and elevated its reputation by several notches higher. On 18th December 2020, DMRL was awarded the Titanium trophy from the honourable Defence minister Shri Rajnath Singh, in recognition as the best science laboratory of DRDO. Notwithstanding this recognition for its science contributions, Dr Reddy led DMRL on a journey to fulfil its mandates equally well in providing comprehensive material solutions to Armed forces / DRDO / Industry, failure analyses, manufacturing technologies, and disruptive

technologies such as computational methods for accelerated materials development. He performed equally well as an individual researcher, team leader, or director of a premier defence laboratory – always adhering to the highest standards of professionalism and scientific ethics. Consequently he was also one of the most sought after resource persons to chair several official committees in DRDO, Academia, Industry, government, and other agencies as well. The most significant contributions of **Dr Reddy,** as an individual scientist and later in his leadership role as the Director DMRL, serve to highlight the exemplary milestones achieved as an engineering professional in the present times.

Dr Reddy's outstanding publication record, numbering over 295 papers in high impact journals illustrates the high standards of research set by him. His studies have further promoted the engineering application of several advanced materials in the fabrication of various defence systems such as combat vehicles, missile casings, base mortar structures, and compact heat exchangers. He also led the development of Carbide-free Bainitic weld consumables to enhance ballistic performance of armour steel welds - a new concept in the welding of armour steels. His research was not merely confined to welding technology or joining of one class of alloy systems – he worked on joining literally all alloys used in the industry, whether it is on the science or applications through industrial fabrication, performance evaluation through field testing with appropriate instrumentation/NDE, role of metallurgical as well as process parameters, failure analysis as necessary, and connected processes such as vacuum brazing. Apart from in-depth studies on traditional joining techniques such as fusion welding, **Dr Reddy** was further instrumental in introducing advanced solid-state joining processes such as friction-stir welding, friction welding, and friction surfacing at DMRL thereby elevating the laboratory to an advantageous position in the manufacture of aerospace components/structures at the national level. He successfully fabricated the large nose cap shell for an aerospace programme, by adopting friction-stir welding at the shop-floor level for the first time – thereby eliminating several defects encountered earlier in conventional fusion welding.

Dr Reddy established the pioneering technology for a unique dissimilar material leak-proof high-pressure threaded joint prepared through vacuum brazing for developing glandless valve, substituting trouble-prone welding of mating parts of incompatible materials (Titanium alloy to Stainless steel). The joint was implemented on-board a naval platform upon successful proof tests/trials, and transferred the technology to M/s L&T Valves Limited, Chennai for commercialization. **Dr Reddy's** exceptional R&D acumen coupled with dedicated and consolidated efforts led to these exemplary achievements and gave the much-needed fillip for self-reliance in joining technologies for Indian defence. **Dr Reddy** had earlier successfully analysed the problem of premature failure by pitting corrosion in the hydraulic and pneumatic pipe lines of an important naval submarine. The entire pneumatic and hydraulic circuit of the submarine was reconstructed on-site, using indigenously developed AISI-316Ti pipes and welding procedures. The submarine was successfully re-constructed on a war footing, within a record time of one year. **Dr Reddy** contributed right from the stage of material selection to generating welding procedures, and finally training the naval dockyard welders under this remarkable achievement adding immense value to DRDO. **Dr Reddy** was entrusted with responsibility of fabrication of bullet proof vehicles for National Security Guard (NSG), Boarder Security Force (BSF) and Special Protection Fore, Cabinet Secretariat, Govt of India using 'no-so-easy' to weld high hardness armour to combat terrorism is an outstanding example- a significant and scientific and technical achievement.

Dr Madhusudhan Reddy has also made numerous significant and remarkable contributions towards the development of critical welding technologies required for wide spectrum of defence hardware during his professional career. Important components addressed by him include fabrication technologies for special steels, superalloys, titanium alloys, and aluminium alloys. The detailed scientific understanding and indigenous development of brazing and welding technologies for these materials reduced the dependency of India on other nations at critical junctures. **Dr Reddy's** work has had a significant impact on international literature on the welding of aluminium alloys. Chairman, Department of Space: ISRO has requested for his services under a national committee to review the problems encountered in aluminium alloy tankages, components and modules of PSLV & GSLV. He is also involved in the task ever since for recommending further scientific studies/characterization of the existing materials, as well as on the suggested materials for ISRO.

Dr Reddy was deputed to a manufacturing plant at Perm, Russia to resolve the issue of deformity in Smerch Artillery launcher tubes for the Indian Army. The causative issues were identified and correlated with the problems faced during the field firing of rockets. Detailed scientific understanding and all the technical problems in design, compiled through numerous visits to army units, were deliberated with OEM's designers. The Smerch industry was persuaded to replace/rectify the deformity-affected tubes related to manufacturing deficiencies, duly resolving the problem to the satisfaction of all stakeholders involved. Another notable contribution by **Dr Reddy** was the development of a cost-effective indigenous high-capacity flow-forming machine for manufacture of motor casings for defence and space, thereby obviating the export constraints by overseas sources. Under his chairmanship, a committee of experts successfully developed the machine and also fulfilled all user requirements in flow-forming a variety of steels - a DISR project under the aegis of Ministry of Science and Technology.

Dr Reddy has maintained strong links with academia too, by formulating joint research activities of common interest to DRDO and institutions – under the umbrella of the Naval, Armament, Aeronautical Research Boards, and the Extramural Research programme of DRDO. He has supervised 31 Ph.D., 2 M.S., 35 M.Tech., and numerous B.Tech. students' theses. Several of them have grown into independent researchers and entrepreneurs. Some of the doctoral theses guided by him have contributed substantially to the development of spin-off technologies in the area of welding and cladding, duly recognized by the national-level awards won by his students. He has interacted closely with students and delivered over 160 highly thought provoking invited lectures in pursuit of Science & Technology with passion. Under his guidance, Metal Joining Group, Defence Metallurgical Research Laboratory has developed a sound scientific base intertwined with technological strengths as well. This group has gained maturity and eminence by virtue of his contributions to the Science & Technology related to the fabrication of aerospace and defence systems. Therefore, the development of advanced materials and manufacturing processes boost confidence for production of components/systems which will go a long way in saving considerable foreign exchange to the nation.

Dr Madhusudhan Reddy was chosen to lead DMRL in the capacity of director during November 2019, recognizing his techno-managerial talents as evidenced by him being presented with the DRDO Technology Leadership Award – 2019. Ever since he was appointed, **Dr Reddy** has worked relentlessly for the all-inclusive growth of the laboratory's stature by invigorating the personnel at all levels to wholeheartedly contribute in fulfilling the

assignments exceedingly well. It is particularly to be appreciated in no uncertain terms that DMRL has made remarkable strides under his unwavering determination and dedication, despite the Covid-19 pandemic during early months of 2020 imposing constraints never before witnessed world over. Apart from fulfilling his official commitments in an outstanding manner, **Dr Reddy** never lost sight of his social responsibility – extending all possible assistance to the local civil administration, adapting DMRL's industrial gas cylinders for medical oxygen supply to hospitals, supporting the infected employees, etc.

Dr Reddy led DMRL on a major strategic and advanced materials development program for futuristic hypersonic vehicles, a game changer for future wars. Several advanced materials and materials processing technologies for highly critical control surfaces, combustor, and airframes were successfully realized – towards putting India in the elite group of nations such as USA, Russia, and China. The technologies have significant civilian spin-offs too. During this time DMRL also touched another notable milestone through indigenization of high strength beta titanium alloys, productionised for aircraft structural applications. Boosting the confidence in production of sophisticated alloys will go a long way in consolidation of the aircraft industry and saving valuable foreign exchange for the nation. Establishing indigenous production of naval grade AB class steel semi-products *i.e.*, plates, forgings, stampings, bulb bars, and weld consumables marks yet another landmark achievement in DMRL's performance under **Dr Reddy**. From nearly 100% import two decades ago, the high performance steels' requirement for our naval construction is fully met indigenously. Indigenous AB3 steel is a major step towards 'Atmanirbhar Bharat', since it's likely to be the main pressure hull material for the strategic submarine programme for foreseeable future. It's a matter of great pride that the first indigenous aircraft carrier 'Vikrant', the largest complex platform ever designed by the directorate of naval design, was built using DMRL developed AB class naval steel. It certainly marks a giant-leap in DMRL's contributions towards building an invincible defence forces for the nation.

DMRL also rose to the occasion by quickly developing an add-on composite armour solution for WhAP (Wheeled Armoured Platform), successfully proven through numerous field trials at Rajasthan and Himalayan regions of Ladakh. This led to an indent by the Indian Army for 9 nos and by CRPF for 6 vehicles. Technology transfer to two industries has also been accomplished during 2022. The Main Battle Tank Arjun using DMRL developed Kanchan armour now sports improved armour in its version as Arjun MK-1A, with several other enhancements and handed over to the army by the prime minister during 2021. The same year **Dr Reddy** ensured that DMRL executed transfer of technology for improved Kanchan armour to Midhani for bulk production and supply. **Dr Reddy** had earlier achieved significant breakthroughs by establishing ballistic capabilities in welds, comparable to those of parent armour. Niobium segregation, causing Laves phase formation, is a major problem in the fusion welding of superalloys. Dr Reddy brought out the influence of electron beam oscillation and pulsed laser beam techniques in reducing the Laves phase during welding, thereby improving the mechanical properties of aeroengine components. He was instrumental in developing suitable manufacturing technologies (such as welding, forming, machining and protection against stress corrosion cracking for the DMRL developed low-alloy ultrahigh strength steel (DMR-1700 with toughness and strength comparable to the expensive Maraging steel), that enabled DRDO to successfully realize several critical defence hardware such as missile motor casings and armoured vehicles.

Dr Reddy has made numerous other contributions through his leadership role as Director DMRL. Some of them include several grades of high energy & high operating temperature Nd-

Fe-B magnets for strategic/civilian applications, and semi-insulating bulk SiC single crystals of both 6H & 4H polytypes synthesized successfully towards the development high temperature electronic devices – these developments at DMRL are unique maiden attempts in the country to march towards self-reliance in the specialized area of functional and electronic materials. The cold-isostatic pressed fused-silica radomes recently developed at DMRL have exhibited excellent electromagnetic performance and made the series of flight release tests of missiles highly successful. For the manufacture of these radomes on large-scale integration in missile systems, **Dr Reddy** also accelerated the type certification activities towards timely completion together with provisional clearance from the certification agencies.

The indigenous DRDO developed Advanced Towed Artillery gun system (ATAGS) was part of the 21 gun salute at the main Independence Day celebrations (2022) in New Delhi. It is a matter of great pride for DRDO, while DMRL too has a reason to rejoice in this land mark achievement. DMRL was appointed as the nodal agency to investigate a setback experienced in the deployment field trails of this gun during 2020. Systematic failure investigation by DMRL's team, together with several participating agencies, led to a scientific determination of the root cause and recommending appropriate technical solutions to successfully tide over the project's development deficiencies. The thorough scientific investigation of the root causes of failure, the report, and recommendations for remedial actions were highly appreciated by DRDO HQ and army.

Dr Reddy also made special efforts towards commercial realization of the DMRL developed technologies and products, for the benefit of defence forces in particular and society at large. A few notable ones include Rare Earth permanent magnet technology, Titanium alloy near isothermal forging for aero-engine disc, Brazing technology for manufacture of Glandless Valves, Metallic thermal insulation material for brake piston insulators of LCA, In-situ Silver Nanoparticles formation in Polymer Matrix, and DMR-249 grade steel bulb bars for naval applications.

Dr Madhusudhan Reddy has thus been highly successful, both at his individual level as a brilliant scientist and subsequently as a motivating visionary leader. His contributions, publications, and assignments handled speak volumes about his professionalism. He is highly dedicated and knowledgeable, yet a humble down-to-earth engineer in the approach to problem solving. The work done by **Dr Reddy** in all facets of defence technologies and their civilian spin-offs makes for an endless list. Obviously, several of his tasks cannot be reported in public domain due to their confidential nature – otherwise this write-up would have been much more exhaustive. Above all, **Dr Reddy** has always been very forthcoming to use his knowledge and resources for addressing the needs of anyone approaching him. It is particularly noteworthy that the outcome of any task assigned to him has always been very positive, irrespective of the complexity or intricacy. The sheer variety of difficult tasks handled by him, long list of well-cited high quality publications, and an impressive track record of awards/recognitions make **Dr Reddy** stand out with incomparable distinction among his peers.

List recognitions by National academies, Professional societies, or Trade magazines

S.No	Year	Name of the Award /Honour	Agency which gave the Award	Citation of the Award
1	2021	D&H Secheron Award	Indian Institute of Welding	Best presentation of the technical paper on "Role of tool rotational speed on reverted austenite formation and its effect on mechanical property of maraging steel friction sir welds", 'National Welding Seminar 2020-21, organized by IIW, Baroda Branch on 8th April 2021.
2	2021.	I.T. Mirchandani Memorial Research Award	Indian Institute of Welding.	For the paper titled "Filler materials for ultra-high temperature applications", presented in the International Congress IC-2020 held at Navi Mumbai in 2020 and was adjudged as best paper and has been awarded I.T. Mirchandani Memorial Research Award-2020 in the National Welding Seminar 2020-21, organized by IIW, Baroda Branch on 8th April 2021.
3	2021	ISNT Award	Indian Society for Non-Destructive Testing, Hyderabad Chapter	For the outstanding services rendered in the field of Science & Technology.
4	2020	Prof. EGR Distinguished Lecture Series 2020	Dept. Metallurgical and Materials Engineering, IIT Madars, Chennai	Lecture on "Materials for Defence Applications"
5	2020	Titanium Trophy-2018	DRDO	In recognition of outstanding research contribution, the Titanium Trophy-2018 for the best Science Laboratory of DRDO is awarded to DMRL, Hyderabad, Dr. Reddy, Director, DMRL, received from Honourable Raksha Mantri Shri Rajnath Sing, on 18th December 2020.
6	2019	Technology Leadership Award-2018 declared in 2019	DRDO	Outstanding contributions in addressing wide range of technological issues by establishing welding technology for similar and dissimilar advanced alloys and difficult-to-weld alloys and materials.
7	2019	Technology Group Award	DMRL, Hyderabad	For Development of High Nitrogen Steel for Armour Applications",
8	2019	IIM GD Birla Gold Medal	Indian Institute of	For the Outstanding Research work in the field of Materials Science and Technology

			Metals	
9	2019	Best Technical Report Award *(DMRL-Laboratory Award)*	DRDO	Technical Report titled 'Flow Forming of DMR-1700 Steel for Thin-Walled Missile Motor Casings'
10	2018	Bharat Ratna Sir Mokhasgundam Visvesvaraya Award	Government of Telangana and Intuition of Engineers	In recognition of his innovative and outstanding work in the field of materials joining and surfacing Technologies.
11	2018	Dildar Hussain Memorial Lecture	Institution of Engineers, Telangana Sate Centre	Lecture on 'Joining of advanced materials for defence applications- techniques and challenges. 4th Annual General Meeting, October 31, 2018
12	2018	IIM SAIL GOLD MEDAL (Certificate of Merit)	The Indian Institute of Metals	For the technical paper on "Influence of welding techniques on heat affected zone softening of dissimilar metal maraging steel and high strength low alloy steel gas tungsten arc weldments", published in the Transactions of the IIM during the year 2017-18 in Ferrous Group.
13	2018	Weld Well Speciality Award	Indian Institute of Welding	For guiding Ph.D thesis titled 'Advance Methods of Joining for Indian Reduced Activation Ferritic-Martensitic Steel', University of Hyderabad.
14	2018	I.T. Mirchandani Memorial Award	Indian Institute of Welding	For the paper entitled "Studies on Microstructure and stress corrosion cracking behaviour of IN718 Gas Tungsten Arc Weld', Presented at the International Congress (IC-2017) Chennai Trade Centre, Chennai.
15	2018	Venus Wires Award	Indian Institute of Welding	For the paper entitled 'Studies on microstructure, mechanical and corrosion behaviour on friction stir welds of high nitrogen stainless steel', Presented at the International Congress (IC-2017) Chennai.
16	2017	National Technology Day-Oration	DRDO ***1st Best Oration***	Joining of Advanced Materials for Defence Applications - Techniques and Challenges.
17	2017	Technology Group Award	DRDO	Development of Novel Joining Technologies for Advanced Materials in Defence Applications
18	2017	ESAB India Award	Indian Institute of Welding	Best Technical paper across all categories titled on 'Characterization of clad joints of high strength low alloy steel with stainless steel and titanium', Presented at the NWS-2016, Science City Auditorium, Kolkatta.
19	2017	Panthaki Memorial Award	Indian Institute of	For the best technical paper in welding of non-ferrous metals presented by him at the

			Welding	National Welding Seminar (NWS-2016) Science City Auditorium, Kolkatta.
20	2016	Fellow of Indian Institute of Welding (FIIW)	Indian Institute of Welding	In recognition of distinguished contributions to Welding Engineering.
21	2016	Best Paper Award	International Institute of Welding	For the paper titled 'Influence of post weld heat treatment on microstructure and mechanical properties of reduced activation ferritic martensitic steel electron beam welds', 6th Welding Research and Collaboration Colloquium during the 7-9 April 2016 at Hyderabad.
22	2016	Panthaki Memorial Award	Indian Institute of Welding	For the best Technical Paper in welding of Non-ferrous metals presented at the National Welding Seminar (NWS-2015), CIDCO Exhibition Centre, Navi Mumbai
23	2015	ASM Fellow (FASM) Award	ASM International	In recognition of distinguished contributions to the field of materials science and materials engineering.
24	2015	Keith Hartely Memorial Medal	Indian Institute of Welding	for his outstanding contributions in the field of Welding Research in India
25	2015	Certificate of Honour and Excellence	Editor, Defence Technology Journal	Inducted and nominated with Honour as an Editorial Board Member of Defence Technology (Sponsored by China Ordnance Society, Elsevier Publications) for his meritorious and impressive research expertise in the field of Defence Science and Technology.
26	2015	Award of Excellence	Editor, Defence Technology Journal	This award is presented for serving as Guest Editor in the special issue on 'Materials Joining' in Defence Technology - an International Journal, which was published during September 2015.
27	2015	Best Paper Award	Editor, Defence Technology Journal	For their research paper titled 'Gas tungsten arc welding of ZrB2-SiC based ultra-high temperature ceramic composites' which was published in the special issue on 'Materials Joining' in Defence Technology (September 2015).
28	2015	H.D. Govindraj Memorial Research Award	Indian Institute of Welding	For the best research paper titled Friction based solid-state welding: Modelling and experiments for complimentary inputs, International Welding Congress 2014 (IC-2014), 9-11 April 2014, New Delhi
29	2014	Special Award for Strategic	DRDO	As a Member of Team have made significant contributions towards successful

		Contribution		design and development of 'K4', a submarine launched ballistic missile developed for a range of 3500km under the Advanced Naval System Programme (ANSP) of the Lab. It has enabled our Nation to achieve the crucial nuclear Triad.
30	2014	Fellow of National Academy of Engineering (FNAE)	Indian National Academy of Engineering	In recognition of distinguished contributions to Engineering.
31	2014	IT Mirchandani Memorial Research Award	Indian Institute of Welding	For the best technical research paper titled on "Microstructure and mechanical properties of explosive cladded niobium alloy (C103) over nimonic alloy (C263)', Presented at National Welding Seminar, 2012-13, Bangalore, 7th-9th Feb 2013
32	2013	Steel Authority of India (SAIL) Gold Medal	Indian Institute of Metals	Best technical paper titled on "Microstructure and Mechanical Properties of Electro slag Strip and Explosively clad Low Alloy Steel", Stainless Steel. Published in the IIM Transactions during the year 2012, in ferrous group. The medal established in 1993 by M/s Steel Authority of India Ltd., is awarded to recognize the contributions made through research and development work by an eminent metallurgist, whose work has been accepted for publication in the Transactions of the Institute.
33	2013	DRDO Scientist of the Year Award	DRDO	For his significant contributions to the field of metal joining by establishing welding technology for similar as well as dissimilar advanced alloys for defence applications. His initiative and dedicated efforts have resulted in the establishment of friction stir welding for production of aerospace components in the country.
34	2012	Fellow of Andhra Pradesh Academy of Sciences (FAPAS)	Andhra Pradesh Academy of Sciences	In recognition o f his contributions to Science & Technology on the 24th day of December-2012
35	2012	I.T. Mirchandani Memorial Award	Indian Institute of welding	Best research paper 'Enhancement of wear resistance of ZM21 magnesium alloy using friction stir processing', presented at the National Welding Seminar, 2011 at Bhilai
36	2012	Panthaki Memorial Award	Indian Institute of	Best technical paper (Non-Ferrous category) 'Enhancement of wear

			Welding	resistance of ZM21 magnesium alloy using friction stir processing' presented at the National Welding Seminar, 2011 at Bhilai.
37	2012	S.K. Mazumdar Memorial Lecture Award	Indian Welding Society, Southern Zone, Trichy	In recognition of distinguished contributions to Welding Engineering
38	2012	GB SOJOM Award	Indian Welding Society, Southern Zone, Trichy	Best technical paper 'Microstructural study on ballistic tested armour steel welded joints', International welding symposium on joining of materials (SOJOM 2012) held at Trichy during 19-22 January 2012
39	2012	Associate Engineer Award	Indian Institute of Welding	For guiding best M. Tech thesis entitled 'Development of ultra-fine grain structure using friction stir processes', University of Hyderabad.
40	2011	H.D. Govindaraj Memorial Research Award	Indian Institute of Welding	Best Technical paper 'Dissimilar friction welding of maraging steel to low alloy steel with nickel as an interlayer', presented at the National Welding Seminar (NWS), 2010 at Visakhapatnam.
41	2011	D&H Secheron Award	Indian Institute of Welding	Best presentation of the technical paper 'Dissimilar friction welding of maraging steel to low alloy steel with nickel as an interlayer', presented at the NWS, 2010 at Visakhapatnam.
42	2011	I.T Mirchandani Memorial Research Award	Indian Institute of Welding	For Best Technical paper 'Dissimilar metal gas tungsten arc weldments of maraging steel and medium alloy medium carbon steel Effect of post weld treatments', presented at the NWS, 2010 at Visakhapatnam.
43	2011	Weldwell Specialty Award	Indian Institute of Welding	For guiding best Ph. D thesis entitled 'Mechanical and metallurgical characterization of maraging steel to low alloy steel', JNTU, Hyderabad.
44	2010	Binani Gold Medal	Indian Institute of Metals	As Principal Author for the paper on Microstructure and mechanical property correlations in AA 6061 aluminium alloy friction stir welds, Published in the IIM Transactions during the year 2009, in Non-Ferrous Group. The medal established by the House of Binanis in 1959, is awarded to recognize contributions in the field of Non-ferrous Metallurgy through research work.

45	2010	IWS Award	Indian Welding Society	For the paper titled Microstructure and Mechanical properties of similar and dissimilar gas tungsten arc weldments of maraging steel and medium alloy medium carbon steel, as a co-author, International Welding Symposium (IWS2K10), 10th-12th February 2010, Bombay Exhibition Centre, Mumbai.
46	2010	Weldwell Specialty Award	Indian Institute of Welding	For guiding best Ph.D thesis entitled 'Microstructure, mechanical property characterization and residual stress analysis of similar and dissimilar metal welds', JNTU, Hyderabad.
47	2007	Metallurgist of the Year Award	Ministry of Steel, Government of India,	For his significant contributions made in the field of welding including welding of special steels for defence applications, improving mechanical properties of aluminium alloy welds, joining of incompatible materials and metal matrix composites welding.
48	2007	Best paper Award (Oral session)	Indian Institute of Metals	For the paper 'Friction surface cladding of SiCp reinforced aluminium alloy AA 2124 metal matrix composite on A356 Al-Si alloy', at the 61st Annual Technical Meeting of the institute held at Mumbai during 15th - 16th November 2007.
49	2006	Panthaki Award	Indian Institute of Welding	For the paper entitled 'Studies on effect of planishing on the dissimilar fusion welds of Nickel based alloys (C263 Nimonic alloy and Inconel 718 alloy)', presented at the National Welding Seminar 2005.
50	2006	Andhra Pradesh Scientist Award	Government of Andhra Pradesh	For his meritorious achievement and significant contributions towards understanding the joining aspects of aerospace, and defence materials i.e. in the field of engineering and technology.
51	2005	IWS Award	*Indian Welding Society*	For the paper entitled on '*Influence of burn-off on microstructure and mechanical properties of maraging steel friction welds',* presented at International Welding Symposium-IWS 2K5 held at Hyderabad during February 18 & 20, 2005.
52	2005	MODI Award	*Indian Welding Society*	For the paper entitled on *'Influence of electron beam oscillation on microstructure and high temperature mechanical properties of Inconel 718 welds',* presented at International Welding Symposium-IWS 2K5 held at Hyderabad during February 18 & 20, 2005.

53	2002	Engineer of the Year Award	Government of Andhra Pradesh	In recognition of his innovative and outstanding work in the field of welding metallurgy, on the occasion of 35th Engineer's Day Celebrations (In commemoration of 142nd Birthday celebrations of Bharat Ratna Sir Mokshagundam Visveswarayya), from Government of Andhra Pradesh and The Institution of Engineers (India) Andhra Pradesh State Centre.
54	2003	Modi Award	*Indian Welding Society*	For the paper entitled on '*Metallurgical and Mechanical properties of AA 8090 friction welds'*, presented at International Welding Symposium-IWS 2K3 held at Hyderabad during February 22 & 23, 2003.
55	2002	ARCI - Best paper Award	Department of Metallurgical and Materials Engineering, IIT Madras, Chennai, India.	For the Technical paper entitled *'Effect of current pulsing on the microstructure and high temperature tensile properties of Inconel 718 GTA welds'*, Fourth National Symposium of Research Scholars on Metals and Materials (NSRS-4) held on 27th and 28th September 2002, at IIT Madras,
56	2003	D.M. Panthaki Award	Indian Institute of Welding,	For the Technical Paper entitled *'Effect of welding techniques on microstructure, mechanical properties and pitting corrosion behaviour of 1441 Al-Li alloy welds'*, presented at the National Welding Seminar 2001.
57	2003	K.C.P. Award	Indian Institute of Welding,	For the best research paper entitled on *'Welding of dissimilar ultra-high strength steels'.* presented at the National Welding Seminar 2001.
58	2003	Weldman Award	Indian Institute of Welding,	For the best technical paper entitled *'Effect of welding techniques on microstructure, mechanical properties and pitting corrosion behaviour of 1441 Al-Li alloy welds',* presented at the National Welding Seminar 2001.
59	2002	Best paper Award (Poster session)	Indian Institute of Metals	For the paper on 'Influence of gas tungsten arc welding techniques on the microstructure, pitting corrosion and tensile properties of 1441 grade Al-Li alloy welds', at 56th Annual Technical Meeting of the Institute
60	2000	Best Presentation Award (Oral session)	Indian Institute of Metals	For the paper entitled *'Influence of Scandium on the weldability aspects of AA 7010 alloy'*, at the 54th Annual Technical Meeting of the Institute held at Bhilai.

61	2000	Panthaki Award	Indian Institute of Welding	For best technical paper on *'Weldability aspects of an aeronautical grade aluminium-lithium alloy'*, presented at the International Welding Conference-1999.
62	1999	Sudarshan Bhat Memorial Prize	Indian Institute of Technology, Madras	Certificate of Academic Distinction for the best Ph.D Thesis, in Metallurgical Engineering.
63	1998	INAE Young Engineer Award	Indian National Academy of Engineering,	For significant contributions in the field of Welding Metallurgy.
64	1994	Binani Gold Medal	Indian Institute of Metals	For the paper entitled '*Gas tungsten arc welding of 8090 Al-Li alloy'*, published in the Transactions during 1993.
65	1993	Technological Award	DRDO	For establishment of fabrication procedure for body armour.
66	1993	Best Paper Award (Poster Session Prize)	Indian Institute of Metals	For the paper on *'Weldability aspects of Aluminium-lithium alloys'*, at 47th Annual Technical Meeting of Indian Institute of Metals held at Hyderabad in November 1993.

Other recognitions

(a) Editorial Board, Scientific Committee

Year	Role/Position	Professional Body/Society/Journal/ Committee
2022 onwards.	President	Society for failure Analysis
2020-till date	Editor	Defence Science Journal (A publication of DRDO)
2018-till date	Secretary	Indian National Academy of Engineering, Hyderabad Centre.
2017-2020	Editor	Transaction of Indian Institute of Metals-an International Journal
2020-till date	Chairman	Indian Institute of Metals, Hyderabad Branch
2018-2020	Vice Chairman	Indian Institute of Metals, Hyderabad Branch
2013-till date	Member	Editorial Board, Defence Technology
2017	Guest Editor	Special issue on 'Defence Manufacturing Process'- Defence Technology an International Journal, April, 2017
2016-2018	Chairman	Indian Institute of Welding, Hyderabad Branch
2014-2016	Vice Chairman	Indian Institute of Welding, Hyderabad Branch.
2016	Guest Editor	Special issue on 'Materials Joining' in Defence Technology an International Journal, which was published during September 2015
2005-till date	Member	Editorial Board, Indian Welding Journal
2003-till date	Member	Editorial Board, Indian Welding Society
2003 -2014	Secretary	Indian Welding Society, Hyderabad Centre

(b) Best Technical Report/ Technical paper/Metallography Awards /Other Awards

Year	Name of the Award	Professional Body/Lab/Organization
2020	Laboratory Award - Best Technical Report *(Flow Forming of DMR-1700 Steel for Thin-Walled Missile Motor Casings)*	DRDO-DMRL
2018	Laboratory Award - Best Technical Report *(Development of tubular bimetallic adopter of AA 2219 and AISI 304 by vacuum brazing route)*	DRDO-DMRL
2013	Laboratory Award - Best Technical Report *(Detection and characterization of defects in Friction stir welded Al Alloy using Phased array Ultrasonic technique)*	DRDO-DMRL
2013	Metallography Contest, First Prize	67th ATM held at Varanasi during 12th - 13th Nov2013, Indian Institute of Metals.
2012	Received Appreciation letter for successful fabrication of Nose Cap Shell for under water Launch Missile by employing Friction Stir Welding Process.	Director, DRDL
2011	Metallography Contest, Prize	65th Annual Technical Meeting held at Hyderabad during 15th -16th Nov. 2011, Indian Institute of Metals.
2011	Received a letter of appreciation for *Brazing process development for Glandless Valves components of dissimilar material, namely Titanium and stainless steel*	Project Director (P&ES), **'Aakanksha', Ministry** of Defence, Development Enclave, New Delhi
2008	VM Radhakrishan Endowment Prize-2008 **for** the paper titled *'Microstructure and mechanical properties of 16Cr-2Nistainless steel electron beam welds-Influence of single and double austenite'*, International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering,	Department of Metallurgical and Materials Engineering, IIT Madras, Chennai, India.
2000	*Certificate of Recognition* for outstanding contributions in Weld design and fabrication of *KANCHAN ARMOUR* for battle systems.	Director, DMRL
2001	Received a letter of appreciation for the technical support in manufacture of base mortar structure	Director, ARDE Pune
2001	Received an appreciation certificate for the guidance and technical support in the manufacture of bulletproof vehicles for VVIP security.	Director, Cabinet Secretariat, Government of India
1999	Certificate of Merit and Prize- for being the author of the best paper on **Applied Research** for Technical Paper entitled *'Enhancement of ballistic capabilities of soft welds through hardfacing'*,	Director, DMRL, Hyderabad.

1995	Technological Award *for* establishment of fabrication procedure for body armour.	*Defence Research Development Organization, New Delhi,*
1990	Commendation Certificate for the outstanding contribution towards the manufacture of The Prototype Internal Security Vehicle in Jackal Steel Armour for the national Security Guard	Director, DMRL
1990	Cash Award and Certificate, for the manufacture of urban combat vehicle *'SHATRUGNAN'*.	Director General National Security Guard

(c). Member, National Committees/Expert Committees/DRDO Committees

Year	Role	Responsibility/Subject
2021	Member	Working Group related to Indigenization of Lithium-ion (Li-ion) batteries and rare Earth (RE) Permanent Magnets. National Security Council Secretariat, GOI, New Delhi.
2021	Member	Standing Scientific Advisory Group (SSAG) of Ministry of Mines.
2021	Member	Task force for Indigenisation of Military Materials including critical and strategic raw materials, Ministry of Defence, Department of Defence production,
2021	Member	Programme Advisory Committee, Materials, Mining & Minerals Engineering, Science & Engineering Research Board, DST, New Delhi
2020-till date	Member	National Council Member, Indian Institute of Metals.
2020-till date	Member	Member Governing Council, International Advanced Research Centre for Powder Metallurgy and New Materials,2021 Hyderabad
2020-till date	Director	Director, Board of Directors, Mishra Dhatu Nigam (MIDHANI).
2020-till date	Member	Research Council of CSIR-National Metallurgical Laboratory (CSIR_NML), Jamshedpur
2018-2020	Member	Sectional Committee-VIII (Mining, Metallurgical and Materials Engineering, Indian National Academy of Engineering, New Delhi
2018-2020	Member	Lab Research Council (LRC), NMRL, Mumbai under the Chairman ship of Dr. S. Banerjee, Former DAE Chairman (NMRL/DIR/0101 dated 28th May 2019)
2018-2020	Chairman	Project Review and Monitoring Committee to monitor and review the progress and smooth and successful execution of the three projects by the PSG College of Technology, Coimbatore with collaboration and support of the industry partner(s) under the Centre of Excellence for Technology Development of the Scheme on enhancement of competitiveness in the Indian Capital Goods Sector, Govt. Of India, Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry (12/7/2014-HE&MT dated 16th November 2016)

2016	Member	Critical Design Review for design, manufacturing, assembly of CNC controlled 100KN Friction-stir welding and Processing Machine, for NMRL, Mumbai (MMat/0701/NMR230-FSW/15-16, 4th Sep 2015)
2016	Chairman	Review the progress of the project 'Technology for Joining and compatibility of aluminium with steel and plastic multi join, ARCI, Hyderabad. Founded by Technology Development Board, A Statutory Body Under DST, GOI.
2015-till date	Member	Board of Studies, Department of Metallurgical Engineering, Andhra University and Department of Mechanical Engineering, KITS, Kakatiya University
2015-2017	Chairman	Project Review Committee (PRC) for the project entitled" Design, manufacturing, proving supply of three roller flow forming machine by M/s Pras Flowform Engineering Limited, Thane. Sponsored by Department of Scientific & Industrial Research, GOI (DSIR/PACE/TDD-PFFEL/1`7/23/2012-13 dated 4th Feb 2015).
2015	Member	Failure analysis of PDV Rocket Motors- fabricated at M/s Brahmos Aerospace – Thiruvananthapuram (PGAD/FV-Exo/7751/1 dated 10th December 2015)
2015-2017	Member	Sectional committee (Engineering Sciences) of Telangana State Academy of Sciences
2013-till date	Member	Technical Advisory Group for ARCI's Centre for Laser processing of Materials (ARCI/Addl.Dir/TAG/D-5/13 dated July 2, 2013
2014-2016	Member	Special assistance programme of UGC for the Department of Mechanical Engineering, IISC, Bangalore.
2016	Subject Expert	1.2m Tunnel Augment Programme- Refurbishment of Wide-Angle Diffuser, National Aerospace Laboratory, Bangalore
2015-till date	Member	Expert Advisory Committee (EAC) on "Development of Advanced Manufacturing Technologies" of TSDP-DST, GOI
2015	Member	for realization of motor hardware with non-conventional geometries (Torroidal combo GG & Base motor) for project K5, DRDL (ANSP/P/14/COM dated 31st August 2015).
2015	Member	Empowered Board of Experts to review & monitor the progress in respect of R&D projects Government of India, Ministry of Steel, and Technical Wing.
2011	Member	Failure analysis board committee, to analysis failure modes – encountered during structural testing of LRSAM maraging steel rocket motor casing and during propellant casting (DRDL/LRS/35 dated 6th December 2011)
2010	Member	Selection of armour material & welding procedure for FICV. Organized by VRDE, Ahmednagar (VRDE/POFICV/LABS/804 dated 21st June 2010)
2010	Member	To arrive at the methodology and qualification of the weld joint in the user delivered LP engines by means of suitable non-destructive testing (Lt No. DRDL/5356/LPD/DOP dated 13th Oct 2010).

2002-2005	Member	National Committee on Al Alloy Modules for Indian Space Research Organization (ISRO), constituted by Chairman, ***Indian Space Research Organization*** under the Chairmanship of Prof. P. Rama Rao.
2005-till date	Member	Task Force for indigenous development of welding consumables for manufacture of battle tanks at HVF, Avadi. Member

List distinctions from National academies or Professional societies

1	Fellow of Indian National Academy of Engineering (FNAE)
2	Fellow of American Society of Metals (FASM)
3	Fellow of Andhra Pradesh Academy of Sciences (FAPAS)
4	Fellow of Indian Welding Society (FIWS)
5	Fellow of Telangana Academy of Sciences (FTAS)
6	Fellow of Institution of Engineers India (FIE)
7	Fellow of Indian Institute of Metals (FIIM)
8	Fellow of Indian Institute of Welding (FIIW)
9	Life Member, Indian Society for Non-Destructive Testing
10	Life Member, Society for Failure analysis.
11	Life Member, Society of Aerospace Manufacturing Engineers
12	Life Member Indian Society for Advancement of Materials and Process Engineering.
13	Life Member, Indian Society of Structural Integrity.

Summary of Research Output:

Papers published in peer reviewed Journal : 295
Conference Full Text Papers : 227
DMRL Technical Reports : 35
Invited Talks : 165
Patents : 6
Book Chapters : 6
Technology Transfers : 25
Guidance: Ph.d :32 completed 2 in progress M.Tech : 35

Guidance Ph.D/M.Tech

Dr. Reddy interacted closely with the scientists in research laboratories, engineers in industries and research scholars & faculty in academic institutions across India. **Dr. Reddy** has supervised 32 Ph.D, 2MS, 35 M.Tech and numerous B.Tech students' theses. Several of them have grown into independent researchers and entrepreneurs. He has interacted very intimately with students and delivered very impressive lectures in pursuit of Science & Technology with passion. Under his guidance, Metal Joining Group, Defence Metallurgical Research Laboratory has developed a sound scientific base intertwined with technological strengths as well. This group has gained maturity and eminence by virtue of his contributions to the Science & Technology related to aerospace and defence systems.

Dr. Reddy has also contributed significantly to branches of Indian Welding Society (IWS) and Indian Institute of Welding (IIW), Institution of Engineers (India) at Hyderabad. As a founder secretary (IWS, Hyderabad) and Chairmen (IIW,IIM Hyderabad branch), he has introduced several innovative measures in organization of Annual Technical Meetings and International Conferences. Many of his students are occupying senior positions such as Technology Director, Principals, and Faculty in various organizations.

The list of students who have completed Ph.Ds under his supervision/support and their current position are given below.

1. V.V. Satyanarayana, Welding aspects of ferritic and austenitic stainless steels (2004) (Principal, SIT, Chevella, Hyderabad).

2. G.D. Janaki Ram, Effect of laves phase on mechanical properties of inconel 718 welds (2005) *(Professor, Indian Institute of Technology Hyderabad)*

3. A. Rajasekhar, Studies on microstructure and mechanical properties of AISI 431 martensitic stainless-steel weldments (2008) - Osmania University, Hyderabad *(Principal, Hyderabad Institute of Technology, Hyderabad).*

4. G. Magudeeswaran, Fatigue and fracture toughness behaviour of armour grade, quenched and tempered high strength steel welds (2008), Annamalai University, Tamil Nadu *(Professor, PSNA College of Engineering & Technology, Dindigul, TN, India).*

5. K. Ratnakumar, Microstructure and corrosion behaviour of cast A356 and wrought AA6061 Aluminium alloy welds (2009), Andhra University, Visakhapatnam *(Senior Lecturer, Government Polytechnic, Visakhapatnam).*

6. P. Venkata Ramana, Microstructures, Mechanical property characterization and residual stress analysis of similar and dissimilar metal welds (2009), JNTU, Hyderabad (WeldWell Specialty Award, Indian Institute of Welding) *(Professor, MGIT, Hyderabad).*

7. P. Sammaiah, Friction welding aspects Aluminum to stainless steel (2010), Osmania University *(Professor, SR Engineering College, Warangal).*

8. V. Venkateshwar Rao, Mechanical and metallurgical characteristics of maraging steel to low alloy steel weldments (2010), JNTU, Hyderabad, (Weld-Well Specialty Award, Indian Institute of Welding) *(former Technology Director, ASL, DRDO, Hyderabad, Director ARDE, Pune).*

9. VSN Venkata Ramana, Microstructure and corrosion behaviour of similar and dissimilar aluminium alloy welds (2010), Andhra University, Visakhapatnam *(Professor, GITAM University, Visakhapatnam)*.

10. G. Subhas Chander, Some aspects of friction welding of austenitic stainless steel and low alloy steel (2011), National |Institute of Technology, Warangal (Principal, SB Institute of Technology, Khammam, Telangana State).

11. D. Govardhan, Friction surfacing of stainless steel over low carbon steel and characterization of deposit (2011), *(Professor, Department of Mechanical Engineering, GRRIT, Hyderabad).*

12. A.K. Lakshminarayana, Effect of welding processes on Mechanical and metallurgical properties of AISI 409M Ferritic stainless steel (2011), Annamalai University, Tami Nadu *(Professor, SSN College of Engineering, Chennai).*

13. G. Mallaiah, Influence of grain refining elements on mechanical properties & residual stresses of AISI 430 ferritic stainless-steel weldments and validation of residual stresses using finite element analysis (2012), JNTU Hyderabad *(Professor, KITS, Huzurabad).*

14. K. Ramanjaneyulu, Influence of tool geometry and process parameters on microstructures and mechanical properties of AA 2014-T6 aluminium alloy friction stir welds (2013), JNTU, Hyderabad *(Associate Professor, MGIT, Hyderabad).*

15. M. Balakrishna, Enhancement of ballistic performance of armour steel welds by hardfaced interlayers (2013), Annamali University, Tail Nadu *(Associate Professor, M. Kumarasamy College of Engineering (MKCE), Karur, Tamil Nadu, India).*

16. N. Krishna Murty, Welding of armour steels with carbide-free bainitic filler (2014), IIT, Madras *(Principal Scientific Officer, Ministry of Defence, DGQA, Avadi, Chennai).*

17. N. Venkateswara Rao, Characterization of clad joints of high strength low alloy steel with stainless steel and titanium (2014), JNTU, Hyderabad (Senior Scientist, DMRL, Hyderabad).

18. Sree Vardhan Lalam, A study on friction welding of Inconel 718 and EN24 dissimilar joints (2015), Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai *(Scientist, Centre for Advanced Studies, Hyderabad).*

19. R. Srinivas, Microstructure, wear and corrosion behaviour of friction stir processed as cast A356 aluminium -silicon alloy (2015), Andhra University, Visakhapatnam, AP.

20. I. Sudhakar, Microstructure, wear, ballistic and corrosion behaviour of surface modified armour grade AA 7075 aluminium alloy using friction stir processing, (2015), Andhra University, Visakhapatnam, AP.

21. P. Vijayakumar, Microstructure and corrosion behaviour of AA7075 aluminium alloy friction stir welds (2016), Andhra University, Visakhapatnam, AP.

22. Ch. Venkata Rao, Studies on the effect of tool pin profile on microstructure and corrosion behaviour of AA 2219 aluminium alloy friction stir welds (2015), Andhra University, Visakhapatnam, AP.

23. Raffi Mohammed, Studies on microstructure, mechanical and corrosion behavior of nickel free high nitrogen stainless steel and its welds (2016), Andhra University, Visakhapatnam, AP. *(Associate Professor and Head, Department of Metallurgical Engineering, National Institute of Technology, AP).*

24. Rahul, Influence of parent metal microstructure and post heat treatment on the microstructure and mechanical properties of Ti-6Al-4V friction welds (2017), School of Engineering Sciences and Technology, University of Hyderabad.

25. Suresh D Meshram, Friction stir welding of maraging steel (2018), Indian Institute of Technology, Delhi (Scientist, DMRL, DRDO, Hyderabad).

26. M. Vijayalakshmi, Advanced Methods of Joining for Indian Reduced Activation Ferritic-Martensitic Steel (2018), School of Engineering Sciences and Technology, University of Hyderabad (Innovative Student Project Award at Doctoral Level from Indian National Academy of Engineering; Weld Well Specialty Award, Indian Institute of Welding) (Professor, MGIT, Hyderabad).

27. P. Mastaniah, Electron beam welding and friction stir welding of dissimilar aluminium alloys (AA2219 and AA5083 (2018), Indian Institute of Technology, Hyderabad (Innovative Student Project Award at Doctoral Level from Indian National Academy of Engineering*) (senior Scientist, DRDL, Hyderabad).*

28. A. Saxena, High strain rate behavior of armour steel (2018), Institute of Advanced Technology (DIAT), Department of Defence Research & Development, Ministry of Defence.

29. VSM Ramakrishna, Weldability and post welding characteristics evaluation of advanced high strength steels (bainitic steels) for automotive applications (2019), School of Engineering Sciences and Technology, University of Hyderabad *(Assistant Professor, Department of Metallurgical and Materials Engineering, MGIT, Hyderabad).*

30. PVSL Narayana, Microstructure and mechanical property evolution of Nd:YAG Fiber laser welded dual phase steels (2019), School of Engineering Sciences and Technology, University of Hyderabad (Assistant Professor, Department of Metallurgical and Materials Engineering, MGIT, Hyderabad).

31. CVS Murthy, Welding aspects of PH stainless steels (2020), JNTU, Kakinada, AP *(Technology Director, DRDL, Hyderabad).*

32. K. Prakash, Microstructure, mechanical and corrosion behaviour of AA 2219 aluminium ally welds (2022), Andhra University, Visakhapatnam, AP.

Ph.D Thesis Under progress:

1.Hari Prasad, Laser welding of maraging steel, Department of Mechanical Engineering, Indian Institute of Technology, Dhanbad ***(Senior Scientist, DRDL, DRDO, Hyderabad).***

2. G. Siva Prasad, Material characterization and corrosion behaviour of AA 2519 aluminium alloy welds, Andhra University, Visakhapatnam

Master of Science:

CVS Murthy, A study on the effects of different electron beam oscillation Techniques on segregation, microstructure and mechanical properties of Inconel 718 welds (2004), Indian Institute of Technology Madras.

The details of graduate and post graduate students who have excelled in their chosen carriers are omitted for the sake of brevity. Listed are only Award winning M.Tech Thesis.

1. Rahul, Development of novel nano composites using unique approaches and their mechanical and tribological characteristics (2012), School of Engineering Sciences and technology, University of Hyderabad ***(Innovative Student Project Award at Master's Level from Indian National Academy of Engineering).***

2. S. Ramesh Kumar, Development of ultra-fine grained structures using friction stir processing, School of Engineering Sciences and technology, University of Hyderabad (2012) ***(at Master's Level, Associate Engineers Award, Indian Institute of welding,)***

List of Award winning Ph.D Thesis:

1. P. Venkata Ramana, Microstructures, Mechanical property characterization and residual stress analysis of similar and dissimilar metal welds (2009), JNTU, Hyderabad ***(WeldWell Specialty Award, Indian Institute of Welding)***.

2. V. Venkateshwar Rao, Mechanical and metallurgical characteristics of maraging steel to low alloy steel weldments (2010), JNTU, Hyderabad, *(WeldWell Specialty Award, Indian Institute of Welding).*

3. M. Vijayalakshmi, Advanced Methods of Joining for Indian Reduced Activation Ferritic-Martensitic Steel (2018), School of Engineering Sciences and Technology, University of Hyderabad ***(Innovative Student Project Award at Doctoral Level from Indian National Academy of Engineering; Weld Well Specialty Award, Indian Institute of Welding)***

4. P. Mastaniah, Electron beam welding and friction tir welding of dissimilar aluminium alloys (AA2219 and AA5083 (2018), Indian Institute of Technology, Hyderabad ***(Innovative Student Project Award at Doctoral Level from Indian National Academy of Engineering).***

5. Rahul, Influence of parent metal microstructure and post heat-treatments on the microstructure and mechanical properties of Ti-6Al-4V friction welds (2017), School of Engineering Sciences and Technology, University of Hyderabad ***(Best Researcher Award from Institution of Engineers , Telangana State Centre).***