CURRICULAM VITAE

Name : Dr. VIJAY, RAVULA

Age : 54 years

Designation : Director

Contact Details : International Advanced Research Centre for
Powder Metallurgy and New Materials (ARCI),
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Academic Qualifications:

Ph.D.	"Hydrogen Storage in mechanically alloyed magnesium based materials", Indian Institute of Technology Madras, Chennai, 2007
M.Tech	Chemical Engineering, National Institute of Technology, Warangal, 1993
B.Tech	Chemical Engineering, National Institute of Technology, Warangal, 1990

Professional Experience:

He worked at Non Ferrous Materials Technology Development Centre (NFTDC) from 1992 to 1994 on development and setting up of a pilot plant facility for "Extraction of Molybdenum from Molybdenite Concentrate". After joining International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) as a scientist in 1994, he has been working on Mechanical Alloying, electrode materials for Li-ion/Na-ion batteries, Oxide Dispersion Strengthened Steels, High Temperature Materials, Simoloyer Technology, Powders for Additive Manufacturing and Coatings, Biodegradable Materials, Hydrogen Storage Materials and Heat Pipe based Heat Transfer devices. Presently he is Director of ARCI.

As a head of Nanomaterials division, he led the programmes for the development of electrode materials (lithium iron phosphate and lithium titanate) for lithium ion batteries for electric vehicles, super capacitors, nano-oxide dispersion strengthened iron aluminides for steam and gas turbine blades, Fe-Mn alloys for biodegradable implants, dispersion strengthened tungsten for Jet Wane applications, nano aluminium and nano boron powders as additives to solid propellant and jet fuels and large scale production of nano powders.

He played a very important role in development, demonstration and transfer of technologies for the production of battery grade lithium iron phosphate (LFP) cathode material for Li-ion batteries, dispersion strengthened tungsten plates for defence applications, oxide dispersion strengthened steel clad tubes for fast breeder reactor, lead free copper alloys for bimetal bearings and heat pipe based heat sinks. He is also associated with transfer of silica aerogel based thermal insulation sheets technology. He

has initiated new activities on development of bio-degradable implants and powders for additive manufacturing and surface engineered coatings.

Current Fields of Research Interest:

Nanomaterials, High Kinetic Processing (Mechanical Alloying), Oxide Dispersion Strengthened Steels, Li-ion battery materials, Super capacitors, Biomaterials, Powders for Surface Coatings, Additive manufacturing, Hydrogen Storage Materials.

Technology Transfer:

1. Technology for the production of battery grade Lithium Iron Phosphate (LFP) cathode material for Li-ion batteries to:
   i. M/s. ALTMIN Pvt. Ltd., Hyderabad in 2024 on India nonexclusive rights
   ii. M/s. ALTMIN Pvt. Ltd., Hyderabad in 2023 on exclusive rights for territories other than India
   iii. M/s. Allox Minerals Pvt. Ltd., Hyderabad in 2021 on India nonexclusive rights
2. Dispersion Strengthened Tungsten Jet wanes to M/s. Innomet Advanced Materials Pvt. Ltd., Hyderabad in 2021 on India nonexclusive rights
3. Silica Aerogel based Thermal Insulation Sheets to M/s. Aerogel One Ltd., Vapi in 2018 on India exclusive rights
4. Lead free Copper Alloys for bimetal bearings to M/s. Bimetal Bearing Ltd., Chennai in 2017 on India exclusive rights
5. Heat Pipe based Heat Sinks to M/s. Capri Cables Pvt. Ltd., Hyderabad in 2006 on India exclusive rights

Awards

1. Fellow of Institution of Engineers (India) – FIE, 2024
2. "Distinguished Researcher" award from Venus International Foundation (7^{th} Venus International Science and Technology Awards – VISTA 2021), 2021
3. Fellow of Telangana Academy of Sciences in recognition of his contributions to Science and Technology from Telangana Academy of Sciences, 2018
4. FTCCI Excellence Award – 2016-17 for Individual achievement in Science and Engineering (Chelikani Atchut Rao Award) from Federation of Telangana Chamber of Commerce and Industry
5. Indo-US Fellowship for working at Department of Materials, University of California, Santa Barbara, USA, under Prof. G.R. Odette. Aug. 2010 – Feb 2011.
6. "Engineer of the Year 2007" award from Andhra Pradesh state government and Institution of Engineers, Hyderabad Centre.
7. DST-DAAD fellowship for working at IKE, University of Stuttgart, Germany, under Prof. M. Groll. Aug 2005 – Nov 2005.

Patents:

Indian Patents granted:

1. R. **Vijay**, A. Sivakumar, K.V. Phani Prabhakar, M. Donatas and L.L. Vasilliev, Heat pipe based solar grain dryer – **Indian Patent granted (No: 184674 Date: 23-9-2000)**
2. **R. Vijay**, T.P. Rajasekharan, A. Sivakumar, K.V. Phani Prabhakar, M. Donatas, L.L. Vasilliev and V.L. Vasiliev, Heat pipe based solar cooking device – **Indian Patent granted (No: 184675 Date: 25-5-2001)**
3. S. Anandan,, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, **Indian Patent granted (No: 365560 Date: 28-4-2021)**
4. S. Sudhakar Sarma, **R. Vijay** and T.N. Rao, Process for producing the nano boron by cryo milling, **Indian Patent granted (No: 391804 Date: 11-3-2022)**
5. S. Anandan, **R. Vijay** and Tata N. Rao, Method of producing in-situ carbon coated lithium iron phosphate iron phosphate cathode material for lithium-ion batteries and the product thereof, **Indian Patent granted (No. 412586, Date: 28-11-2022)**
6. J. Revathi, N. Satya Moulika, A. Venkata Sai, Atul Suresh Deshpande, K. Murugan, Neha Yeshwanta Hebalkar, **R. Vijay**, Tata N Rao, G Sundararajan, An improved process for the preparation of stable nano silver suspension having antimicrobial activity, **Indian Patent granted (No. 443383, Date: 7-8-2023)**
7. Mani Karthik, **R. Vijay**, Tata N. Rao, A method of producing porous particles-fibres carbon composite for supercapacitor applications and the product thereof, **Indian Patent granted (No. 444960, Date: 14-8-2023)**
8. Dibyendu Chkarvarty, P.V.V. Srinivas and **R. Vijay**, Method of fabricating tungsten based composite sheets by spark plasma sintering technique for making components, **Indian Patent granted (No. 469058, Date: 14-11-2023)**
9. P. Vijaya Durga, S. Sudhakara Sarma, K. Satya Prasad, A.V. Reddy, **R. Vijay**, Oxide dispersion strengthened iron aluminides with high strength and ductility and method of preparation of the same, **Indian Patent granted (No. 444960, Date: 14-8-2023)**
10. D. Prabhu, M. Pavana Sri Vamshi, Ravi Gautam, A.R. Dilipan, **R. Vijay**, V. Chandrasekharan and R. Gopalan, A method of preparing strontium hexaferrite powders having high coersivity suitable for bonded magnets, **Indian Patent granted (No. 480912, Date: 12-12-2023)**

International Patents granted:

1. S. Anandan, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, **US Patent granted (No. 11001506, Date: 11-5-2021**)
2. S. Anandan,, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, **Chinese Patent granted (No. IIC190527, Date: 1-12-2021)**

3. S. Anandan,, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, **Japan Patent granted (No. 7121734, Date: 9-8-2022)**

4. S. Anandan, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, Inventors: **South Korea Patent granted (No. 10-2019-7019218, Date: 29-12-2022)**

5. S. Anandan, P.M. Pratheeksha, **R. Vijay** and Tata N. Rao, A method of producing high performance lithium titanate anode material for lithium ion battery applications, **Germany Patent granted (No. 11 2018 000 205 Date: 26-10-2023)**

Indian Patents filed:

1. S. Anandan, K. Nanaji, **R. Vijay** and Tata N. Rao, Fabrication of tab-less and cylindrical LFP-LTO cell for fast charging lithium ion battery application, **Indian Patent Application No. 202341004527 dated 23/01/2023**

2. Hitesh Kumar, **R. Vijay**, Kaliyan Hembram, A zirconium oxide layer based Mg-Zn-Zr alloys and its method of preparation thereof, **Indian Patent Application No. 202341055508 dated 18/08/2023**

3. Bijoy Kumar Das, S. Anandan, **R. Vijay** and T. N. Rao, Process for synthesizing carbon coated sodium vanadium phosphate and product there of, **Indian Patent Application No. 202441052014 dated 08/07/2024**

International Patents filed:

1. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof**, Brazil Patent Application No: BR112023012812-9** dated 26th June 2023 based on PCT International Application No. PCT/IN2021/051138 dated 06.12.2021 Published on 7th July 2022, Publication Number WO/2022/144917.

2. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **Israel Patent Application No: 1L304060A** dated 26th June 2023.

3. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **Chinese Invention Patent Application No: CN116686109** dated 20th June 2023.

4. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **US Patent Application No. 18/254,730** dated 29th May 2023.

5. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **Australia Patent Application No. 2021412505** dated 1st May 2023.

6. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **Europe Patent Application No. 21914895.4** dated 9th June 2023.

7. S. Anandan, **R. Vijay**, Tata Narasinga Rao, A method of producing high performance in-situ carbon coated lithium iron phosphate cathode material for lithium ion battery applications and the product thereof, **UAE Patent Application No. P6001377/2023** dated 6th June 2023.

List of Projects as a PI:

S. No	Project Title	Funding Agency	Project Cost (in lakhs)	Year
1	Indo Germany Project on Development of Biodegradable Alloys and AM Processes for Soft Tissue Anchors *(INGERBDIAM)* Consortium partners: ARCI, Wipro 3D, Charite Universty, KCS Europe GmbH	IGSTC, DST (Call 2020 – 155)	230	2022-25
2	Indo Italy project on Development of Aluminium alloys for additive manufacturing Consortium partners: ARCI, MIDHANI, CSM	GITA, DST (2019IT0205014)	600	2021-23
3	Development and supply of tungsten weight balancing components	RCI, DRDO	100	2021-22
4	Development of tungsten fibre reinforced tungsten composites for plasma facing components	Institute of Plasma Research IPR/PTTS/ENQ/2021/55	49	2021-23
5	Development and supply of tungsten plates	DRDL, DRDO	49	2019
6	Development of Oxide Dispersion Strengthened iron aluminides for power plant applications (Consortium partners: ARCI, NITW, NML)	DST (TMD/CERI/Clean Coal/ 2017/036 (ARCI)	1100	2018-2021
7	Development of ODS alloys for gas turbine blades	Technical Research Centre, DST (AI/1/65/ARCI/2014)	450	2015-2020
8	Development of ODS-RAFM/RAF steel powders for fusion reactor applications	IPR (MOU/IPR/ARCI/ODS/2015-2019/NOV	472	2015-2019
9	Development and supply of ODS-9Cr steel turbine blades (ARCI and BHEL)	BHEL (D-YM-10-276-RD-71)	49	2013-15
10	Lead Free Copper Alloys for Bimetal Bearings	Bimetal Bearings Ltd (ARCI/CNAN/CTAT/ BBL/2012-13)	11	2013-16

S. No	Project Title	Funding Agency	Project Cost (in lakhs)	Year
11	Development of ODS-9Cr/18Cr steel clad tubes on commercial scale	IGCAR IGC/MMG/MMD/ODS/01/2010	785	2010-2015
12	Oxide dispersion strengthened alloys for clad tunes of fast breeder reactor	IGCAR IGC/MMG/MTD/MFTS/PVS/ODS/01/2007	50	2008-11
13	Joint studies on development of high performance metal hydrides for engineering applications (Consortium partners: ARCI, IITM, University of Stuttgart)	DST-DAAD (INT/DAAD/P-87/2003)	20	2003-05
14	Development of Mg based hydrogen storage materials (Consortium partners: ARCI, IITM)	MNRE	35	2003-2006
15	Installation and Evaluation of Heat Pipe Based Solar Cooking Device	MNES (MNES/12/8/97-ST)	7	1998-2000
16	Development of Heat Pipe Based Solar Grain Dryer for Agro Products	MNES (MNES/13/41/97)	10	1998-2000

List of Publications:

1. Nagmani, Ashish Kumar, C. Gowthami, R. **Vijay,** Tata N. Rao and S. Anandan, Mini-Review on Advanced Characterization Techniques for Insights into the Sodium Storage Mechanism of Hard Carbon Anodes: Recent Advances and Future Perspectives, *Energy Fuels***,** 38 (2024) 18153
2. P. M. Pratheeksha, S. Sivakanali, Shreyas J. Kashyap, C. Gowthami, D. Paul Joseph, R. Vijay, T. N. Rao, and S. Anandan, Effective Oxygen-Deficient $Li_4Ti_5O_{12}$ Anode Material Displaying Excellent Rate-Performance and Outstanding Cyclic Stability, *Chemistry Select*, 9 (2024) https://doi.org/10.1002/slct.202403479
3. G. R. Kiranchand, P. Vijaya Durga, R. Vijay, and N. Narasaiah, Evolution of surface oxide layers during isothermal oxidation of a multi-component oxide dispersion strengthened Fe_3Al alloy, *J Mater Sci.,* 59 (2024) 15580-15598
4. Balla Rekha Madhuri, Harish Kumar Adigilli, Anirudha Karati, Joydip Joardar, R. Vijay, Tata Narasinga Raoa and Ramkrishna Sahoo, Solid–gas synthesis of stable V_3S_4 nanoflakes: electrochemical characterization as a Li-ion battery anode, *New J. Chem*., 48 (2024), 3447–3455
5. Gowthami Chandra, Shreyas J. Kashyap, S. Sudhakara Sarma, Sarada V. Bulusu, A. Venu Vinod, R. Vijay, Tata N. Rao, Anandan Srinivasan, Enhanced stability and high-yield $LiFePO_4$/C derived from low-cost iron precursors for high-energy Li-ion batteries, *Journal of Energy Storage*, 72 (2023)108453.
6. R. Jayasree, K. Raghava, M. Sadhasivam, P.V.V. Srinivas, R. Vijay, K.G. Pradeep, T.N. Rao and D. Chakravarty, Bi-layered metal-ceramic component for dental implants by spark plasma sintering, *Mater. Letters*, 344 (2023) 134403
7. P. Sai Karthik, S. Ganesh, P.S. Ninawe, M. Battabyal, S.B. Chandrasekhar, R. Vijay, Microstructure and mechanical properties of ODS austenitic steel processed using Ni-20Cr, *J Mater. Res.,* 38 (2023) 2179-2187.
8. D. Vijaya Lakshmi, P. Suresh Babu, L. Ramakrishna, P. Vijaya Durga, R. Vijay and D. Srinivasa Rao, Electrochemical corrosion and solid particle erosion response of Y2O3 dispersed FeAl coatings deposited by detonation spray, *Intermetallics*, 155 (2023) 107844
9. Katchala Nanaji, Aamani Nirogi, Pavan Srinivas, Srinivasan Anandan, R. Vijay, Ravi Nathuram Bathe, M. Pramanik, K. Narayan, B. Ravi, Tata N. Rao, Translational materials research - From laboratory to product: A 1200 F cylindrical supercapacitor from petroleum coke derived activated carbon sheets, *J Energy Storage*, 55 (2022) 105650
10. P.V. Durga, M. Nagini, A. Jyothirmayi, A.V. Reddy, S.R. Bakshi and R. Vijay, Electrochemical Corrosion Behaviour of Oxide Dispersion Strengthened Iron Aluminides in 3.5 wt% NaCl Solution, *Mater. Chem. Phys.,* 290 (2022) 126586.
11. Ashok Meghwal, Ameey Anupam, Christiane Schulz, Colin Hall, B.S. Murty, Ravi,Sankar Kottada, R. Vijay, P. Munroe Christopher, C. Berndt Andrew, Siao Ming Ang, Tribological and corrosion performance of an atmospheric plasma sprayed AlCoCr0.5Ni high-entropy alloy coating, *Wear*, 506-507 (2022) 204443.
12. G. Nischay Kaushik, M. Nagini, M. Surya Prakash Reddy, Neha Y. Hebalkar, R. Vijay, and B.S. Murty, Effect of Zr and ZrO_2 on Aqueous Corrosion Behaviour of Oxide Dispersion Strengthened 9Cr Ferritic-Martensitic Steels, Mater. Letters, 324 (2022) 132428-132431
13. P.S. Ninawe, S. ganesh, P. Sai Karthik, S.B. Chandrasekhar and R. Vijay, Microstructure and mechanical properties of spark plasma sintered austenitic ODS steel, *Adv. Powder Tech*. 33 (2022) 103584-103593

14. P.V. Durga, M. Nagini, A.V. Reddy, S.R. Bakshi and R. Vijay, Effect of fine grain structure and nano oxide dispersoids on improved strength and ductility of iron aluminide based intermetallics, *Metall Mater. Trans. A,* 53 (2022) 1597-1603

15. P. Manikandan, A.E. Perumal , R.F. Issac, R. Vijay and G. Padmanabham, Impact of Spark Plasma Sintering Process on Tribo Surface of Al/CNT Composites, *Surf. Topogr.: Metrol. Prop.* 9 (2021) 045018

16. S. Mohan, A. George, R. Vijay, C. David and G. Amarendra, Interfacial strain relief by periodic dislocation doublets arising from rotationally related orientation relationships of $Y_4Zr_3O_{12}$ dispersions in ferrite matrix, *Mater. Sci. Eng. A,* 828 (2021) 142047

17. D. Vijaya Lakshmi, P. Suresh Babu, L. Ramakrishna, R. Vijay, D. Srinivasa Rao and G. Padmanabham, Corrosion and erosion behaviour of iron aluminide (FeAl(Cr)) coating deposited by detonation spray technique, *Adv. Powder Tech*. 32 (2021) 2192-2201

18. S. Ganesh, P. Sai Karthik, M. Ramakrishna, A.V. Reddy, S.B. Chandrasekhar, R. Vijay, Ultra-high strength oxide dispersion strengthened austenitic steel, *Mater. Sci. Eng. A*, 814 (2021) 141192

19. Rahul B. Mane, R. Sahoo, B. Kumaar Swamy Reddy, R. Vijay, Bharat B. Panigrahi, Pramod H. Borse and D. Chakravarty, Doping induced coloration in titania, *J Am Ceram Soc*., 104 (2021) 2932-2936

20. M. Nagini, R. Vijay, K. Satya Prasad, A.V. Reddy and G. Sundararajan, Role of microstructure and temperature of tensile fracture behaviour of oxide dispersion strengthened 18Cr ferritic steel, *Metall Mater. Trans. A,* 52 (2021) 1826-1835

21. R. Jayasree, Rahul.B. Mane, R. Vijay, D. Chakravarty, Effect of process control agents on mechanically alloyed $Al_{0.3}CoCrFeNi$, *Mater. Letters*, 292 (2021) 129618.

22. A. H. V. Pavan, K. Sowmya, B. Ramesh Chandra. M. Swamy, R. Vijay and Kulvir Singh, Characterization and mechanical behavior of mechanically milled and hot extruded oxide dispersion strengthened steel, *Materials Today: Proceedings*, 38 (2021) 2687-2694.

23. D. Chakravarty, N. Laxman, R. Jayasree, R.B. Mane, S. Mathiazhagan, P.V.V. Srinivas, R. Das, M. Nagini, M. Eizadjou, L. Venkatesh, N. Ravi, D.R. Mahapatra, R. Vijay, S.P. Ringer and C.S. Tiwary, Ultrahigh transverse rupture strength in tungsten-based nanocomposites with minimal lattice misfit and dual microstructure, *Int J Refractory Metals and Hard Mater.* 95 (2021) 105454

24. Rahul B. Mane, R. Vijay, Bharat B. Panigrahi and D. Chakravarty, High temperature decomposition kinetics of Ti_3GeC_2MAX phase, *Mater. Letters* 282 (2021) 128853.

25. D. Spandana, H. Desai, D. Chakravarty, R. Vijay and K. Hembram, Fabrication of a biodegradable Fe-Mn-Si alloy by field assisted sintering, *Adv. Powder Tech*. 31 (2020) 4577-4584

26. S. Sudhakara Sarma, J. Joardar, R. Vijay and Tata N Rao, Preparation and characterisation of nano boron by cryo milling, *Adv. Powder Tech*. 31 (2020) 3824-3832.

27. B.V. Sarada, R. Vijay, R. Johnson, T. Narsinga Rao, G. Padmanabham, Fight against COVID-19: ARCI's technologies for disinfection, *Trans Indian National Academy of Engg*. 5 (2020) 349–354

28. M. Nagini, K.G. Pradeep, R. Vijay, A.V. Reddy, B.S. Murthy, G. Sundararajan, A combined electron microscopy, atom probe tomography and small angle X-ray scattering study of oxide dispersion strengthened 18Cr ferritic steel, *Mater. Char*., 164 (2020) 110306

29. P.V. Durga, K. Satya Prasad, S.B. Chandrasekhar, A.V. Reddy, S.R. Bakshi and R. Vijay, "Microstructural and mechanical properties of oxide dispersion strengthened iron aluminides produced by mechanical milling and hot extrusion", *J Alloys Compd*. 834 (2020) 155218.

30. N.S. Anas, L. Rama Krishna, R.K. Dash and R. Vijay, "Tribological performance of CNT/Ni coated CNT dispersed−Al alloys produced by Mechanical Milling and Extrusion", *J Mater. Engg. Performance*, 29 (2020) 1630-1639.

31. S. Kavita, G. Anusha, Pramod Bhatt, V. Suresh, R. Vijay, K. Sethupathi and R. Gopalan, "On the giant magnetocaloric and mechanical properties of Mn–Fe–P–Si-Ge alloy", *J Alloys Compd*. 817 (2020) 153232.

32. N.S. Anas, M. Ramakrishna and R. Vijay, "Microstructural characteristics and Mechanical Properties of CNT/ Ni coated CNT–dispersed Al alloys produced by High Energy Ball Milling and Hot Extrusion", *Metal Mater. Int*. 26 (2020) 272-283.

33. S Sudhakara Sarma, K. Satya Prasad, Joydip Joardar, K Suresh, A V Reddy and R Vijay, "Nanocrystalline ODS-iron aluminide by cryo-milling: Consolidation, microstructure and mechanical behaviour", Mater. Res. Express, 6 (2019) 106572

34. N.S. Anas, S.B. Chandrasekhar, R.K. Dash, Tata N Rao and R. Vijay, "Effect of Carbon nanotubes on Solution Treatment Temperature and Dissolution Characteristics of Precipitates in Al alloy produced by High Energy Milling and Hot Extrusion", *Trans Indian Inst Met*. 72 (10) (2019) 2687-2697

35. N.S. Anas, R.K. Dash, Tata N Rao and R. Vijay, Influence of Process Control Agents on Microstructure and Mechanical Properties of Al-Cu-Mg Alloy produced by Mechanical Alloying, *Mater. Sci. Eng. A*, 751 (2019) 171-182

36. M. Nagini, R. Vijay, Koteswararao V. Rajulapati, A.V. Reddy and G. Sundararajan, "Microstructure-mechanical property correlation in oxide dispersion strengthened 18Cr ferritic steel", *Mater. Sci. Eng. A*, 708 (2017) 451-459.

37. J. Rajesh, R. Vijay, S. Ganesh Sundara Raman and G. Sundararajan, Hot deformation behavior of n-ODS-18Cr steel, *Procedia Eng*. 207 (2017) 191-196.

38. N.S. Anas, R.K. Dash, Tata N. Rao, and R. Vijay, "Effect of Carbon Nanotubes as Reinforcement on the Mechanical Properties of Aluminum-Copper-Magnesium Alloy", J *Mater. Engg. Performance*, 26 (2017) 3376-3386.

39. K. Suresh, M. Nagini, R. Vijay, M. Ramakrishna, Ravi C. Gundakaram, A.V. Reddy and G. Sundararajan, "Microstructural studies of oxide dispersion strengthened austenitic steels", *Mater. Design*, 110 (2016) 519-525.

40. M. Nagini, R. Vijay, Koteswararao V. Rajulapati, K. Bhanu Sankara Rao, M. Ramakrishna, A.V. Reddy and G. Sundararajan, "Effect of process parameters on microstructure and hardness of oxide dispersion strengthened 18Cr ferritic steel", *Metall Mater. Trans. A,* 47 (2016) 4197-4209.

41. M. Nagini, A. Jyothirmayi, R. Vijay, Tata N. Rao, A.V. Reddy, Koteswararao V. Rajulapati, and G. Sundararajan, "Influence of dispersoids on corrosion behavior of oxide dispersion strengthened 18Cr steels made by high-energy milling", *J Mater. Engg. Performance*, 25 (2016) 577-586.

42. A. Bhadauria, L. K. Singh, A.R. Ballal and R. Vijay, "Effect of Yttria Dispersion on Creep Properties of Pure Iron", *Trans Indian Inst Met*. 69 (2016) 253-259.

43. S. Santra, S. Amirthapandian, A. J. London, B. K. Panigrahi, R.M. Sarguna, S.Balaji, R.Vijay, C. S. Sundar and C. Grovenor, "Effect of Ti and Cr on dispersion and structure of oxide nano-particles in model ODS alloys", *Acta Mater*. 97 (2015) 223-233.

44. M. Nagini, R. Vijay, M. Ramakrishna, A.V. Reddy and G. Sundararajan, "Effect of duration of milling on microstructural and mechanical properties of ODS-9Cr steel", *Mater. Sci. Eng. A*, 620 (2014) 490-499.

45. R. Vijay, A.V. Reddy and G. Sundararajan, "Development of oxide dispersion strengthened steels for next generation power plants", *Nanotech Insights*, 5 (2014) 66-70

46. R. Vijay, M. Nagini, S.S. Sarma, M. Ramakrishna, A.V. Reddy and G. Sundararajan, "Structure and properties of nano scale oxide dispersed iron", *Metall Mater. Trans. A,* 45 (2014) 777-784.

47. G. Sundararajan, R. Vijay and A.V. Reddy, "Development of 9Cr ferritic-martensitic and 18Cr ferritic oxide dispersion strengthened steels", *Current Science*, 105 (2013) 1100-1106.

48. R. Vijay, M. Nagini, J. Joardar, M. Ramakrishna, A.V. Reddy and G. Sundararajan, "Strengthening mechanisms in mechanically milled oxide-dispersed iron powders", *Metall Mater. Trans. A,* 44A (2013)1611-1620.

49. Kaliyan Hembram, R. Vijay, Y.S. Rao and T.N. Rao, "Doped nanocrystalline ZnO powders for Non-linear Applications by Spray Pyrolysis method", *J Nanoscience and Nanotechnology*, 9, (2009) 4376-4382.

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Book Chapters:

1. Evolution of "International Advanced Research Center for Powder Metallurgy and New Materials (ARCI)", a Unique Centre for Translating Materials Research to Technology, Indian Metallurgy - The Platinum Years, Editors: R. Divakar · S. V. S. Narayana Murty, S. Srikanth and Amol A. Gokhale, Springer, ISSN 2509-6419, 2024, https://doi.org/10.1007/978-981-99-5060-7

Membership

Member of : TMS

Life member of	:	Telangana Academy of Sciences (TAS) Powder Metallurgy Association of India (PMAI) Institution of Engineers India Indian Institute of Metals (IIM) Materials Research Society of India (MRSI)

Research Students	:	M.Tech	: 14
		Ph.D.	: 3 completed, 1 (on-going)
		PDF	: 3 completed

Other Responsibilities:

1. Director, ARCI, May 2024 to till date
2. Head, Centre for Nanomaterials, ARCI, 2014 to April 2024
3. Chairman, Purchase Committee-I, ARCI, 2023
4. Member, DRDO Assessment, Armaments Board, 2022
5. Co-Chairman, Organising Committee; Workshop on Materials and Technologies for Biomedical Implants, February 24, 2022 (Online)
6. Member, Subcommittee on Hydrogen Storage as part of National Committee on Hydrogen Economy, constituted by Department of Science and Technology, 2021
7. Member of Academic Council, Kamala Institute of Technology and Science, Huzurabad, Telangana
8. Member, Indo-Belarus Science and Technology co-operation since 2019
9. Member, Board of Studies; SEST- HCU, since 2020
10. Member, Board of Studies; Department of Chemical Eng, NITW, since 2021
11. Member, Board of Studies; Dept of Mech. Eng., MVGR Engineering College, Vizianagaram, since 2018
12. Member of various procurement as well as interview committees of ARCI
13. Vigilance Officer during 2014-19
14. Convenor, ARCI Annual Sports Committee, 2012 and 2013
15. Chairman, ARCI Annual Day Celebrations, 2012
16. Secretary, Organising Committee; International Conference on "Solid State Hydrogen Storage – Materials and Applications, 2005, Hyderabad