

Biodata

- a. Name: Dr. R. Vijay
- b. Qualification: M. Tech, Ph.D.
- c. Designation: Scientist 'F' and Team Leader
- d. Contact information (Centre attached to, phone number, fax, official email):

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- e. Experience:

After joining International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) as a scientist in 1994, he has been working on Heat Pipe based heat transfer devices, Mechanical Alloying, Hydrogen Storage Materials, Nanostructured Materials, Oxide Dispersion Strengthened Steels and Simoloyer Technology.

- f. Research Areas of Interest:

Nanostructured materials, High Kinetic Processing (Mechanical Alloying), Oxide Dispersion Strengthened Materials and Hydrogen Storage Materials.

- g. List of Journal Publications

1. 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(2) (2016) 253-259
2. M. Nagini, A. Jyothirmayi, R. Vijay, Tata N Rao, A.V. Reddy, Koteswararao V. Rajulapati, G. Sundararajan, Influence of Dispersoids on Corrosion Behaviour of Oxide Dispersion Strengthened 18Cr steels made by High-Energy Milling, *J Mater Eng Perfromace*, 25 (2016) 577-586
3. 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.
4. 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.
5. 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

6. 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.
 7. 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.
 8. 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.
 9. 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.
 10. P. Muthukumar, M.P. Maiya, S. Srinivasa Murthy, R. Vijay and R. Sundaresan, "Tests on mechanically alloyed Mg₂Ni for hydrogen storage", *J. Alloys Compd.* 452 (2008) 456-461.
 11. R. Vijay, R. Sundaresan, M.P. Maiya, S. Srinivasa Murthy, "Application of Mg-x wt% MmNi₅ nanostructured composites in a hydrogen storage device", *Int. J Hydrogen Energy* 32 (2007) 2390-2399.
 12. R. Vijay, R. Sundaresan, M.P. Maiya, S. Srinivasa Murthy, "Hydrogen storage properties of Mg - Cr₂O₃ nanocomposites: The role of catalyst distribution and grain size", *J Alloys Compd.* 424 (2006) 289-293.
 13. R. Vijay, R. Sundaresan, M.P. Maiya and S. Srinivasa Murthy, "Comparative evaluation of Mg-Ni hydrogen absorbing materials prepared by mechanical alloying", *Int. J Hydrogen Energy*, 30 (2005) 501-508.
 14. R. Vijay, R. Sundaresan, M.P. Maiya, S. Srinivasa Murthy, Y. Fu, H.-P. Klein, and M. Groll, "Characterisation of Mg-x wt.% FeTi (x = 5-30) and Mg-40 wt.% FeTiMn hydrogen absorbing materials prepared by mechanical alloying", *J Alloys Compd.* 384 (2004) 283-295.
 15. D.Sivaprahasam, G.Sivakumar, R.Vijay and R. Sundaresan, 'Mechanically Alloyed Fe-SiC Powder for Detonation Spray Coating', in "*Trends in Mechanical Alloying*", P.R.Soni and T.V. Rajan, Editors, Oxford & IBH Publishing, New Delhi, Kolkata, 2002, pp. 84-95.
- h. List of Patents:
1. Heat pipe based solar grain dryer – Indian Patent granted (No: 184674)
 2. Heat pipe based solar cooking device – Indian Patent granted (No: 184675)
- i. Conference proceedings:
1. R. Vijay, R. Sundaresan, M.P. Maiya and S. Srinivasa Murthy, "Hydrogen Storage Characteristics of Magnesium-Aluminium compounds Prepared by Mechanical

Alloying”, *Proceedings International Hydrogen Energy Congress and Exhibition IHEC 2005*, Istanbul, Turkey, 13-15 July 2005.

2. R. Vijay, R. Sundaresan, G.V.N. Rao, M.P. Maiya and S. Srinivasa Murthy, “Sorption characteristics of Mg-x wt% MmNi₅ (x = 10-50) nanostructured composites prepared by mechanical alloying”, *Proceedings International Conference on Solid State Hydrogen Storage – Materials and Applications*, 31 Jan-1 Feb 2005, Hyderabad, India.

j. Contribution to Books:

k. Affiliation to Professional societies:

Life member of : Powder Metallurgy Association of India (PMAI)
: Institution of Engineers, Hyderabad Chapter
: Indian Institute of Metals (IIM)
Materials Research Society of India (MRSI)

l. Awards & Honors:

1. Received “Engineer of the Year 2007” award from Andhra Pradesh state government and Institution of Engineers, Hyderabad Centre.
2. DST-DAAD fellowship for working at IKE, University of Stuttgart, Germany, under Prof. M. Groll. Aug 2005 – Nov 2005.
3. Indo-US Fellowship for working at Department of Materials, University of California, Santa Barbara, USA, under Prof. G.R. Odette. Aug. 2010 – Feb 2011.

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