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**Educational Qualifications:**

<b>Degree</b>	<b>Institution</b>	<b>Year of Pass</b>	<b>Grade</b>
M.E. (Materials Science)	Regional Engineering College, Trichy, India	2002	8.4 CGPA
M. Sc (Physics)	Madurai Kamaraj Univ, Madurai, India	2000	68.7%
B. Sc (Physics)	Madurai Kamaraj Univ, Madurai, India	1998	66.1%

**Work Experience:**

<b>Occupation</b>	<b>Institution</b>	<b>Year From</b>	<b>Year To</b>
Scientist	Defence Metallurgical Research Laboratory, Hyderabad, India	2005	Till date
Senior Research Fellow	Indian Institute of Technology Delhi, India	2004	2005
Processing Engineer	Fidelity Enterprise (P) Ltd, Chennai	2002	2003

**Area of Specialization/ Research:**

1. Development of nanocrystalline ultra soft magnetic materials (Fe(Co)-Zr-B-Cu alloys)
2. Development of W and bulk metallic glass based composites for kinetic energy penetrator applications
3. Development of Co-Fe-Si-B based giant magnetoimpedance alloys
4. Development of wide and continuous melt spun ribbons of Fe-Si-B-Nb-Cu alloys using planar flow casting method

## List of Publications:

1. Effect of processing parameter on structure and soft magnetic properties of Fe-Zr-B-Cu alloy ribbons,  
*D Arvindha Babu*, B Majumdar, R Sarkar, D Akhtar and V Chandrasekharan,  
**J Phys D: Appl Phys.** 41 (2008) 195002.
2. Structure and soft magnetic properties of Fe(Co)-Zr-B-Cu alloys,  
*D Arvindha Babu*, B Majumdar, D Akhtar, M H Rao, M M Raja, S Bysakh, V R Krishna and V Chandrasekharan,  
**DMRL technical report** (2008) 450.
3. Giant magnetoimpedance,  
J Arout Chelvane, *D Arvindha Babu*, Mithun Palit, R Gopalan and V Chandrasekaran,  
**MSI Bulletin**, 31 (2008) 11.
4. Influence of quenching rate on the structure, soft magnetic and magneto impedance properties of melt spun  $\text{Co}_{69}\text{Fe}_7\text{Si}_{14}\text{B}_{10}$  alloys,  
*D Arvindha Babu*, J Arout Chelvane, K Sathya Prasad and D Akhtar,  
**J. Magn. Magn. Mater.** 321 (2009) 3084.
5. Effect of Co or Mn addition on the soft magnetic properties of amorphous  $\text{Fe}_{89-x}\text{Zr}_{11}\text{B}_x$  ( $x = 5 \& 10$ ) alloy ribbons,  
D Mishra, A Perumal, P Saravanan, *D Arvindha Babu* and A Srinivas,  
**J. Magn. Magn. Mater.** 321 24 (2009) 4097.
6. Effect of Co or Mn addition on the soft magnetic properties of amorphous  $\text{Fe}_{89-x}\text{Zr}_{11}\text{B}_x$  ( $x = 5 \& 10$ ) alloy ribbons,  
D Mishra, A Perumal, P Saravanan, *D Arvindha Babu* and A Srinivas,  
**J. Magn. Magn. Mater.** 321 24 (2009) 4097.
7. Plasma Annealing: A Route to Precise Controlled Growth of  $\text{MoO}_3$  Nanostructures  
Tarsame S Sian, GB Reddy and *D Arvindha Babu*  
**Physica E: Low Dim. Sys. and Nanostruc.**, 41 (3), (2009) 408
8. Effect of heat treatment on mechanical and ballistic properties of high strength steel,  
P K Jena, B Mishra, M R Babu, *D Arvindha Babu*, A K Singh, K Siva Kumar and T B Bhat,  
**Inter. J. Imp. Engg.**, 37 (2010) 242.
9. Influence of melt spinning parameters of on the structure and soft magnetic properties of  $(\text{Fe}_{0.65}\text{Co}_{0.35})_{88}\text{Zr}_7\text{B}_4\text{Cu}_1$  alloy,  
*D Arvindha Babu*, A P Srivastava, B Majumdar, D Srivastava and D Akhtar  
**Metal. Mater. Trans. A**, 41 A, (2010) 1314.
10. Structure, properties and glass forming ability of melt spun Fe-Zr-B-Cu alloys with different Zr/B ratios,  
*D Arvindha Babu*, B Majumdar, A P Srivastava, B R K Rao, D Srivastava, B S Murthy and D Akhtar, **Metal. Mater. Trans. A**, 42 A, (2011) 508.
11. Nanocrystallization of amorphous  $(\text{Fe}_{1-x}\text{Co}_x)_{88}\text{Zr}_7\text{B}_4\text{Cu}_1$  alloys and their soft magnetic properties,  
*D Arvindha Babu*, B Majumdar, R Sarkar, M Manivel Raja and D Akhtar,  
**J. Mater. Research**, 26 (2011) 2065.

- 12 Effect of Nb addition on the structure and soft magnetic properties of melt spun  $\text{Co}_{69}\text{Fe}_7\text{Si}_{14}\text{B}_{10}$  alloy,  
*D Arvindha Babu*, J Arout Chelvane, H Basumatary, A P Srivastava, T Sahoo, D Akhtar and M Manivel Raja,  
**Phys. B**, 406 17 (2011) 3243.
- 13 Microstructure, phase evolution and magnetic properties of melt spun  $\text{SmCo}_{68-x}\text{Sn}_x\text{Zr}_{0.2}$  ( $x = 0.1, 0.2$  and  $0.3$ ) ribbons,  
P Saravanan, *D Arvindha Babu* and V Chandrasekaran,  
**Intermetallics**, 19 (2011) 651.
- 14 Effect of replacing B by Zr in amorphous Co-Fe-Si-B soft magnetic alloys,  
*D Arvindha Babu*, WH Khan, J Arout Chelvane, T Sahoo and D Akhtar,  
**J. Mater. Research**, 27, 7 (2012) 1080.
- 15 Microstructure and magnetostriction of melt-spun  $\text{Fe}_{73}\text{Ga}_{27}$  ribbon  
Himalay Basumatary, Mithun Palit, J. Arout Chelvane, *D. Arvindha Babu*, R. Sarkar, and S. Pandian,  
**Appl. Phys. Lett.**, 101 (2012) 144106.
- 16 Issues on puddle formation during rapid solidification of Fe-Si-B-Nb-Cu alloy using planar flow melt spinning process,  
B Majumdar, M Sowjanya, M Srinivas, *D Arvindha Babu* and T Kishen K Reddy  
**Trans. Ind. Inst. Metals.**, 65(6) (2012) 841.
- 18 In-plane and out of plane magnetic properties in  $\text{Ni}_{46}\text{Co}_{46}\text{Mn}_{38}\text{Sb}_{12}$  ribbons  
Roshnee Sahoo, D M Raj Kumar, *D Arvindha Babu*, K G Suresh and M M Raja  
**J. Appl. Phys.**, 113, 17A (2013) 940.
- 19 Production of nanocrystalline ultrasoft magnetic FeSiBNbCu ribbons  
B Majumdar, M Srinivas, *D Arvindha Babu* and D Akhtar  
**Technology Document**, DMRL
- 20 Effect of annealing on the magnetic, magnetocaloric and magnetoresistance properties of Ni-Co-Mn-Sb melt spun ribbons  
Roshnee Sahoo, D. M. Raj Kumar, *D. Arvindha Babu*, K. G. Suresh, A. K. Nigam, M. M. Raja  
**J. Magn. Magn. Mater.**, 347, (2013), 95
- 19 Effect of annealing on the structural, microstructural and magnetic properties in  $\text{Ni}_{46}\text{Co}_4\text{Mn}_{38}\text{Sb}_{12}$  ribbons,  
Roshnee Sahoo, D. M. Raj Kumar, *D. Arvindha Babu*, K. G. Suresh, M. Manivel Raja  
**AIP Conf. Proc.**, 1512, (2013), 1074
- 21 Influence of solidification rate and heat treatment on magnetic refrigerant properties of melt spun  $\text{Ni}_{51}\text{Mn}_{34}\text{In}_{14}\text{Si}_1$  ribbons,  
Rahul Das, P. Saravanan, *D. Arvindha Babu*, A. Perumal, A. Srinivasan  
**J. Magn. Magn. Mater.** 572 (2013) 192
- 22 Large coercivity in anisotropy compensated  $\text{Tb}_{0.3}\text{Dy}_{0.5}\text{Fe}_{1.95}$  by microstructural relaxation  
Mithun Palit, J Arout Chelvane, H Basumatary, *D Arvindha Babu*, S Pandian  
**Physica B**, 448 (2013) 46.
- 23 New Generation Nanocrystalline Ultrasoft Magnetic Alloys for Energy Savings  
B. Majumdar, *D. Arvindha Babu*, M. Srinivas and S.V. Kamat  
**Nanotech Insights**, 9 2 (2014), 2.

- 24 Challenges in Technology for Processing Amorphous FeSiBNbCu Alloy Ribbons Using Planar Flow Melt Spinner  
Bhaskar Majumdar, *D Arvindha Babu* and S.V. Kamat  
**Banaras Metallurgist**, 19 (2014) 9.
- 25 Effect of Iron on the Enhancement of Magnetic Properties for Cobalt based Soft Magnetic Metallic Glasses  
Medha Veligatla, Shravana Katakam, Santanu Das, Narendra Dahotre, R. Gopalan, D. Prabhu, *D. Arvindha Babu*, Haein Choi-Yim and Sundeep Mukherjee  
**Metal. Mater. Trans A**, **46 A**, (2015) 1019.
- 26 Microstructure and Magnetic Properties in As-Cast and Melt-Spun Co-Zr alloys  
Mithun Palit, J Arout Chelvane, Himalay Baumatary, D Arvindha Babu and SV Kamat  
**J. Alloys and Comps.** 644 (2015) 7.
- 27 Glass Forming Ability, Structure and Soft Magnetic Properties of Rapidly Solidified  $\text{Fe}_{86}\text{Zr}_{7-x}\text{Nb}_x\text{B}_6\text{Cu}_1$  Alloy Ribbons  
*D. Arvindha Babu*, B Majumdar and BS Murty  
**Trans. Ind. Inst. Metals**, 68 (6) (2015) 1047.
- 28 On the Structural Stability of Melt Spun Ribbons of  $\text{Fe}_{95-x}\text{Zr}_x\text{B}_4\text{Cu}_1$  ( $x=7$  and  $9$ ) Alloys and Correlation with their Magnetic Properties  
*D. Arvindha Babu*, B Majumdar and BS Murty  
**Metal. Mater. Trans A**, **47A** (2016) 560.

#### **List of Patents:**

1. Method and apparatus for in-situ melting and continuous casting of amorphous ribbons from Fe-based alloys  
B Majumdar, M Srinivas, *D Arvindha Babu*, D Akhtar, A V Phani Kiran and R Danny  
**Indian Patent**, 1951-DEL-2013, July2, 2013