

Brief Bio-Sketch of Prof. B.S. Murty



Prof. B.S. Murty is an Institute Professor and Girija & R. Muralidharan Chair Professor at the Department of Metallurgical and Materials Engineering, IIT Madras, India. His academic journey started with a Diploma in Metallurgy in 1983 followed by BE from VRCE Nagpur in 1986 and ME from IISc Bangalore in 1988. He obtained his PhD (1992) also from IISc, Bangalore. After serving at IIT Kharagpur for 12 years, he has been a Professor at IIT Madras since 2004. He is also currently an Adjunct Professor at Ryerson University, Toronto, Canada since 2011 and also an Associate faculty of School of Engineering, University of British Columbia, Canada since 2016.

His fields of interests are High entropy alloys, Nanocrystalline materials and nanocomposites, bulk metallic glasses, grain refinement and modification of Al alloys, Al based composites, in-situ composites, non-equilibrium processing, particulate technologies, thermodynamics and kinetics of phase transformations, transmission electron microscopy, atom probe tomography. He has authored above 400 journal publications and 4 books. He has supervised 39 PhDs and 20 PhDs are ongoing. He has completed over 55 sponsored research projects and currently handling 13 projects and filed 20 patents. His main research contributions are:

- He has pioneered the field of non-equilibrium processing of materials by mechanical alloying. He has not only developed advanced materials using this route, but also has made key contributions to the development of theoretical frame work in this field.
- He has developed a wide variety of nano materials with exceptional structural and functional properties and demonstrated their technological viability.
- He has made significant contributions to the field of bulk metallic glasses including developing thermodynamic models for predicting glass forming ability.
- He has also pioneered the field of high entropy alloys from India, which are exciting new class of materials with immense application potential.
- His group is the first in India to successfully develop a technology for the production grain refiners for Aluminium and demonstrate their superiority over the imported ones.
- Under his leadership a National Facility for Atom Probe Tomography has been set up at IIT Madras with a remotely operable Local Electrode Atom Probe (LEAP) (first such facility globally) that can characterize materials in 3D at the atomic scale.
- He has also set up Deakin-IITM Centre of Excellence on Advanced Materials and Manufacturing at IIT Madras jointly with Deakin University, Australia.

He is a recipient of a number of awards including Shanti Swarup Bhatnagar Award (2007), JC Bose Fellowship award (2018-2023), INAE Outstanding Teacher award (2019), Honorary Doctorate from Deakin University, Australia (2017), Life time Achievement Award of IIT Madras (2016), GD Birla Gold Medal (2015), Eminent Materials Engineer Award (2011), Distinguished Alumnus Award of VNIT (2010), Metallurgist of the Year Award (2004), MRSI Medal (2004), INAE Young Engineer Award (1997), INSA Young Scientist Award (1995), Young Metallurgist Award (1994), and ISCA Young Scientists Award (1992).

His is a Fellow of The World Academy of Sciences (FTWAS, 2018), Andhra Pradesh Academy of Sciences (FAPAS, 2016), Indian Institute of Metals (FIIM, 2015), Asia Pacific Academy of Materials (FAPAM, 2013), Indian National Science Academy (FNA, 2013), ASM International (FASM, 2010), Indian Academy of Sciences (FASc, 2008), National Academy of Sciences (FNASc, 2008), Indian National Academy of Engineering (FNAE, 2007).