

SPONSORED RESEARCH PROJECTS

- DST Fast Track Scheme project on "Experimental Study and Thermodynamic Assessment of the Ni-Ti-V Ternary System by Coupling of CALPHAD and First-Principle Method" funded with **Rs.21.7 lakhs** for the period of 2013-2017
- UGC-NRCM networking project along with India Institute of Science, Bangalore on "Phase Stability in $\text{Ni}_3(\text{Ti}, \text{V})$ intermetallic System". Collaborator Dr. Karthikeyan, Assistant Professor, Department of Materials Engineering, IISc, Bangalore. (Financial aspects from IISc side only) for the period of 2014-2015.

FUNDED PROGRAMS ORGANISED

- **BRNS Sponsored** Workshop on "Scanning Electron Microscopy and X-Ray Diffractometer" on February 28th and March 1st 2012, CARE Group of Institutions, Tiruchirappalli, Tamil Nadu (**grant: Rs. 50,000**)
- Co-Investigator for **DST-NCSTC supported** Motivational Program for Talented School Girls on 30th January to 3rd February 2016, in CARE Group of Institutions, Tiruchirappalli Tamil Nadu (**Grant: Rs. 2,44,000**)

REFERRED JOURNALS

- K. Santhy, T. Sowmya and S. Raman Sankaranaryanan, "Effect of Oxygen to Silicon Ratio on the Viscosity of Metallurgical Slags", ISIJ International, Vol. 45 (7), 2005, pp. 1014-1018.
- K. Santhy and K.C. Hari Kumar, "Thermodynamic assessment of Mo-Ni-Ti ternary system by coupling first-principle calculations with CALPHAD approach", Intermetallics, Vol.18 (9), 2010, pp.1713-1721.
- K. Santhy and K.C. Hari Kumar, "Thermodynamic reassessment of Nb-Ni-Ti system with order-disorder model", Journal of Alloys and Compounds, Vol.619, 2015, pp.733-747.

CONTRIBUTION TO BOOK CHAPTER

- K. Santhy and K.C. Hari Kumar, "Ni-Ti-Nb (Ternary System)", MSIT Binary Evaluation Program, in MSIT Workplace, Effenberg, G. (Ed.), MSI, Materials Science International Services, GmbH, Stuttgart.

CONFERENCES (NATIONAL/INTERNATIONAL)

- K. Santhy and S. Raman Sankaranaryanan, "Application of Oxygen to Silicon ratio to the Viscosity of Slags", presented at Science and Technology of Advanced Engineering Materials, February 2003, Regional Research Laboratory, Trivandrum.
- K. Santhy and K.C. Hari Kumar, "Ab-initio Calculation of Enthalpy of Formation of Intermetallics in Ni-X (X = Ti, V, Mo, Nb and Zr) Systems", presented at NMD-ATM 2007, 13-16th November 2007, Mumbai, India.
- K. Santhy and K.C. Hari Kumar, "Phase diagram and thermodynamics of Fe-Ti system by combining Ab-initio method with CALPHAD approach", presented at THERMANS – 2008,

16th National Symposium on Thermal Analysis, 4-6th February 2008, IGCAR, Kalpakkam, India.

- K. Santhy and K.C. Hari Kumar, "Thermodynamics Assessment of Ni-Ti-Mo Ternary System by Combining First-Principles method and CALPHAD approach", presented at ISRS 2008, 10-12th December 2008, IIT Madras, Chennai, India.
- K. Santhy, "Thermodynamic Assessment of Mo-Nb-Ti System", presented at NMD -ATM 2014, 12-15th November 2014, College of Engineering, Pune, India.
- K. Santhy, "Thermodynamic Assessment of Ni-Ti-V System", presented at CALPHAD 2017, 11-16th June 2017, Saint-Malo, France.
- K. Santhy, "Phase Relation and Microstructure Study of Ni-Ti-V System" presented at National Conference in Chemical and Petrochemical Technology, 25th September 2017 Anna University, Tiruchirappalli.
- P. Arunkumar, M. Irphan Ali and K. Santhy, "Case Hardening of Mild Steel using Various Natural Energiser" presented at National Conference in Chemical and Petrochemical Technology, 25th September 2017 Anna University, Tiruchirappalli.
- Harshana priya, D. Stephen Raj, K. Santhy, "Effect of Aluminium and Silicon Carbide Particles on Glass Epoxy Composite" presented at National Conference Processing of Materials'18 (NCOPOM 2018), 19-21st September 2018, National Institute of Technology, Surathkal.
- K. Santhy, P. Arunkumar, M. Irphan Ali and P. Vallippan, "Effect of graphite content on Al/Fe and Al₂₀24/Fe metal matrix composite processed by powder metallurgy route" presented at International Conference on Industry 4.0, 9-11th January 2019 Coimbatore Institute of Technology, Coimbatore.

INVITED GUEST LECTURES

- Invited lecture on "Introduction to Basic Metallurgy & Heat Treatment", one day program on "Metallurgical Testing and Analysis", 24th March 2016, organized by Society of Failure analysis, Tiruchirappalli Chapter, Tiruchirappalli.
- Invited lecture on "Materials for Special Applications and Modern Techniques for Materials Study", 21 and 22nd October 2016, Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bangalore.
- Invited lecture on "Metallurgy of Steel" in Automotive Steel workshop on Mettle'17 26th March 2017 organized by Department of Metallurgical and Materials Engineering, National Institute of Technology, Tiruchirappalli.
- Invited lecture on "Introduction to CALPHAD" in Institutions of Engineers, BHEL, Tiruchirappalli at 25th July 2017.

MEMBERSHIP

- Life member of Indian Institute of Metals
- Life member of Society of Failure Analysis