

## **RESEARCH PROJECTS (COMPLETED)**

1. DST sponsored FAST Track Scheme project title "Experimental Study and Thermodynamic Assessment of the Ni-Ti-V Ternary System by Coupling of CALPHAD and First-Principle Method"
2. UGC networking project along with IISc on "Phase Stability in Ni<sub>3</sub>(Ti,V) Intermetallic System". Collaborator Dr. Karthikeyan, Assistant Professor, Department of Materials Engineering., Indian Institute of Science, Bangalore.

## **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 COMPENDIUMS**

- 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, 13-16<sup>th</sup> 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, 16<sup>th</sup> National Symposium on Thermal Analysis, 4-6<sup>th</sup> 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, 10-12<sup>th</sup> December 2008, IIT Madras, Chennai, India.

- K. Santhy, "Thermodynamic Assessment of Mo-Nb-Ti System", presented at NMD -ATM 2014, 12-15<sup>th</sup> November 2014, College of Engineering, Pune, India.
- K. Santhy, "Thermodynamic Assessment of Ni-Ti-V System", presented at CALPHAD 2017, 11-16<sup>th</sup> 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.

### **AWARDS**

- Secured Rank 225 (All India Ranking) in GATE-2001 in Chemical Sciences
- Certificates of Appreciation towards students well being & organization growth for 2011-2012 and 2012-2013 in CARE Group of Institutions, Tiruchirappalli, Tamil Nadu
- Best Study Project in short term course on Engineering Project Management conducted by Centre for Continuing Education, IISc, Bangalore on 14-18<sup>th</sup> November 2016.