Dr VINOTHKUMAR GOVINDARAJ

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Professional Summary

- Post-doctoral Research Fellow at Brunel University London **with R&D experience in Aluminium metallurgy** (alloy design, processing, and subsequent characterization)
    - Project Title: Development of high strength aluminium alloys for automotive structural applications
- **Good understanding and experience in aluminium alloys metallurgy and forming**
- Experience in **research data analysis and testing of aluminium alloys**
- Experience in planning and execution, technical reports preparation, presented technical papers in international journals and conferences

Skills and Competences

- Experience in **aluminum alloys development for automotive application**
- Melting and casting, Thermo-mechanical processing (hot and cold working processes and mechanism), and heat treatment optimization for desirable microstructure-driven properties
- Hands-on experience in Scanning Electron Microscopy (SEM), X-ray diffraction techniques (XRD), Transmission Electron Microscopy (TEM)
- Hands-on experience in mechanical testing methods (hardness and tensile testing) of aluminium alloys

Education

Doctor of Philosophy, Engineering **06/2016 – 06/2021**

Institute for Frontier Materials – **Deakin University, Australia** (sponsored by Bharat Forge, India)

- Thesis title: Deformation behaviour of manganese bearing Precipitation hardenable stainless steel

Master of Technology, Materials Engineering **06/2010 – 02/2013**
University of Hyderabad, India passed in first class with distinction

- Thesis title: Assessment of microstructure and mechanical properties of Aluminium alloys

Bachelor of Engineering, Metallurgical Engineering **06/2005 – 04/2009**
Anna University Chennai, India passed in first class

Awards

- Deakin Indian Research Initiative in-country scholarship, Deakin University **09/2019-06/2021**
- DIRI Scholarship (Bharat Forge), India **03/2015-08/2019**
- University Grand Commission-National Fellowship, India **02/2011-06/2013**
- School first in state public examination, India **05/2003**

Employment History

Post-doctoral Research Fellow at Brunel University London, UK **01/2022-10/2022**

- **Responsibility:** Design and development of wrought Aluminum alloys, processing solution, characterization of microstructure, mechanical properties testing and analysis

Deakin PhD student at Bharat Forge Limited, Pune **03/2015-06/2021**

- **Responsibility:** Design and development of special steels and alloys, forming of steels, designing heat treatment schedules for new products, fundamental microstructural characterization, and mechanical testing, failure analysis

Management Trainee **09/2009-05/2010**
Industry name: SAC Engine power components, Chennai, India

- **Responsibility:** Quality control

Research Interest

- Design and development of aluminium alloys
- Forming of aluminium alloys, Phase transformation studies (precipitation hardening), and structure-Property correlation
- Defect structure and interface analysis using advanced microscopy techniques

Journal/Conference presentation

Journal Publication

Vinothkumar Govindaraj, Peter Hodgson, Rajkumar Singh, Hossein Beladi, **Precipitation Reaction in 12Cr-3Ni-3Mn-3Cu-0.15Nb-0.05C maraging steel**, **Materials Science and Engineering A,** 808 (2021) 140909 **(**doi.org/10.1016/j.msea.2021.140909) (**Impact factor – 5.2**)

Vinothkumar Govindaraj, Ehsan Farabi, Sitarama Kada, Peter Hodgson, Rajkumar Singh, Hossein Beladi, **Effect of manganese on the grain boundary network of lath martensite in precipitation hardenable stainless steels**,

Journal of Alloys and Compounds, 886 (2021) 161333, **(**doi.org/10.1016/j.jallcom.2021.161333) (**Impact factor – 5.3**)

Vinothkumar Govindaraj, Peter Hodgson, Rajkumar Singh, Hossein Beladi, **The effect of austenite reversion on the microstructure and mechanical properties of a 12Cr-3Ni-3Mn-3Cu-0.15Nb-0.05C maraging stainless steel (**doi.org/10.1016/j.msea.2021.142097) (**Impact factor – 5.2**)

Presenter (conference)

International Symposium on Light weighting for defence and transportation, Goa, India **11/2017**
Topic: Austenite reversion in age-hardenable martensitic stainless steel

The 3rd Asian Symposium on Materials and Processing 2012, Chennai India **08/2012**
Topic: Microstructural investigation and mechanical properties evaluation of indigenously developed reduced activation ferritic martensitic steel