

## Scientist/Officers Bio-Data

**NAME:** Dr Pitchuka Suresh Babu

**QUALIFICATION:** Ph.D.

**DESIGNATION:** Scientist D

**CONTACT INFORMATION:**

Centre for Material Characterization and Testing

TELEPHONE: 040-24452412

FAX: 040-24442699

EMAIL: pitchuka@arci.res.in

**EXPERIENCE:** 11 years

**RESEARCH AREAS OF INTEREST:**

- *Development of wear resistance, corrosion resistance coatings using thermal spray techniques*
- *Evaluation of coatings performance under severe wear conditions like sliding, abrasion and erosion*
- *Analysis of coating properties at micro and macro scales using various characterization techniques*

**LIST OF JOURNAL PUBLICATIONS:**

- **P Suresh Babu**, Benjamin Boesl, Cheng Zhang, Debrupa Lahiri, Andy Nieto, G Sundararajan, Arvind Agarwal, Dry sliding wear behavior of cold sprayed aluminum amorphous/nanocrystalline alloy coatings, *Sur. Coat. Technol.* **238 (2014) 118-125**
- S B Chandrashekar, S Sudhakar Sharma, M Ramakrishna, **P Suresh Babu**, Tata Narasinga Rao, B P Kashyap, Microstructure and properties of hot extruded Cu-1wt%Al<sub>2</sub>O<sub>3</sub> nano-composites synthesized by various techniques, *Mater. Sci. Eng. A*, **591 (2014) 46-53**
- **P Suresh Babu**, Debrupa Lahiri, G. Sundararajan, Arvind Agarwal, Scratch Induced Deformation Behavior of Cold Sprayed Aluminum Amorphous/Nanocrystalline Coatings at Multiple Load Scales, *J. Therm. Spray. Technol.*, **23 (2014) 502-513**
- Pandu Ramavath, Ramanathan Papitha, M. Ramesh, **P. Suresh Babu**, Roy Johnson, Effect of primary particle size on spray formation, morphology and internal structure of alumina granules and elucidation of flowability and compaction behaviors *J Processing and Applications Ceramics* **8 (2014) 93-99**



- **P Suresh Babu**, Bikramjit Basu, G Sundararajan, “Microstructure and tribological properties of conventional and nano-structured detonation sprayed WC-12Co coatings”, *J Therm. Spray Technol.*, **22 (2013) 478-490**.
- **P. Suresh Babu**, Bikramjit Basu, G. Sundararajan, “The Influence of Erodent Hardness on the Erosion Behaviour of Detonation Sprayed WC-12Co Coatings”, *Wear*, **270 (2011) 903-913**.
- **P. Suresh Babu**, Bikramjit Basu, G. Sundararajan, “Abrasive wear behavior of detonation sprayed WC-12Co coatings: Influence of decarburization and abrasive characteristics”, *Wear*, **268 (2010) 1387-1399**.
- Nitin P Wasekar , N Ravi , **P Suresh Babu** , L Rama Krishna , G Sundararajan “High Cycle Fatigue Behavior of Micro Arc Oxidation Coatings Deposited on a 6061-T6 Al alloy”, *Metallurgical and Materials Transactions A*, **41 (2010) 255-265**.
- G. Sundararajan, **P. Suresh Babu**, “Detonation sprayed WC-Co coatings: Unique aspects of their structure and mechanical behavior”, *Trans. IIM*, **62 (2009) 95-103**.
- **P. Suresh Babu**, Bikramjit Basu, G. Sundararajan, “Processing–structure–property correlation and decarburization phenomenon in detonation sprayed WC–12Co coatings”, *ACTA Materialia*, **56 (2008) 5012-5026**.
- **P.Suresh Babu**, D.S. Rao, G.V.N. Rao, G. Sundararajan, “Effect of Feedstock Size and its Distribution on the Properties of Detonation Sprayed Coatings”, *JTST*, **Vol. 16 (2007) 281-290**.
- **P.Suresh Babu**, S.P. Gupta, “Kinetics of discontinuous precipitation of liquid phase in a Cu-7.4 At.%. Sn alloy”, *Canadian Metallurgical Quartely*, **42 (2003) 471-482**.
- S.P. Gupta, S.K. Goutam, **P. Suresh Babu**, “Discontinuous precipitation of liquid in Cu-base alloys-nucleation and growth mechanisms” *Zeitschrift fur Metallkunde*, **94 (2003) 442-448**.

#### **List presentations at national/international conferences:**

- P Suresh Babu, D Srinivasa Rao, D Sen, S V Joshi, “A study on wear and Corrosion Resistant Cr<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub> Coating by Detonation Spray Technique”, ATSC 2014, November 24-26, Hyderabad, India
- P Suresh Babu, Debrupa Lahiri, G. Sundararajan, Arvind Agarwal, "Scratch Induced Deformation Mechanisms in Al-Amorphous Alloy Coating", TMS 2013, March 3-7, San Antonio, Texas, USA

- Bolla Reddy, P. Suresh Babu, B. Srivatsava, G. Sundararajan, "Indentation Behavior of Cold Sprayed Copper with Spherical Indenter", 3rd Asian conference on Mechanics of functional materials and structures, December 5-8, 2012, IIT Delhi
- G Sundararajan, P Suresh Babu, "Structure and Properties of Detonation Sprayed Conventional and Nano-Strucutred WC-12Co coaitngs", MS&T, 2012, October 7-11, Pittsburg, PA, USA.
- P Suresh Babu, G Sundararajan, "Microstructure, mechanical and tribological properties of detonation sprayed WC-12Co coatings", NMD-ATM -2011, November 13-16, 2011
- G Sundararajan, P Suresh Babu "Performance of thermal spray coatings under severe wear conditions", IUMRS-ICAM 2007, October 8-13, 2007, IISc Bangalore.
- "Measurement of hardness and elastic modulus of ceramic composite coatings deposited by MAO using nano indentation technique", ACTON-2005, IIT-Roorkee, August 24-26, 2005.