

P Suresh Babu

International Advanced Research Centre for Powder Metallurgy and New Materials
(ARCI) Balapur (P.O), Hyderabad-500005, Andhra Pradesh, INDIA

E-mail: pitchukaa@gmail.com pitchuka@arci.res.in

Working as a Research Scientist at Centre for Engineered Coating, International Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad founded by Department of Science and Technology, Government of India.

EDUCATION:

Ph.D.: IIT Kanpur (Materials and Metallurgical Engineering)

M.Tech: IIT Kanpur (Materials and Metallurgical Engineering)

B.Tech: NIT Warangal (REC W)(Metallurgical Engineering)

PRIMARY RESEARCH AREAS:

- ❖ Development of wear and corrosion resistance coatings by detonation spray technique
- ❖ Processing-microstructure-property correlation studies of thermal sprayed coatings
- ❖ Coating performance studies under severe wear conditions like sliding, abrasion and erosion
- ❖ Evaluation of mechanical properties of bulk materials and coatings using nano-indentation

PROFESSIONAL ACHIEVEMENTS:

✓ Executive Member, IIM Hyderabad chapter(2011-2012, 2014-2016)

✓ Awarded Indo-US Fellow-2012

✓ Organizing Committee member:

Asian Thermal Spay Conference (ATSC)-2014, November 2014 Hyderabad

Advanced nano-mechanical characterization, February 2017, ARCI Hyderabad

✓ Reviewer for Material Science Journals

- ✓ Member in several professional societies
- ✓ Thesis supervisor to several M Tech and B Tech students.
- ✓ Presented research work at national/international conferences

BOOK CHAPTERS:

- **P Suresh Babu**, D Srinivasa Rao, L Rama Krishna, Arvind Agarwal, G Sundararajan, **Thermal Spray Coatings for Protecting Al alloys**, In book: Encyclopedia of Aluminum and Its Alloys, Publisher: Taylor & Francis, Editors: George E. Totten, Olaf Kessler, Murat Tiryakioglu, ISBN-9781466510807, July 2018.

PUBLICATIONS:

- **P Suresh Babu**, P. Chanikya Rao, A. Jyothirmayi, P. Sudharshan Phani, L. Rama Krishana, D. Srinivasa Rao, “ Evaluation of microstructure, property and performance of detonation sprayed WC-(W,Cr)₂C-Ni coatings”, Surf. Coat. Technol. 335 (2018) 345-354.
- **P Suresh Babu**, D. Sen, A. Jyothirmayi, L. Rama Krishana, D. Srinivasa Rao, ‘Influence of microstructure on the wear and corrosion behavior of detonation sprayed Cr₂O₃-Al₂O₃ and plasma sprayed Cr₂O₃ coatings”, Ceram. Int. 44 (2018) 2351-2357.
- L. Venkatesh, **P. Suresh Babu**, G. Siva Kumar, Ravi C. Gundakaram, S.V. Joshi, I. Samajdar, “Microstructural response of various chromium carbide based coatings to erosion and nano impact testing”, Wear,386-387 (2017) 72-79
- **P Suresh Babu**, D Srinivasa Rao L Rama Krishna, G. Sundararajan, Weibull analysis of hardness distribution in detonation sprayed nano-structured WC-12Co coatings, Surface and Coatings Technology, 319 (2017) 394-402.
- L. Venkatesh, **P. Suresh Babu**, Ravi C. Gundakaram, Roger D. Doherty, S.V. Joshi, I. Samajdar, Morphology Dependent Hardness of Cr₇C₃-Ni rich alloy Composite versus Orientation Independent Hardness of Cr₇C₃ Primary Phase in a Laser Clad Microstructure, Metall. Mater. Transc. A, 48 (2017) 1534-1539.
- **P Suresh Babu**, Rajesh Jha, Michael Guzman, G Sundararajan, Arvind Agarwal, Indentation creep behavior of cold sprayed Aluminum amorphous/nano-crystalline coatings, Mater. Sci & Eng. A 658 (2016) 415-421.
- S.B. Chandrasekhar, N.P. Wasekar, M. Ramakrishna, **P Suresh Babu**, TN Rao, B.P. Kashyap, Dynamic strain ageing in fine grained Cu-1wt%Al₂O₃ composite processed

by two step ball milling and spark plasma sintering, *J Alloys & Compds*, 656 (2016) 423-430.

- Pandu Ramavath, Papiya Biswas, **P Suresh Babu**, P Laxminarayana, Roy Johnson, "Compaction Curves: A tool for qualitative evaluation of quasi-static compaction behavior of ceramic powders", *J Australian Cerm. Society*, 51(2015) 130-136
- **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%Al₂O₃ 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, "A comparison of mechanical and tribological behavior of nano-structured and conventional WC-12Co detonation sprayed coatings", *J. Therm. Spray. Technol.*, 22 (2013) 478-490.
- **P. Suresh Babu**, Bikramjit Basu, G. Sundararajan, "The Influence of Eroding 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”, J. Thermal. Spray Technol., 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.