Dr. Srinivasan Narayanan

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LinkedIn; **ORCiD**; Scopus; Google Scholar

Professional Experience

Academic Teaching After PhD

May 2018-till date , as an Assistant Professor (senior grade) in School of Mechanical Engg at Department of Manufacturing Engg in VIT University Vellore India

Academic Research After PhD

Oct 2016-May 2018 , As an Institute Post-Doctoral Fellow in Indian Institute of Technology Madras Chennai at Department of Metallurgical and Materials Engineering.

May 2016 - Oct 2016 Research Associate., Indian Institute of Technology Bombay Mumbai, Department of Metallurgical Engg & Materials Science, IIT Bombay Mumbai

Educational Qualifications

Year 2010-2016 Ph.D., Indian Institute of Technology Bombay Mumbai & Monash University Australia Melbourne (8.25 CGPA). *An Indian- Australian research partnership (www.iitbmonash.org), IITB Monash Research Academy.*

Thesis title: *Plastic Deformation and Corrosion in Austenitic Stainless Steels*. **Advisor:** Prof. Indradev Samajdar (IIT-Bombay) and **Advisor**: Prof. Nick Birbilis (Monash University) and Prof Vivekanand Kain (Bhabha Atomic Research Centre)

Year 2008-2010 ME., Department of Mechanical Engineering, Manufacturing Systems and Management **College of Engineering Guindy, Campus, Anna University Chennai (7.91 CGPA first class).** ***Thesis title:*** *Experimental Investigations and Finite Elemental Simulation of Squeeze Casting Process of Parameter on Al-SiC Particulate Metal Matrix Composite*. **Advisor:** Dr. S. Balasivanandha Prabu

2004-2008 BE., Department of Mechanical Engineering, Jayaram College of Engineering & Technology Trichy, Affiliated to Anna University Chennai **(75% first class with distinction)**.***Thesis title:*** *Concept of Functionally Graded Material in Space Applications*

2004 HSE., Physics, Chemistry, Mathematics, Biology Tamil Nadu State Board, **(80%)**

2002 SSLC., Science and Mathematics, Tamil Nadu State Board, **(80%)**

Research Areas

- ✓ Deformation of metallic materials
- ✓ Localized corrosion aspects (sensitization, pitting, passivation behaviors) in stainless steels
- ✓ Hot corrosion and oxidation behavior of INCONEL alloys
- ✓ Quality Engineering

Research Skills

- ✓ Electron Backscattered Diffraction (EBSD) and Scanning Electron Microscopy (SEM)
- ✓ X-ray Diffraction (XRD) analysis of Microstructures
- ✓ Microstructure – property correlation in metals and alloys
- ✓ Non-contact surface roughness profilers- white light based interferometer
- ✓ Fourier Transform Infrared (FTIR)-imaging spectroscopy

Publications (Selected Few in Reverse Chronological Order)

N.Srinivasan, Studies of Low-Temperature Sensitization after Sub-Surface Damage Evolution in Austenitic Stainless Steel, **Metallography, Microstructure and Analysis**, 2021, 236-245

N. Srinivasan, Sensitization of Austenitic Stainless Steels: Current Developments, Trends, and Future Directions**, Metallography, Microstructure and Analysis,** 2021, 10 133-147

N. Srinivasan, S. Senthil Kumaran, The effects of strain on stability of passivation in austenitic stainless steels: comparision with heat treatment, **Experimental Techniques 2021**

N. Srinivasan, S. Senthil Kumaran, D Venkateswarlu, Role of alloy chemistry on stability of passive films in austenitic stainless steel grades, **Journals of Materials Engineering and Performance 6, 2019**

D Venkateswarlu, Muralimohan Cheepu, P Nageshwara Rao, S Senthil Kumaran, **N Srinivasan**, Optimization of process parameters using surface response methodology for laser welding of titanium alloy, **Materials Science Forum, 2019**

Muralimohan Cheepu, D Venkateswarlu, P Nageshwara Rao, S Senthil Kumaran, **N Srinivasan,** The influence of gas tungsten arc welding parameters on mechanical and microstructure properties of the TC4 titanium alloy, **Materials Science Forum, 2019**

Muralimohan Cheepu, D Venkateswarlu, P Nageshwara Rao, S Senthil Kumaran, **N Srinivasan,** Effect process parameters and heat input on weld bead geometry of laser welded titanium Ti-6Al-4V alloy, , **Materials Science Forum, 2019**

Muralimohan Cheepu, D Venkateswarlu, P Nageshwara Rao, S Senthil Kumaran**, N Srinivasan**, Characterization of mechanical and metallurgical properties of friction stir welding of heat treated 2219 aluminum alloy, , **Materials Science Forum, 2019**

S Senthil Kumaran, **N.Srinivasan**, S Ramesh Kumar, N Sekarapandian, D Venkateswarlu, Metal Joining Technique of SA 213 Tube and SA 387 tube plate grade materials using backing block by clearance fit condition, **Materials Science Forum, 2019**

S Senthil Kumaran, **N. Srinivasan**, S Ramesh Kumar, D Venkateswarlu, Experimental analysis of SA213 Tube to SA387 tube tlate welding by using close fit technique in absence of supporting plate , **Materials Science Forum, 2019**

N. Srinivasan , S Senthil Kumaran, D Venkateswarlu, Anodic polarization behavior of cold-worked austenitic stainless steel: A newer approach, , **Materials Science Forum, 2019**

N.Srinivasan, S. Senthil Kumaran, D. Venkateswarlu, Effects of plastic strains on passivation behavior of different austenitic stainless steel grades, **Materials Research Express** 6 (2019) 026504

N.Srinivasan, S. Senthil Kumaran, D. Venkateswarlu, Effects of in-grain misorientation developments in sensitization of 304L austenitic stainless steels**, Materials Research Express** 6 (2019) 016551

N.Srinivasan, V.Kain, N.Birbilis, S.S. Joshi, P.V. Sivaprasad G. Chai, S. Bhattacharya, A. Durgaprasad, I. Samajdar, Defining the post-machined sub-surface in austenitic stainless steel, **Metallurgical and Materials Transcation A** 49 (2018) 2281-2292

N.Srinivasan, V.Kain, I. Samajdar, K.V Mani Krishna, P.V.Sivaprasad, Plane strain compression testing of Sanicro 28 by channel-die compression test: A direct microstructural observation, **Materials Today: Proceedings** 4 (2017) 9888–9892

N.Srinivasan, V.Kain, N.Birbilis, B.Sunil Kumar, P.M.Ahmedabadi, M.N.Gandhi, P.V. Sivaprasad, G.Chai, A.Lodh, I.Samajdar, Plastic deformation and corrosion in austenitic stainless steel:A novel approach through microtexture and infrared spectroscopy, **Corrosion Science** 111 (2016) 404-413

N.Srinivasan, V.Kain, N.Birbilis, K.V.Mani Krishna, S.Shekhawat, I.Samajdar, Near boundary gradient zone and sensitization control in austenitic stainless steel, **Corrosion Science** 100 (2015) 544-555

A.K.Revelly, **N.Srinivasan,** A.S.Panwar, K.V Mani Krishna, R.Tewari, D. Srivastava, G.K.Dey,I Samajdar, Orientation sensitivity of focused ion beam damage

in pure zirconium: direct experimental observations and molecular dynamics simulations, **Philosophical Magazine** l94 (2014) 1601-1621.

N.Srinivasan, A.K.Revelly, V.Kain, I.Samajdar, C.R.Hutchinson, P.Sivaprasad, Anodic polarization of behavior of cold worked austenitic stainless steel, **Advanced Materials Research** 794 (2013) 632- 642

K.Chandra, V.Kain, **N.Srinivasan**, I.Samajdar, A.K.Balasubrahmanian, Temper embrittlement and corrosion behavior of martensitic stainless steel 420, **Advanced Materials Research** 794 (2013) 757- 765

Conferences

N.Srinivasan, V.Kain, I.Samajdar, M.N Gandhi, Anodic polarization behaviour of cold worked austenitic stainless steels: A novel approach, APCCC 17, Asian Pacific Corrosion Control Conference 17, IIT Bombay, Mumbai, India 27-30 Jan 2016

N.Srinivasan, V.Kain, M.N Gandhi, I.Samajdar, Plastic deformation and corrosion in austenitic stainless steel: A novel approach through fourier transform infrared spectroscopy, Microstructure 2015, 6 Oct 2015, IIT Bombay.

N.Srinivasan, V.Kain, M.N Gandhi, I.Samajdar, Passivation behavior and chromium oxide (Cr_2O_3) studies of austenitic stainless steels, CORSYM 2015, International Corrosion Prevention Symposium for Research Scholars 2015, IIT Madras, Chennai, India 31July -1Aug 2015.

N.Srinivasan, V.Kain, I.Samajdar, Characterization of pitting morphology by concentrated backscattered detector in austenitic stainless steels, 7th National Symposium for Materials Research Scholars 2015, MR-15, IIT-Bombay, 20-22 May 2015.

N.Srinivasan, V.Kain, M.N Gandhi, I.Samajdar, Electrochemical and microstructural studies of cold rolled austenitic stainless steels, Industry Academia Collaboration on Technology IDEA IACT 2015 Contest (IIT Bomaby-GE India), 11Apr 2015, IIT Bombay

N.Srinivasan, A.K. Revelly, K.V Mani Krishna, V Kain, I. Samajdar, Developments of near boundary gradient zones in deformed austenitic stainless steels, 6th National symposium for materials research scholars-14 MR-2014, IIT Bombay. 12-14 May 2014

A.K. Revelly, **N.Srinivasan**, A.S. Panwar, K.V Mani Krishna, R. Tewari, D. Srivastava, G.K.Dey, I. Samajdar, Study of development of grain boundary due to ion impacts on poly-crystal Zirconium: experimental and simulations, international conference on intergranular and interphase boundaries in materials iib 2013, Athena Pallas village, Halkidiki, Greece, 23-28 June 2013, pp 106.

N.Srinivasan, A.K. Revelly, S.S Joshi, V.Kain, I.Samajdar, C.R.Hutchinson, Role of machining parameters on low temperature sensitization behavior of AISI stainless steel, 5th National symposium for materials research scholars 2013, MR-13, IIT Bombay 8-10 May 2013.

A.K. Revelly, **N.Srinivasan**, A.S. Panwar, K.V Mani Krishna, R. Tewari, D. Srivastava, G.K.Dey, I.Samajdar, Effects of ion impacts on poly-crystal Zirconium and MD simulation, 5th National symposium for materials research scholars-13 MR-2013, IIT Bombay. 8-10 May 2013.

N.Srinivasan, V.Kain, I.Samajdar, K.Narasimhan, C.R.Hutchinson, Effect of heat treatment on sensitization behavior of cold rolled AISI 304L stainless steel, International corrosion conference expo, CORCON 2012, Goa, 26-29 Sep 2012.

Experimental Expertise

Seven and half years of experience in operating and data analysis of following instruments at IIT-Bombay, Bhabha Atomic Research Centre Trombay, and IIT-Madras

- ✓ An EBSD (Electron Backscattered Diffraction) system of Nova Nano SEM (Secondary Electron Microscopy), 3D quanta FEG (Field Emission Gun), and Tungsten filament based 2D.

- ✓ Fourier Transform Infrared Spectrscopy (FTIR)- Bruker, 3000 Hyperion Microscope Vertex system to characterize the specta of specimens and ToF SIMS (time of flight secondary ion mass spectrometry).

- ✓ Wyko optical profilers- White light based non contact type interferometry.

- ✓ A few Corrosion measurement techniques, DL-EPR (double loop electrochemical potentiokinetic reactivation) test, an anodic polarization potentiodynamic and potentiostatic tests and oxalic acid etch test based on ASTM and ISO standards.

Certification Course

- ✓ Advanced Manufacturing Process Analysis
- ✓ Protecting the World: Introducing Corrosion Science and Engineering

Industrial R&D Project Experience

- ✓ Fabrication of Additive Manufactured Wheel Center for Using Generative Design, **Autodesk, Rs 1,48,578, 2020**

- ✓ Enhancement of Comfort Condition by Studying Various Parameters: Focus Customer Interior Noise & Vibration, **Mahindra and Mahindra (Truck and Bus Division), Rs 75000, 2019**

Events Organized: Workshop

- ✓ **International Virtual Workshop On Advancements In Design And Materials For Product Development,** 3-4 Oct 2020 as a co-ordinator **/ organizing secretary**
- ✓ International Virtual Conference on Product Design, Development and Deployment, PDCUBE-2021, 12-13 Sep 2021 as a organizing secretary
- ✓ Organized a (6 member along with a moderator)Panel discussion on "Opportunities for Product Design, Development, and Deployment In Indian Markets" on 11 Sep 2021
- ✓ Organized a 30 hours generathon event on 11Sep 2021

Events Organized: Faculty Development Programe

- ✓ Application of stochastic model in Engineering industry: A perspective from Rolls Royce Berlin Germany 2019
- ✓ Adopted Strategies in Industrial Tribology at Rolls Royce Germany and Mahindra & Mahindra Pune 2019
- ✓ A recent trends andchallengesin Engineering: A perspective from Rolls Royce Berlin Germany, 2018

Events Organized: Industrial Expert Lecture (Selected few in Reverse Chronological Order)

- ✓ **Rethinking of Habitual Supply Chain Management amidst Pandemic,** from Trouvay & Cauvin Asia Pacific Co Ltd, Bangkok, Thailand 2020
- ✓ **Absolute Quality through Zero Defects- An introduction to Six-Sigma methodology and Lean concepts,** from Caterpillar India Pvt Limited 2020
- ✓ **Materials Selection and Materials Innovation for Electric Vehicles**, CREAT MINDA Industries 2020
- ✓ **Small Scale Mechanical Testing of Materials: Requirement and Challenges,** Max-plank Institute Germany 2020
- ✓ **Fabrication of Boride Coatings of Ti for the bioimplant applications: study of corrosion and tribocorrosion properties**, Huan University China 2020
- ✓ **Organizational Excellence using Quality Principles**, DRDO Bangalore 2019
- ✓ **A Discussion on Manufacturing Paradigms Changes,** Ashok Leyland Chennai 2019
- ✓ **B2B Sales –Entrepreneur Opportunities in Industrial Products,** Divideep Engg Pvt Limited, 2018

Invited Talk

- ✓ "Design Thinking: What is in it for us ?" at Sri Vidyaniketan Engg College, Jan 2020
- ✓ "Product Specification and Design: What is in it for us"? at Sri Vidyaniketan Engg College, Jan 2020
- ✓ "Advanced Materials Characterization Case Study" at Karpagam University Sep 2019
- ✓ "My Experience with Sanicro 28" at Sandvik Asia Pune 2019

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Vellore
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