Sundeep16@gmail.com **Sundeep Gopagoni** 410 Bryan street, Apt # 5
(732)-915-3909 (Cell) Denton, TX-76201

Objective

To obtain a challenging career in Material Science and Engineering firm that utilizes my technical and professional skills and being a part for the growth of the organization.

Education

M. S in Material Science and Engineering (Aug '08- May '10)
University of North Texas**,** Denton, Texas, USA
B. Tech in Metallurgy and Materials Technology (Aug'03 – May'07)
Mahatma Gandhi Institute of Technology, JNTU, Hyderabad, India

Skills

Fabrication and Material Processing

- Laser Engineered Net Shaping (LENS).
- Electrical Discharge Machine (wire EDM).
- Heat Treatments of metallic alloys and composites using atmosphere controlled furnaces.

Characterization of structure and phase

- Secondary electron and Back scattered electron analysis using SEM.
- Quantitative elemental composition analysis using SEM- EDS.
- Orientation Imaging Microscopy (OIM) by EBSD.
- Phase and crystal structure determination by X- ray Diffraction (XRD) technique.
- TEM and 3D Atom probe sample preparation using Focused Ion Beam (FIB).
- Serial sectioning using FIB
- Micro patterning and nano manipulation using FIB.
- TEM sample preparation by Precision Ion Polishing System (PIPS) and Fishione 1010 Ion Milling.
- Metallographic sample preparation using mechanical polishing.
- Imaging using Optical Microscopy.

Mechanical Testing

- Nanoindentation using MTS nanoindenter XP.
- Vickers Micro- hardness tester.
- Wear testing by Pin on disk (POD) tribometer.

Software

- 3D reconstruction using Avizo fire 6.2 software.
- ImageJ
- MS Excel, MS word, MS PowerPoint.

Experience

Graduate Research Assistant (Feb. '09' – Present)
Department of Material Science and Engineering, University of North Texas, Denton, Texas

- Laser deposited In-situ titanium Carbide (TiC) reinforced Ni matrix Composite

Investigated the structure-property relationship of the LENS processed Ni-Ti-C composite.
Investigated the change in chemical composition and lattice parameter of Ni and TiC.
Investigated the orientation relationship between Ni and TiC.
Studied the morphology of TiC in 3D.

- Multi- Walled Carbon Nanotube (MWCNT) reinforced Ni matrix Composite

Investigated the distribution of CNTs in the Ni matrix processed through LENS technique.
Investigated the effect of properties by changing the volume fraction of the CNTs.
Involved in determination of structure property relationship.

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- Metallographic study and quantitative analysis of the RENE- 88 Ni super alloy.

Involved in micro structural determination of the first, second and third generations of the gamma prime.

Investigated the volume fraction of first, second and third generation gamma prime.

- Metallographic study of the creep tested PWA 1484

Involved in failure analysis of the samples at different tempratures and stress.

Investigated the texture of the sample at high temperature and low stress conditions.

Graduate Engineer Trainee (June'07- Apr'08)

Innomet Powders, Bharat Heavy Electricals Limited (BHEL) Ancillary Estate, Hyderabad, India

Involved in Gas Atomization of metallic powders and physical property measurement

- Elemental Copper, Nickel, Aluminum
- Metallic alloys – bronze, Copper-Aluminum, Nickel-Aluminum, Nickel-Chromium, Copper-Chromium powders and calculated the green density, flow rate, etc.

Undergraduate Project (Dec'06 – Apr'07)

Aeronautical Material Testing Laboratory (AMTL), Midhani, Hyderabad, India

- Thesis Topic: "Effect of Modified Aging Treatment on Tensile Properties of Udimet 720Li (U720Li).
- Studied the dependence of thermo- mechanical and physical properties on the Udimet 720Li super alloy subjected to two-step aging treatment.
- Conducted low- cycle fatigue experiments at elevated temperatures.

Training

- Industrial Training at Visakhapatnam Steel Plant, Visakhapatnam, India(Sep'05 – Oct'05)
- Orientation Program at International Advanced Research Centre for Powder Metallurgy and New Materials *(*ARCI*)*, Hyderabad, India (June'05)

Co- Curricular Activities

- Treasurer, Material Advantage Student Chapter, University of North Texas, Denton, Texas
- Member, Society of Plastic Engineers (SPE), University of North Texas, Denton, Texas
- Student Monitor, MS&T'09, Pittsburgh, Pennsylvania.
- Participated in a Technical Paper Presentations organized By Indian Institute of Technology (IIT) Roorkee (Cognizance' 07) and by National Institute of Technology (NIT) Tiruchirapalli (Mettle' 07).
- Organizing committee member, Frontiers of Metallurgy and Materials Technology conference, MGIT-2003.

Publications

1. **S. Gopagoni**, J. Y. Hwang, A. R. P. Singh, B. A. Mensah, N. Bunce, T. W. Scharf, J. Tiley and R. Banerjee, "Microstructural Evolution of Laser Deposited Nickel- Titanium- Carbon in-Situ metal matrix composite", J. Alloys Compd. Article in press (2010).