

RESEARCH ASSOCIATE, PORTLAND STATE UNIVERSITY

- Conduct detailed microstructural analysis and characterize structure-property relationships:
 - Operate robotic electrospark deposition (ESD) system and ultrasonic impact treatment systems (UIT)
 - Perform image analysis using quantitative optical metallography, Scanning Electron Microscopy (SEM), high resolution transmission electron microscopy (TEM), TEM sample preparation and analysis with Dual Beam FIB operation
- Prepare standard reports on metallurgical or process issues and assist in recommending appropriate action to resolve or correct the issue
- Perform Microhardness evaluation and mapping
- Prepare technical reports and presentations and periodic briefings of ongoing research results
- Assist other researchers to conduct research and analyze information

GRADUATE RESEARCH ASSISTANT, PORTLAND STATE UNIVERSITY

- Conduct material testing and analysis using advanced systems:
 - Perform electrospark deposition coatings and ultrasonic impact treatment on ultrahigh strength steels
 - Characterize coating, heat affected zone and substrate material using microscopy and microhardness techniques
 - Perform microstructural analysis using Scanning Electron Microscopy (SEM), Dual Beam FIB and transmission electron microscopy (TEM)

RESEARCH ENGINEER, ADVANCED RESEARCH CENTER FOR POWDER METALLURGY AND NEW MATERIALS (ARCI), INDIA

- Research and develop new sintering temperature profiles for nano-ceramic materials with rate controlled sintering methodology using dilatometry.
- Perform simulation for sintering behavior of nano-Alumina using Netzsch thermo kinetic package
- Processing of porous ceramic powder using different ball milling and sintering techniques
- Conduct grain size analysis and chemical composition analysis
- Perform microstructural analysis using Scanning Electron Microscopy(SEM)
- Write technical reports on projects and laboratory procedures

PROJECT ENGINEER, DEFENSE METALLURGICAL RESEARCH LABORATORY (DMRL- RCMA), INDIA

- Conduct materials evaluation on titanium alloy, BT 5-1
- Perform Metallurgical testing and grain size analysis
- Conduct microstructural analysis and hardness testing on work hardened material
- Write technical report on engineering project