

Heather Salvador

(951) 906-9474 | hsalv001@gmail.com | LinkedIn @HeatherSalvador | Website: www.smathaudhu.com/heather-salvador/

MECHANICAL ENGINEER

Mechanical engineer and materials science engineer with five years of experience in the aerospace and manufacturing industry, including project management, working directly with key customers, and supervisory responsibilities. Five years as a researcher under the advisement of Dr. Suveen Mathaudhu, working in a research and development environment specific to experimental design, scientific evaluation, and science communication relating to processing-property relationships in structural metals.

EDUCATION

PH.D. MECHANICAL ENGINEERING

University of California, Riverside
Advisor: Dr. Suveen Mathaudhu

Riverside, CA
June 2016 – July 2021 (estimated)

M.S. MECHANICAL ENGINEERING

University of California, Riverside
Course-based program

Riverside, CA
October 2011 – June 2012

B.S. MECHANICAL ENGINEERING

University of California, Riverside

Riverside, CA
October 2007 – June 2011

WORK EXPERIENCE

RESEARCHER

UC Riverside, Mathaudhu Lab

Riverside, CA
June 2016 - present

Required to understand the background science and previous research completed for each project, develop experiments with the goal of expanding scientific knowledge, present key research results, publish results in scientific journals, and mentor undergraduate students.

The main projects worked on during my tenure include the processing and characterization of:

- Gradient microstructures in Cu to study radiation tolerance fundamentals along various length scales
- Magnesium-based metal-matrix composite using powder metallurgy and densification to study the effect of yttrium hydride ceramic reinforcement on microstructural changes and resulting properties
- Dual phase magnesium-lithium alloys to determine the effect of processing pressure on resulting properties.

MANUFACTURING SUPERVISOR

VACCO Industries

South El Monte, CA
June 2014 – April 2016

Oversaw and participated in the design and build of an assembly and test facility for space launch valve production. Responsible for hiring and training cleanroom-level technicians. Initiated cross-team collaboration and management to ensure on-time production.

Notable achievements include the development of a new assembly and test facility for a new product line, initiation of production meetings with cross-functional teams to increase communication, the hiring and training of skilled technicians, and developed comprehensive assembly and test charts capable of determining resources required for timely production on a new product line.

PROJECT ENGINEER

VACCO Industries

South El Monte, CA
June 2012 – June 2014

Managed the design development and testing of a space launch system valve, prepared manufacturing paperwork, and facilitated seamless transfer to production for delivery according to a customer-set schedule.

Notable achievements include the design of a lever for a space-level valve, production of a CAD model animations of valve operations, and the build and testing of a development unit for validation.

QUALITY ENGINEER INTERN
GKN Aerospace

Santa Ana, CA
June 2011 – December 2011

Audited manufacturing paperwork, tracked and moved open quality incidents to closure, and worked with inspectors to standardize and improve inspection processes. Key achievements include the development of a standardized inspection instruction with accompanying visual work instruction

TEACHING EXPERIENCE

ABET COORDINATOR

UC Riverside, Mechanical Engineering Department

Riverside, CA
April 2017 - present

Collect and manage documentation for all mechanical engineering courses to demonstrate compliance with the accreditation requirements.

MECHANICAL ENGINEERING MODELING AND ANALYSIS

UC Riverside, Mechanical Engineering Department

Riverside, CA
January – March 2021

Teaching assistant responsible for teaching review sessions, grading student work, and providing individual student help relating to the course material: descriptive and inferential statistics, sampling and bootstrapping, fitting linear and nonlinear models to observed data, interpolation, numerical differentiation and integration, and solution of ordinary differential equations.

INTRODUCTION TO ENGINEERING COMPUTATION

UC Riverside, Mechanical Engineering Department

Riverside, CA
June – July 2020

Teaching assistant responsible for providing student guidance in MATLAB programming as applied to scripts, functions, input/outputs, two- and three-dimensional graphics, and elementary numerical analysis.

SENIOR DESIGN

UC Riverside, Mechanical Engineering Department

Riverside, CA
March – June 2020

Teaching assistant responsible for providing feedback on writing technical reports and professional presentations of student group design project.

MECHANICAL BEHAVIOR OF MATERIALS

UC Riverside, Mechanical Engineering Department

Riverside, CA
October – December 2016

Teaching assistant responsible for teaching review sessions, grading student work, and managing laboratory sessions relating to the course material: fundamental mechanisms of deformation and failure of metals, ceramics, polymers, composite materials, electronic and electronic materials. Structural design and materials selection.

PUBLICATIONS

[YH2 MMC TITLE]

Materials Characterization

Heather Salvador, Christian Roach, Suveen Mathandhu

In Preparation

[CU PAPER]

Journal

Heather Salvador, Christian Roach, Suveen Mathandhu

In Preparation

AUSFORMING AND TEMPERING OF A NOVEL ULTRA-HIGH STRENGTH STEEL

Journal?

Yiwei Sun, Jobny Quan, Heather Salvador, Jeffrey Lin, Thomas Kozmel, Suveen Mathandhu

Submitted

PRESENTATIONS

RADIATION TOLERANCE OF GRADIENT GRAIN-STRUCTURED COPPER PROCESSED BY SURFACE MECHANICAL ATTRITION TREATMENT (POSTER)	February 2020
TMS Annual Meeting <i>Heather Salvador, Yiwei Sun, Trevor Clark, Khalid Hattar, Sina Shabrezaei, Suveen Mathaudhu</i>	
GRAIN BOUNDARY PINNING BY YH₂ PARTICLES IN MAGNESIUM PROCESSED BY CRYOMILLING AND SPARK PLASMA SINTERING (POSTER)	July 2019
Gordon Research Conference – Physical Metallurgy <i>Speaker Heather Salvador, Christian Roach, Suveen Mathaudhu</i>	
GRAIN BOUNDARY PINNING BY YH₂ PARTICLES IN MAGNESIUM PROCESSED BY CRYOMILLING AND SPARK PLASMA SINTERING (PRESENTATION & POSTER)	June 2019
POWDERMET / AMPM Annual Meeting <i>Speaker Heather Salvador, Christian Roach, Suveen Mathaudhu</i>	
EFFECT OF LOCAL STRESS ON FAULT FORMATION AND PROPAGATION WITHIN HCP MATERIALS (PRESENTATION)	March 2018
TMS Annual Meeting <i>Speaker Heather Salvador, Suveen Mathaudhu</i>	
ROLE OF TEXTURE IN STRENGTHENING OF A MG-RE ALLOY WITH NANO-SPACED STACKING FAULTS (PRESENTATION)	May 2017
Mechanical Engineering Graduate Student Association Research Symposium <i>Speaker Heather Salvador, Suveen Mathaudhu</i>	
TEXTURAL CONTRIBUTIONS TO STRENGTHENING IN A MG-RE ALLOY WITH NANO-SPACED STACKING FAULTS (POSTER)	March 2017
TMS Annual Meeting <i>Heather Salvador, Vishnu Bhattacharyya, Yuntian Zhu, Sean Agnew, Suveen Mathaudhu</i>	

TECHNICAL SKILLS

METALLURGICAL SAMPLE PROCESSING & PREPARATION

Laboratory-scale hot rolling, spark plasma sintering, heat treatment and quenching.
Sample sectioning, mechanical polishing, electropolishing, electroless plating, and etching.

MICROSTRUCTURAL CHARACTERIZATION

Focused ion beam (FIB), scanning electron microscopy (SEM), energy dispersive spectroscopy (EDS), x-ray diffraction (XRD), transmission electron microscopy (TEM)

MECHANICAL PROPERTIES CHARACTERIZATION

Micro-hardness indentation, nano-hardness indentation, tension testing

SOFTWARE

Origin, Matlab, SolidWorks, AutoCAD Inventor

AWARDS & CERTIFICATES

FELLOW

Graduate Assistance in Areas of National Need

2019 - 2021

SCIENCE TO POLICY CERTIFICATE

Science to Policy Program at UC Riverside

June 2020

GRANT RECIPIENT

National Science Foundation

POWDERMET/AMPM Conference

June 2019

OUTREACH & VOLUNTEERING

PRESENTATION JUDGE

Materials Science and Engineering Program at UC Riverside

Senior Design Presentations

March 2020

ACTIVITY LEADER

Riverside County Office of Education

Next Generation Science Standards

February 2020

LAB TOUR LEADER

Bourns College of Engineering at UC Riverside

Engineering 'R Future

October 2019

GROUP LEADER

Society of Women Engineers at UC Riverside

Networking Night

November 2018

ACTIVITY LEADER

Riverside Department of Education

Science and Engineering Fair

October 2018

ACTIVITY LEADER

Hillcrest High School Science Night

Hillcrest High School Science Night

May 2018

LAB TOUR LEADER

Bourns College of Engineering at UC Riverside

Chaffey College Tour

August 2017

LAB TOUR LEADER

Bourns College of Engineering at UC Riverside

Ramona High School Tour

August 2017

LAB TOUR LEADER

Bourns College of Engineering at UC Riverside

Riverside STEM Academy Tour

July 2017

VOLUNTEER SPEAKER

Society of Women Engineers at UC Riverside

Graduate Student Panel

May 2017

ACTIVITY LEADER

Hillcrest High School Science Night

Hillcrest High School Science Night

May 2017

ACTIVITY LEADER

Society of Women Engineers at UC Riverside

Bourns Engineering Day

April 2017

RESEARCH GROUP REPRESENTATIVE

Society of Women Engineers at UC Riverside

Research Networking Night

February 2017

ACTIVITY DEMONSTRATION AND ROUNDTABLE DISCUSSION

Mathandhu Lab Group

Norco Community College

November 2016

VOLUNTEER SPEAKER

Engineers without Borders at UC Riverside

Graduate School Panel

November 2016

ACTIVITY LEADER

Mathandhu Lab Group

Riverside Science Fair Expo

October 2016

ACTIVITY LEADER

Mathandhu Lab Group

USA STEM Festival

April 2016

SPEAKER*Society of Women Engineers at UC Riverside*

Research Networking Night

*May 2015***INDUSTRY REPRESENTATIVE***Society of Women Engineers at UC Riverside*

Evening with Industry Networking Event

*Yearly 2013 - 2015***VOLUNTEER***Society of Women Engineers at UC Riverside*

Engineering Day

*Yearly 2012 - 2015***SCIENCE FAIR JUDGE***Riverside County Office of Education*

Science and Engineering Fair

*April 2011***ORGANIZER***Society of Women Engineers at UC Riverside*

Engineering Day

*April 2011***ACTIVITY ORGANIZER***UC Riverside Autism Center*

Summer Autism Camp

*June 2010***ORGANIZER***Society of Women Engineers at UC Riverside*

Engineering Day

*April 2010***VOLUNTEER***Society of Women Engineers at UC Riverside*

Engineering Day

Yearly 2009 - 2015

PROFESSIONAL AFFILIATIONS

MATERIALS ADVANTAGE*Member*

UC Riverside Student Chapter

*2016 – present***SOCIETY OF WOMEN ENGINEERS***Professional-Collegiate Liason**Professional Work-Life Balance Chair*

Orange County Professional Chapter

*2015 - 2016**2014 - 2015***SOCIETY OF WOMEN ENGINEERS***President**Professional Development Officer*

UC Riverside Student Chapter

*2010 – 2011**2009 – 2010*