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# Comp O. Site

mse@andrew.cmu.edu
U.S. Citizen

***Permanent Address***
20 Eagle Drive
Dallas, TX 15401

## EDUCATION

**Carnegie Mellon University**, Pittsburgh, PA
B.S. in Materials Science and Engineering May 2016
Minors in Manufacturing Engineering and Photography & Digital Imaging
GPA 3.42/4.0

## WORK EXPERIENCE

**Power Superconductor Applications Corp.,** New Castle, PA Summer 2015
*Laboratory Specialist Grade IV*

- Utilized engineering software such as LabView, MathCAD, and AutoCAD
- Constructed testing apparatus and tested Linear Induction Motors and Transverse Flux Machines
- Led research initiative on the use of Cryogenic Aluminum hyperconductor in company products
- Contributed to published paper: Kuznet, Levy, Wilson. "Development of High-Field Transverse Flux Induction Drive for Ordnance Handling on Navy Ships and Industrial Conveyors" *4th Int. Sym. Linear Drives for Industry Apps.*
- Participated in writing government proposals and travel to Wright Patterson Air Force Base, NIST, NRL, and ONR to meet with partners and clients

**Carnegie Mellon University, Undergraduate Research**
*Research Assistant, The effect of surface texture on formability in Aluminum sheets* Spring 2015

- Designed templates for a photolithography process to texture Aluminum sheets
- Performing ongoing mechanical testing and analysis

*Research Assistant, Grain Boundary Movement in Thin Films of Aluminum* Spring 2014

- Produced images from TEM negatives in a black and white darkroom
- Traced grain boundaries by hand to track movement and wrote original paper on hand tracing techniques

**National High Magnetic Field Laboratory,** Tallahassee, FL Summer 2014
*Research Intern, Topic: Superconducting Material Magnesium Diboride*

- Improved production for pure $MgB_2$ by refining heat treatments
- Operated SQUID magnetometer and ran X-Ray Diffraction tests
- Interpreted results, wrote an original paper, and presented research to scientists, staff, and peers

## ACADEMIC PROJECT

**Materials Science Capstone Course, Senior Group Project** Fall 2015
*Deformation of Amorphous Metallic Ribbon for use in Magnetic Core Applications*

- Performed magnetic, compositional, and structural analysis on cores donated from Spang Magnetics
- Designed a billet and performed hot extrusion of a wound core at WPAFB to reduce the ribbon thickness
- Cast an amorphous rod and amorphous metallic ribbon for comparative analysis

## SKILLS

Applications: Adobe Photoshop, Minitab, LabVIEW, MathCAD, Java, MS Office
Instruments: Scanning Electron Microscope (SEM), X-Ray Diffraction (XRD), SQUID Magnetometer, Differential Scanning Calorimetry (DSC), Differential Thermal Analysis (DTA), UV-Vis spectrophotometer, Vickers Hardness Testing, Charpy Testing, Polishing, Melt Spinning, Photography and Black and White Darkroom, Color Photography Darkroom, Soldering

## LEADERSHIP AND HONORS

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|---|---|---|---|
| Resident Advisor, CMU Apartments | 2013- present | National Society of Collegiate Scholars | 2012-2016 |
| Judith Resnik Challenger Scholarship | 2012-2016 | Student Action Committee, MSE | 2012-2016 |