Project: Data Driven Qualification (DDQ) Framework for Metals Additive Manufacturing (AM)

Fall Meeting

October 13th – 15th 2010

- Student: Charles Smith (Mines)
- Faculty: Jonah Klemm-Toole (Mines)

    Amy Clarke (Mines)

    Craig Brice (Mines)

About Me

- Lilburn, Georgia

- B.S. in Metallurgy and Materials Engineering from Colorado School of Mines, December 2020

- ASPPRC Undergrad Research
  - Quenching and Partitioning of Advanced High Strength Steels

- Internship at LANL
  - Summer 2020

- Hobbies
  - Cooking, Baking, Cycling, Camping, Hiking, Archery

Project: Data Driven Qualification (DDQ) Framework for Metals Additive Manufacturing (AM)

• Student: Charles Smith (Mines) • Advisor: Jonah Klemm-Toole (Mines) • Co-Advisor: Amy Clarke (Mines)	**Project Duration** M.S. January 2021 to December 2022
• Problem: The range of equipment suppliers that use their own proprietary feedstock and process parameters makes each AM system and qualification protocol unique. • Objective: Use a data driven qualification approach to form relationships across platforms and alloy systems using intelligent machine learning algorithms and physics-based modeling. • Benefit: Accelerated qualification and adoption of AM parts into military vehicles.	Recent Progress: • Training on metallography, microscopy, and other characterization techniques has begun. • Project will officially start in Spring 2021

Thank you!

Charles Smith

ctsmith@mines.edu