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## **Project #48: Grain Boundary Fracture Analysis in Aluminum**

***Fall Meeting***  
***October 13<sup>th</sup> – 15<sup>th</sup> 2010***

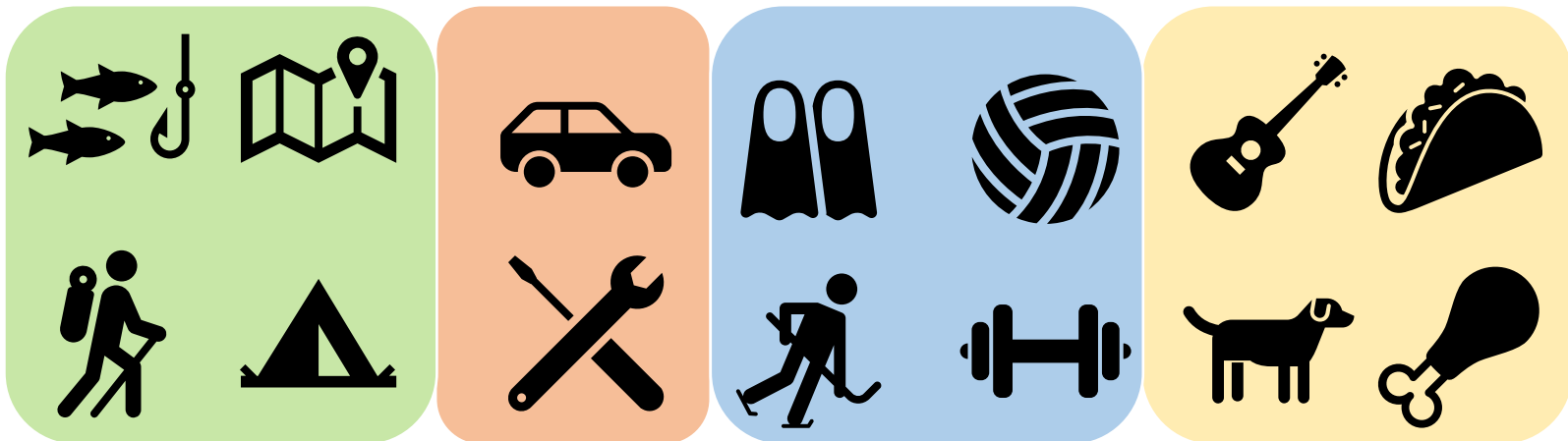
- Student: Scott Blazanin (Iowa State)
- Faculty: Pete Collins (Iowa State)

# About Me

## Education

- BS in MSE at Iowa State
  - 2015-2019
- Currently pursuing MS in MSE
  - Projected graduation May, 2022

## Personal Interests



# Current Work: Failure Analysis of Fracture Toughness Tested AM Ti-64 Weldments



- Student: Scott Blazanin (ISU)
- Advisor(s): Peter Collins (ISU)

**Project Duration**  
MS: August 2020 – May 2022

- **Problem:** Differences in processing orientation result in some samples with lower fracture toughness values.
- **Objective:** Determine the root-cause for lower fracture toughness values in specific processing orientations and provide potential solutions for the issue.
- **Benefit:** A greater understanding of processing-microstructure-property relationships and fracture toughness behavior in AM Ti-64 builds.

- Recent Progress**
- Sent specimens to be electrical discharge machined off-site.
  - Safety and equipment training.

Metrics		
Description	% Complete	Status
1. Sample preparation	30%	●
2. Literature review	50%	●
3. Microstructural characterization and fractography via SEM	0%	●
4. Root-cause determination	0%	●
5. Refinement of processing conditions	0%	●

*Thank you!*

*Scott Blazanin*

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