



STEEL PROFESSOR GRANT

Year-End Report

2022-2023

A year-end report is due on 31 May. Your final report will be posted to the AIST website for others to view and may be included, in whole or in part, in the AIST *Iron & Steel Technology* magazine. Prior to submitting your report:

- We request an “action” photo of the professor, with or without students, be submitted with your final report.
- A headshot and current address for the professor and each student involved must be provided.

Project Title: MSE Recruiting & Retention (R&R)

AIST Foundation Steel Professor

Name: Paul Sanders

Title: Patrick Horvath Professor of Materials Science and Engineering

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Project Summary: Recruit and retain students to grow undergraduate MSE enrollment. This project is needed to ensure the viability and resources for Michigan Tech MSE, and Steel Professor funds provide the flexibility for this important initiative.

Project Goals: 33% growth over 5 years

Project Details: see below

Dissemination of Results: MSE enrollment is growing

Project Schedule: 2022-2023 academic year

Project Cost: \$5k from Steel Professor this academic year

Steel Plant Interaction: OminSource (SDI scrap steel) and Ferrous Processing & Trading LLC (Cliffs scrap steel)

Project Duration: 9 months

How many students from this university have accepted employment in the steel industry upon graduation? Not sure this year; numbers won't be out until later this year.

Future of Grant:

- I have just completed year five of the five-year grant.
- I am spending the AIST Foundation Funds now according to the attached plan and request permission to continue promoting the steel industry to engineering students at my university using these funds. I agree to provide an annual report to AIST until the funds are depleted.
- I request funding for an additional year and will continue engage the steel industry at my university...this is my last year!

Paul G. Sanders 6/30/23
Signature of Professor and Date

YOUR COMPLETE REPORT MUST BE SUBMITTED ELECTRONICALLY IN PDF FORM TO lwharrey@aist.org BY 31 MAY. PHOTOS MUST BE EMAILED SEPARATELY.

Questions should be directed to Lori Wharrey at lwharrey@aist.org or +1.724.814.3044.



As part of my AIST Steel Professor activities, I lead a recruitment and retention committee in Michigan Tech MSE, with the goal of growing undergraduate MSE enrollment by 5-10% per year. We are seeking to retain our students and to recruit more middle and high school students through better outreach.

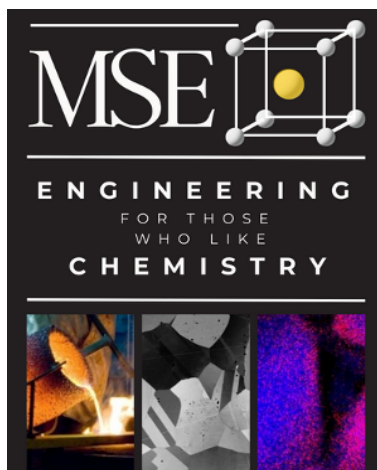
I hired and pay a staff member, Rod Wakeham, to assist in MSE outreach. In 2022-23, Michigan Tech MSE has interfaced with hundreds of middle school and high school students who participate in Michigan Tech's Preview Day, Showcase Day, and Summer Youth Programs, as well as field trips and high school chemistry class visits (Table 2). The impact metric, which is the #students * time spent (hrs) is a likely predictor of possibly recruiting students to MSE. Note that the highest estimated impact of these activities is not the activity with the most students, but the activity with both student numbers and time invested.

Table 1. Student Participation in Michigan Tech MSE Outreach in 2022-23

Activity	# Students	Hours	Impact
Summer Youth			
Engineering Scholars	30	5	150
Women in Engineering	30	5	150
High School MSE Experience	50	20	1000
Middle School Eng101	50	1	50
High/middle school visits to Michigan Tech	98	6	588
Student/parent Preview and Showcase visits	400	1	400
Visits to local high school chemistry classes	52	1	52
Total students	710		

Do not post data publicly

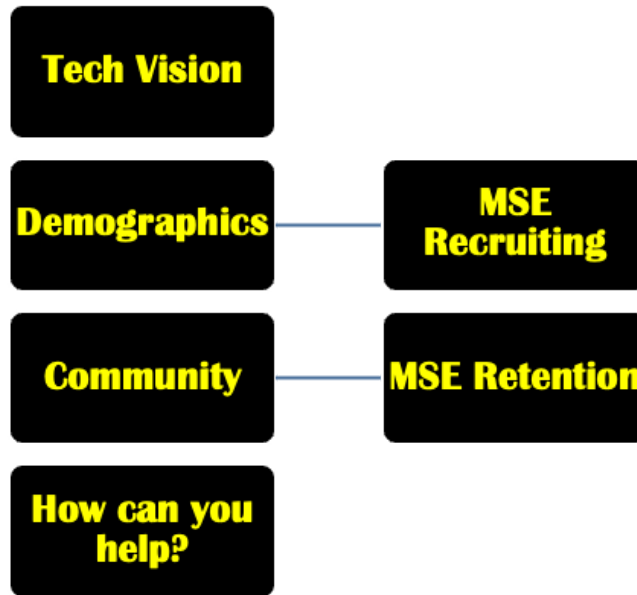
This is our recruiting logo. We want to inform students who like high school chemistry, which is offered at most high schools, that if they want to be an engineer, MSE is the place!



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The graphic below shows how we are aligning Michigan Tech’s vision with our growth strategy. We are trying to recruit bigger MSE classes and also trying to build a stronger community to keep all those who want to be MSE engineers. Michigan Tech will provide more resources to departments who are growing.



In the last 2 years, in large part due to the Recruiting and Retention Committee, we have combined to recruit (Start and Gained columns) and retain (low “Lost” numbers) to grow our class sizes to larger than pre pandemic levels.

Table 2. Michigan Tech improvement in student recruiting and retention.

Matric Year	Years of Data	Students			
		Start	Lost	Gained	Finish
2018	4	23	16	21	28
2019	4	21	15	12	18
2020	4	12	8	12	16
2021	3	18	6	18	30
2022	2	22	2	12	32

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