



DEVELOPING A NEW GENERATION OF RAILWAY PROFESSIONALS

MICHIGAN TECH'S SUMMER YOUTH PROGRAM IN RAIL & INTERMODAL TRANSPORTATION

NURail Project ID: NURail2013-UIUC-E05

NURail Project title: Grow Our Own Minority STEM Initiative: Partnering in Outreach

For the past five years, Michigan Technological University has been running a Summer Youth Program (SYP) in Rail and Intermodal Transportation as a joint venture with the University of Wisconsin – Superior. The 70 students that have participated in the program have arrived from vast geographic backgrounds, covering 17 states. Over 20% of the participants have come from minority populations, and nearly 10% have been female students.

The mission statement of the program is “A collaboration to attract a new generation.” The program has seen continuous growth along with a diverse group of students, grades 9-11. The growth has been especially strong in years 2013 and 2014 after the arrival of NURail funding. This funding increased the scholarship levels from the original 50% (provided graciously by industry partners) to 100% of the program fee. In 2014, two minority students from Springfield, IL had travel sponsored by Hanson Professional Services, in addition to the normal full scholarship.

Over the five program days the students learn in a variety of formats, but most of the program time is devoted to industry field trips and hands-on activities. Hands-on activities include designing and constructing a scale model track section, operating a locomotive and train consist in a train simulator, and designing and racing maglev cars on a track layout.





Upon completion of the program, students received a certificate to commemorate the week. Feedback on the event from the attendees has been positive and one student even commented, “From what I have learned in the program, I am now interested in a future career with the industry.”

“Grow Our Own” Minority STEM Initiative: Partnering in Outreach

To support higher-speed passenger rail operations between Chicago and St. Louis, a long-term effort to consolidate multiple rail corridors through Springfield, IL is underway. Future construction of a rail link will allow for a single grade-separated rail corridor to replace multiple routes through the central business district, eliminating multiple roadway grade crossings. However, the approved alternative passes within blocks of a high school and impacts minority populations in the surrounding community.

Through a unique partnership, local community leaders saw the proposed rail corridor as an opportunity to introduce local youth and minority populations to possible careers in related railway transportation, civil engineering and construction fields.

The “Grow Our Own” Minority STEM Initiative is led by Hanson Professional Services, a civil engineering consulting firm headquartered in Springfield. Hanson is joined by the City of Springfield, Sangamon County and the Illinois Department of Transportation in administering the initiative. Each group has pledged financial support to multiple programs including outreach to minorities through the NURail Center.

In March 2014, NURail and Hanson partnered to host 30 minority students from Springfield high schools and middle schools attending the annual Engineering Open House on the University of Illinois at Urbana-Champaign campus. With bus transportation provided by Hanson, NURail graduate student research assistants served as tour guides to escort these students around the engineering campus. The visiting students were able to participate in hands-on activities demonstrating applications of STEM topics to various engineering fields. Among the hundreds of displays was the award-winning “Railway Extravaganza!” exhibit, consisting of a locomotive simulator and other interactive railway engineering activities, organized by the UIUC AREMA Student Chapter and NURail-supported students.



CITATIONS:

"NURail Annual Report 2014." N.p., n.d. Web.
<<http://www.nurailcenter.org/tech-and-pub/doc/reports/NURail%20Annual%20Report%202014%20Published.pdf>>.