



**LAUNCHING
MY NEW
NSF
PROJECT
or
WHAT DO I
DO NOW
THAT I GOT
FUNDED?**

- **Marilyn Barger**, Senior Educational Advisor, FLATE
- **Doug Laven**, Mechatronics Instructor, South Central College, Minnesota
- **Ken Welborn**, Advanced Manufacturing Faculty, Piedmont Virginia Community College, Virginia
- **Jerry Muller**, Industrial Coordinator, Adjunct Instructor, Central Community College, Nebraska
- **Brooks Jacobsen**, Robotics and Electrical Systems Department Supervisor, Lake Area Technical College, South Dakota

This material is based upon work supported by the National Science Foundation. Opinions, findings, and conclusions or recommendations expressed in this material belong to the author(s) and do not necessarily reflect the National Science Foundation.



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Getting started on your new project can be overwhelming, but all advanced technology programs share similar issues. A panel of novice and experienced PIs will share lessons learned and best practices in starting and maintaining successful projects, including how to address unknown issues that can arise and affect your project outcomes. Come join us to learn the secrets of successful projects and PIs. Bring one of your big concerns to share. Interactive topics may include budgets, administrative support, time management, annual reporting, and industry engagement.



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iMEC
Internet Mechatronics Education Curriculum



South Central
COLLEGE



HITEC Conference Session Panel Launching My New NSF Project

Doug Laven

Mechatronics Faculty

18-Years Industry Experience (Domestic and International)

15-Years Advanced Technical Education Instructor

South Central College: N. Mankato, Faribault, MN Campuses

doug.laven@southcentral.edu



iMEC
Internet Mechatronics Education Curriculum



South Central
COLLEGE



- Mechatronics at SCC started in 2008 with \$160,000 seed money from area industry.
- Current PI of 2020 NSF Grant: Awarded \$1,430,917 in funding.
- **Project # 2037491 & 2221838:** Enhancing the Independent Mechatronics Technical Curriculum and Creating a New Pathway from Rural High Schools into Mechatronics Careers
- **PROJECT SUMMARY**
- South Central College (SCC) in Minnesota and Central Community College (CCC) in Nebraska have joined forces to implement Independent Mechatronics Education Curriculum 2.0 (iMEC 2.0). The goal of the project is to increase the number of Mechatronics and Process Instrumentation and Control (PIC) technicians to meet workforce demands by enhancing and expanding a high-quality/low-cost distance education model to create a new pathway to Mechatronics programs in partnership with dedicated rural high schools. Leveraging the well-regarded prior Mechatronics-related resources of SCC's original 2012 iMEC project (#1304835).



Opportunity. Access. Excellence.

HI TEC Conference Session Panel Launching My New NSF Project

Ken Welborn

Program Director for Advanced Manufacturing

17-Years Manufacturing Experience (Automation and Medical)

6-Years Advanced Manufacturing Instructor

Charlottesville, Virginia

kwelborn@pvcc.edu



Opportunity. Access. Excellence.

- Advanced Manufacturing program at PVCC started in 2016 with \$438,964 NSF ATE grant
- Current PI of 2023 NSF Grant: Awarded \$520,281 in funding.
- **Project # 2300824:** Improving Students' Advanced Manufacturing Skills with Mastery Learning
- **PROJECT SUMMARY**
- Piedmont Virginia Community College seeks to enhance its advanced manufacturing workforce development program through the support of NSF ATE Grant 2300824. The project aims to address critical skills gaps in the local workforce by modernizing curriculum, integrating industry-relevant technologies, and expanding hands-on training opportunities for students. By fostering partnerships with regional industry leaders, the initiative aims to align educational outcomes with industry needs, ensuring graduates are equipped with the skills necessary to excel in advanced manufacturing careers.

Jerry Muller

- Industrial Coordinator/Mechatronics Adjunct Instructor
- 9-Years Industry Experience (Automation Technician)
- 7-Years in Education (Central Community College)
- Central Community College: Columbus, Nebraska Campus
- jerrymuller@cccneb.edu

- Mechatronics expansion at Central Community College started in 2004 with \$1 million dollar donation from Festo and \$1.6 million grant from the U.S. Department of Labor.
- Project Coordinator of 2020 Collaborative NSF grant # 2037491 between SCC & CCC: Awarded \$1,430,917 in funding
- Co-PI for The National Center for Next Generation Manufacturing NSF grant #2335016 : Awarded \$7,500,000 in funding



**Cultivating Career
Pathways for Advanced
Manufacturing Technicians**



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Brooks Jacobsen

Robotics, Electronic Systems Technology Department Supervisor

20 years of military and industry experience

18 years Instructor experience

Lake Area Technical College, Watertown, SD

Brooks.jacobsen@lakeareatech.edu

Cultivating Career Pathways for Advanced Manufacturing Technicians

- Current PI of 2023 NSF Grant: Awarded \$349,123 in funding.
- **Project # 2301165:** Cultivating Career Pathways for Advanced Manufacturing Technicians.

- **PROJECT SUMMARY**

- This Cultivating Career Pathways for Advanced Manufacturing Technicians project will prepare current and future generations of diverse, highly-skilled technicians to fill deep gaps in South Dakota's advanced manufacturing workforce. To increase the number of technicians, LATC will build awareness of certificate and two-year college programs and career pathways in science, technology, engineering, and math (STEM) areas such as robotics, electronics, precision machining, welding, and energy technology. The college plans to leverage two main strategies to achieve the proposed goals: collaboration with manufacturing, education, and alumni partners, and utilization of NSF ATE prior work.

Thank You!



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