



National Center for Next Generation Manufacturing



Dr. Karen Wosczyzna-Birch

Executive Director & Principal Investigator,
National Center for Next Generation Manufacturing

Welcome to the National Center for Next Generation Summit



FANUC



National Science Foundation Advanced Technological Education Program (NSF ATE)

- Focus: Educating science and engineering technicians for high-technology fields that drive the nation's economy.
- Education / Industry Partnerships are a hallmark of ATE.
- Community college leadership



U.S. National Science Foundation

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www.nextgenmfg.org



Mentor Up

National Science Foundation (NSF) Advanced Technological Education (ATE) funding is for technician education with community colleges in leadership roles. Mentor Up will guide you through the proposal development and submission process through the following program components :

- ~ A virtual 2.5 day proposal writing workshop ~ Pre-workshop questions ~
- ~One-on-one mentoring with experienced Principal Investigators and past NSF Program Officers ~
- ~ Post-workshop webinars: Research.gov & Forms, Evaluation, Budget, and the IRB ~
- ~ Draft proposal reviewed by experienced former NSF/ATE Program Officers ~
- ~ Continued support through funding ~
- ~ Stipends for workshop completion (attendance of full workshop mandatory for stipend) & proposal submission ~



For More Details Scan the QR Code
or Visit Our Website:
atementorup.org

Thinking about applying to Mentor Up?

Try our Pre-Application Mentoring Program!

Participants will work with a mentor for up to 10 hours to develop their applications for the Mentor Up Program, including a one-pager describing the idea for your NSF ATE proposal.

Up to two faculty from your team will be eligible to receive a \$250 stipend if an application is submitted to the Mentor Up Program by March 15, 2026.

Pre-Application Mentoring will take place from October 2025 to March 15, 2026.

Applications will open in Fall 2025

Testimonials

"We were very appreciative of the amount of support and the base of knowledge from which we could draw on. It made our experience smoother and helped us craft a better proposal."

"This was a wonderful workshop that provides immense value. I hope it continues way into the future, as it was greatly beneficial in helping our team design a proposal."

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CENTER OF EXCELLENCE

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For questions contact:

Dr. Kathleen Alfano - kalfano37@gmail.com

Dr. Karen Wosczyzna-Birch - karenlee@snet.net

Happy Manufacturing Month!



**Friends of
MFG Day**

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The Bonadio Group**

Visit mfgday.com to find industry tours and activities for your students!

National Center for Next Generation Manufacturing

- Awarded in 2021– only NSF ATE National Center for manufacturing
 - Builds on four previous rounds of funding beginning in 2004 for Regional Center for Next Gen Mfg and transition to Resource Center
- Lead/Partner institutions:
 - Connecticut College of Technology, CT State Community College (CT) – Karen Wosczyzna-Birch, PI
 - College of the Canyons (CA) - Tim Baber, Co-PI
 - Columbus State Community College (OH) – Chris Dennis, Co-PI
 - Central Community College (NE) - Jerry Muller, Co-PI
- Additional Partners:
 - EdAdvance (CT) Business & Industry Leadership Teams (BILT) - Dr. Ann Beheler
 - Industry
 - Comprehensive & Technical High Schools
 - Associations, Gov't Agencies, and Non-Profits
 - Manufacturing Centers & ATE Projects
 - Manufacturing USA Institutes



National Center for Next Generation Manufacturing – Goals

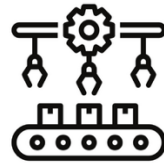
NCNGM goals focus on Industry 4.0 and the following at the national level:

- Develop a national manufacturing leadership network.
- Create and implement an advanced manufacturing education repository.
- Provide faculty and instructor professional development opportunities.
- Improve the image of advanced manufacturing and develop a diverse workforce.



Overview of National Center for Next Generation Manufacturing – Technology Teams

National Center for Next Generation Manufacturing Technology Teams



Fabrication Team

CNC Machining/Precision Machining
Metal Forming Welding Assembly



Processing Team

Mechatronics/Robotics/Automation Industrial Maintenance
Instrumentation/Plastics Laser & Fiber Optics Biomanufacturing



Supply Chain, Logistics & Quality Control Team

Metrology Process Control Supply Chain & Logistics

- Led by NCNGM Co-PIs
- Industry 4.0 subject matter experts who consult with Technology Teams when needed.

Overview of National Center for Next Generation Manufacturing – Additional Academic & Support Resources

National Center for Next Generation Manufacturing Additional Academic & Support Resources



Innovation &
Curriculum

Open Educational Resources (OER)
Educator PD for using Educational Technologies



Education/Industry
Partnerships

Entrepreneurship/Digital Badges Recruitment of Non-NSF Centers & Industry
Business & Industry Leadership Team (BILT)



Public-Private
Partnerships

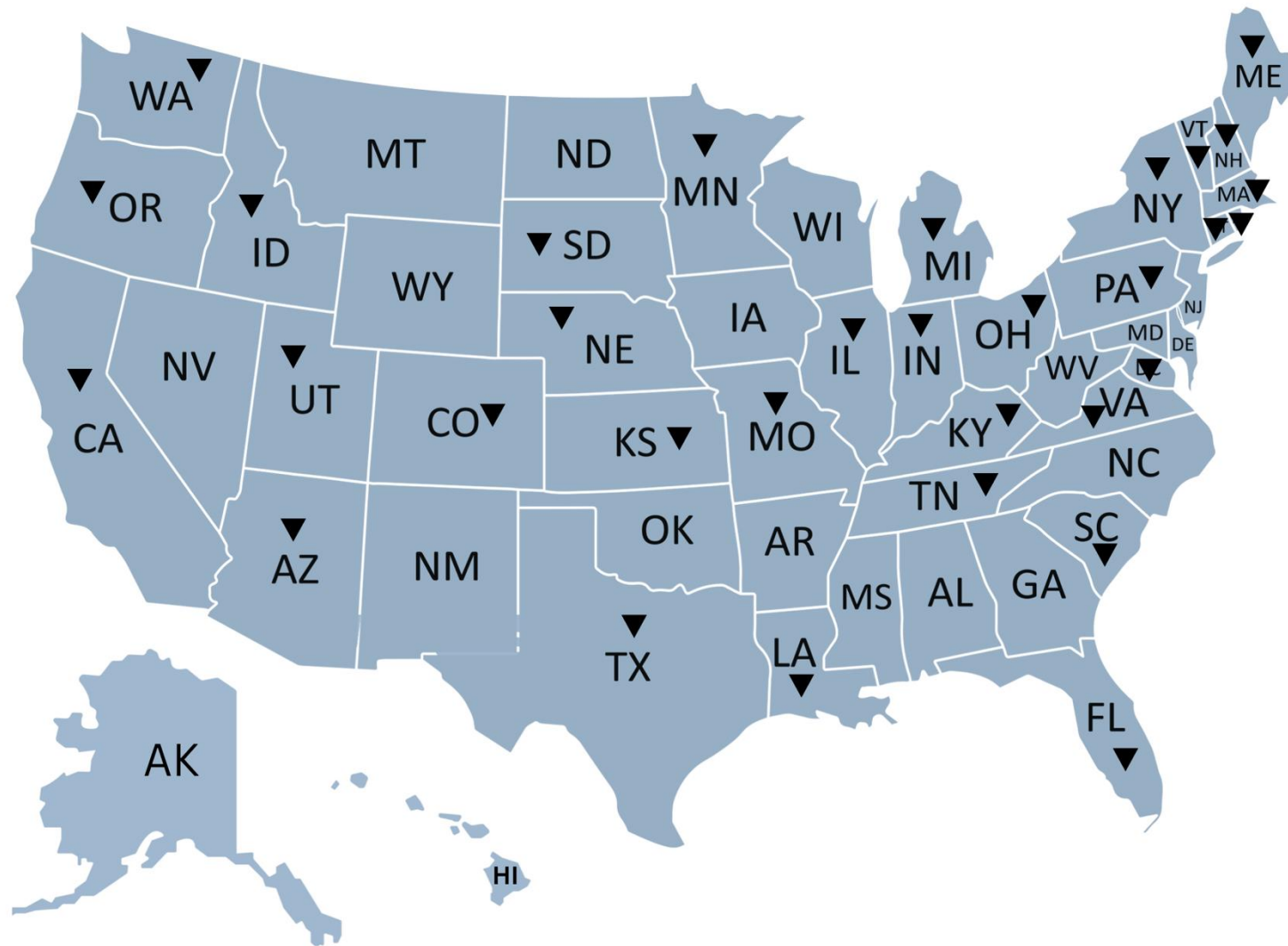
Career Pathways Manufacturing USA Institutes
Professional Skills Manufacturing Extension Partnerships



National ATE
Centers

All awarded NSF ATE National Centers

Partner Locations



Sample of Industry Partners



American Welding Society

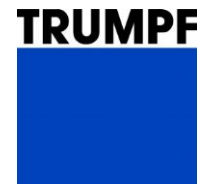
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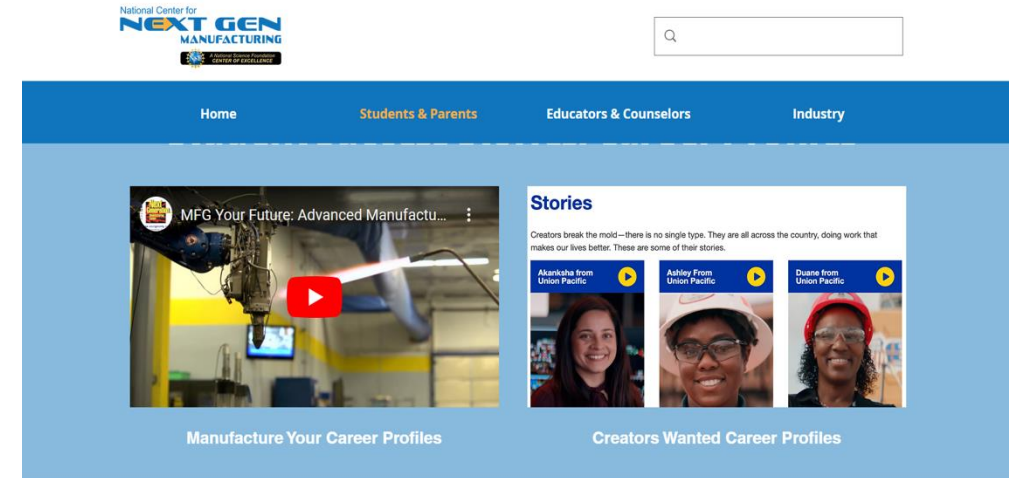
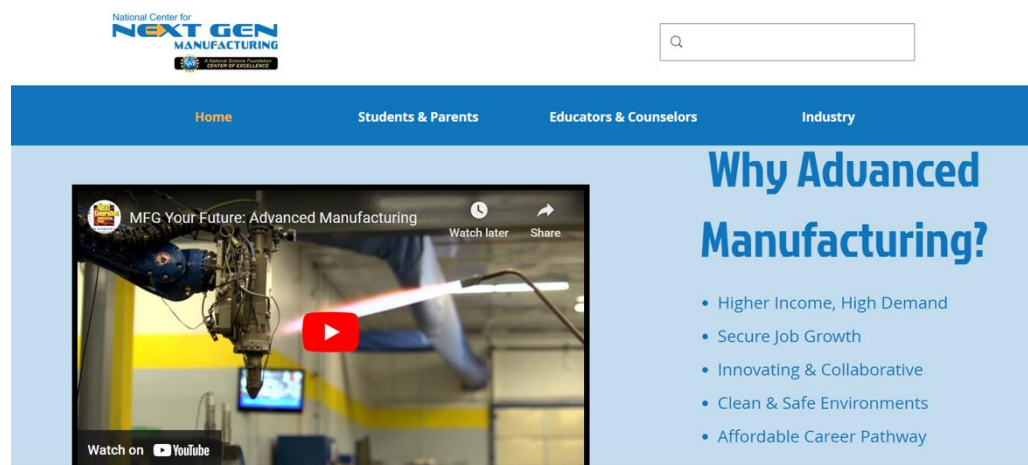
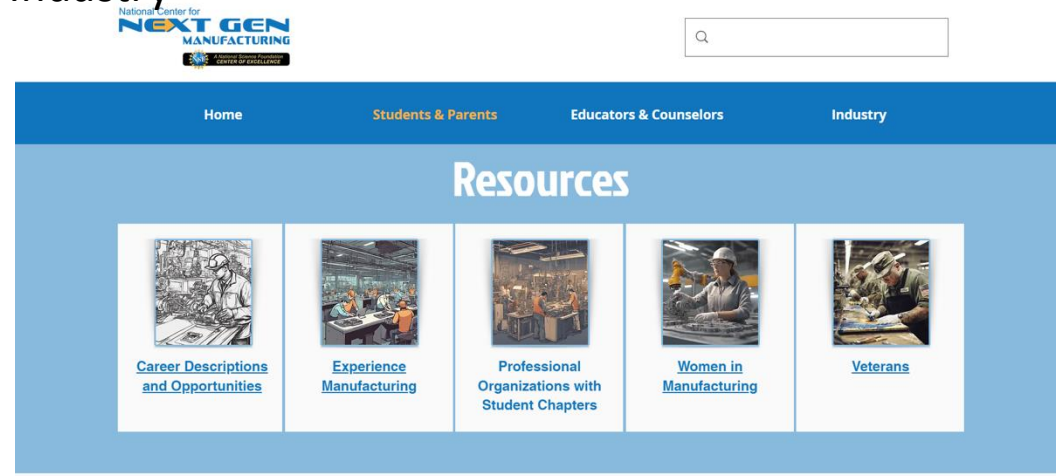
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NCNGM Resources

Resources for:

- Students & Parents
- Educators & Counselors
- Industry

New Website at nextgenmfg.org



NCNGM Community of Practice

Benefits of joining our Community of Practice include:

- Virtual quarterly meetings
- Certificate of membership
- Networking and partnership opportunities
- Priority acceptance to the NCNGM's activities and workshops
- Mentorship for grant proposals
- Dissemination of educational resources you've developed via the NCNGM website and additional platforms
- Membership can serve as leverage for grant applications, promotion applications, and validation with industry

Who should join?

Advanced manufacturing workforce stakeholders including, but not limited to:

- community college and high school educators, counselors, and administrators
- business, industry ,and professional organization representatives
- economic development and government agency representatives

Next Meeting: Nov. 7th at 1:00pm in partnership with the National Applied AI Consortium

Partnership with the National Applied AI Consortium



- Funded by the National Science Foundation Advanced Technological Education Program
- Hosted by Miami Dade College
- Led by Miami Dade College (FL), Houston Community College (TX), and Maricopa Community Colleges (AZ)

Upcoming NCNGM/NAAIC Events:

- AI in Manufacturing: A Faculty Primer for Community Colleges - Introductory webinar that explores the transformative impact of Artificial Intelligence across the manufacturing sector.
 - October 24 – 12:00 – 1:30pm Eastern Time
- Joint Community of Practice
 - November 7 – 1:00 – 2:00pm Eastern Time
- Joint AI Summit in 2026

NCNGM & EdAdvance AI Initiatives

- Sponsor of EdAdvance's ChatEDU Podcast
 - New episodes every Friday
 - 30,000+ plays and 1,700+ followers
 - NCNGM will be on episodes in October and December
- Sponsored Fall 2025 AI in Education Conferences attended by over 180 educators per conference



Presenter Contact Information

Karen Wosczyzna-Birch

Executive Director & PI, National Center for Next Generation Manufacturing

Executive Director, Connecticut College of Technology

Karen.wosczynabirch@ctstate.edu

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