National Science Foundation

HCC

MNT-EC Micro Nano Technology Education Center

MENTOR CONNECT

Grant Writing Strategies for NSF ATE Proposals

NCPN 2025

Greg Kepner & Mel Cossette

NavigATE Project NSF DUE#2348519

Hillsborough Community College

NSF ATE Grant Experience

Greg Kepner – 18 years

Principal Investigator
- Midwest Photonics Education Center
- ATE Projects (3)

Co-Principal Investigator
- Micro Nano Technology Education Center
- National Center for Optics and Photonics Education

Project Evaluator

Mentor-Connect Mentor

MentorLinks Mentor

NSF ATE Grant Experience

Mel Cossette – 24 years

Principal Investigator
- Online Institutional Resource for Material Science Technology Education

Co-Principal Investigator
- Micro Nano Technology Education Center
- ATE Projects (3)

Project Evaluator

Mentor-Connect Master Mentor

ATE Collaboration

ATE NavigATE Project

- NSF DUE #2348519
- Hillsborough Community College, Tampa, FL

Micro Nano Technology Education Center

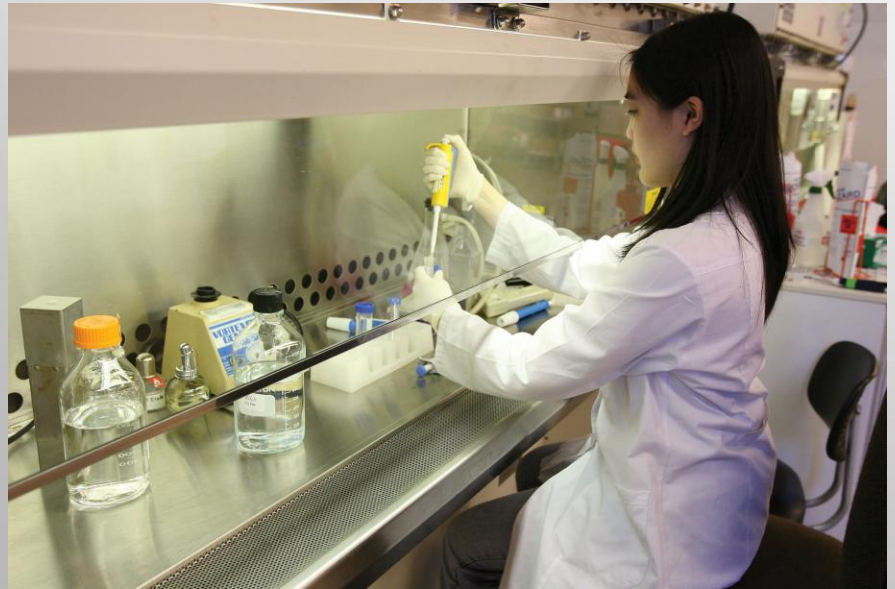
- NSF DUE #2000281
- Pasadena City College, Pasadena, CA

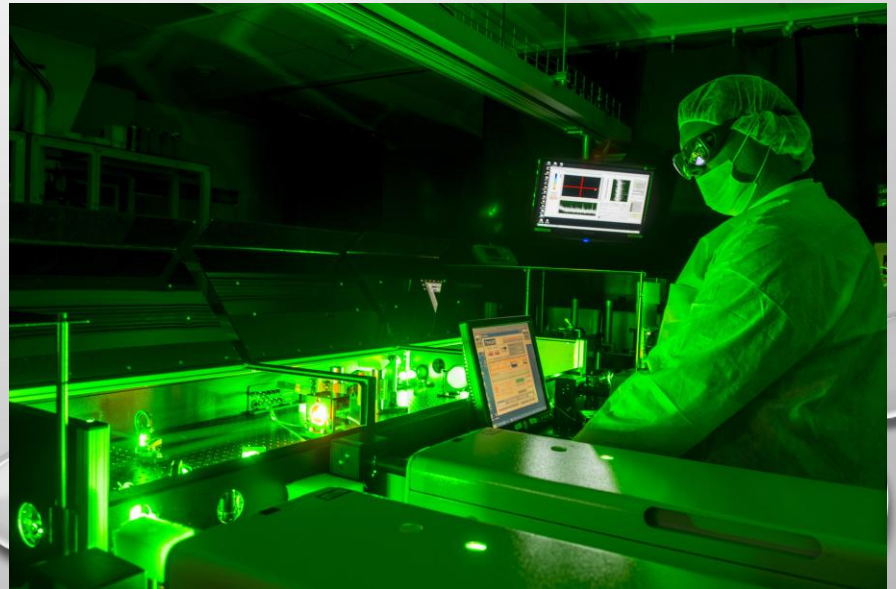
Mentor-Connect

- NSF DUE #2227301
- Florence-Darlington Technical College, Florence, SC

NSF ATE Program Purpose

The education of highly qualified science and engineering technicians for the advanced technology fields that drive our nation's economy.





What does NSF ATE fund?

=

- Faculty development
- Program development
- Curriculum development
- Outreach/Recruitment
- Student retention
- Industry partnerships
- Equipment upgrades
- And more….

NSF ATE Grantee Focus

- Institutions of Higher Education that award certificates and 2-year technology degrees
- 2-year faculty must have a leadership role on all projects
- 2-yr, 4-yr institutions and high schools can be supported (Education Pathways)
- Partnerships with Industry and Workforce or Economic Development Entities required

NSF 24-584

NSF 24-584: Advanced Technological Education (ATE)

Program Solicitation

Document Information

Document History

- **Posted:** June 24, 2024
- **Replaces:** NSF 21-598

View the program page

National Science Foundation
Directorate for STEM Education
Division of Undergraduate Education

Full Proposal Deadline(s) (due by 5 p.m. submitting organization's local time):

October 03, 2024

First Thursday in October, Annually Thereafter

ATE Program Officers #1

Biotechnology/Biology/Chemistry

- Celeste Carter, telephone: email: vccarter@nsf.gov
- Michael Davis, e-mail: mdavis@nsf.gov
- Olivia Long, e-mail: olong@nsf.gov
- Kalyn Owens, e-mail: kowens@nsf.gov

Engineering

- Nasser Alaraje, e-mail: nalaraje@nsf.gov
- Christine Delahanty, e-mail: cdelahan@nsf.gov
- Olga Pierakkos, e-mail: olpierra@nsf.gov

Evaluation/Research

- Connie Della-Piana, telephone: email: cdellapi@nsf.gov

Geographic Information Systems/Geosciences

- Keith Sverdrup, e-mail: ksverdru@nsf.gov

ATE Program Officers #2

Information technology/Computer Science

- Paul Tymann: e-mail: ptymann@nsf.gov
- Monisha Pulimood: e-mail: mpulimoo@nsf.gov

Information technology/Cybersecurity

- Corby Hovis, email: chovis@nsf.gov
- Paul Tymann: e-mail: ptymann@nsf.gov

Small Scale ATE track

- Michael Davis, e-mail: mdavis@nsf.gov
- Paul Tymann: e-mail: ptymann@nsf.gov

V. Celeste Carter Lead Program Director	vccarter@nsf.gov	(703) 292-4651	EDU/DUE
Paul Tymann Co-lead Program Director	ptymann@nsf.gov	(703) 292-2832	EDU/DUE

ATE Technology Areas

- Advanced Manufacturing Technologies
- Biotechnology
- Agricultural Technologies
- Energy and Environmental Technologies
- Engineering Technologies
- Information Technologies
- Micro and Nano Technologies
- Security Technologies
- Geospatial Technologies
- Autonomous & Emerging Technologies

Funding Tracks

- Small Scale Projects
- Projects
- Consortia for Innovations in Technician Education
- Centers

Funding Tracks

Small Scale Projects

- Up to 20 awards per year
- Up to $475k per award
- Up to 3-year duration
- Can serve as pilot project or prototype

Funding Tracks

Projects

- Up to 45 awarded per year
- Up to $1M per award
- Up to 3-year duration
- Broad eligibility
- Includes Applied Research on Technician Education

Funding Tracks

Consortia for Innovations in Technician Education

- Up to 5 new awards per year
- Up to $1.2 M per award for 2 institutions
- Up to $3M per award for 3+ institutions
- Up to 4-year duration

Funding Tracks

Consortia for Innovations in Technician Education

- Strengthens partnerships
- Specific industry or technology convergence
- Collaborations with ATE Centers & Projects
- Program improvement and development

Funding Tracks

Centers

- Up to 10 total in U.S.
- Typically 1-3 awards per year
- Up to $7.5m - 5 years
- Competitive renewal once
- Examples
  - Advanced Manufacturing
  - Engineering Technologies

Grant Strategy

- What?
- Why?
- Who?
- When?
- Where?
- How?

Grant Basics – What?

- Start with an idea
- Demonstrate industry need
- Tell the story
- Abstract - description of the project
- Results from Prior NSF support

Project Summary

- Overview of the project
  - Disciplinary focus
  - Kinds of activities
  - Primary audience
- Intellectual Merit
  - Potential to advance knowledge base
- Broader Impacts
  - Potential benefit to society

Grant Basics – Why?

- Motivating rationale
- Industry need
  - Labor statistics
  - O*NET data
  - Company postings
- Workforce development focus
  - Technician need

Grant Basics – Who?

- Institution
- Partners
- People
- Qualifications
- Education
- Experience

Grant Basics – Where?

- Institution(s)
- History
- Facilities
- Equipment
- Other resources supporting project
- Capacity

Grant Basics – How?

- Goals - overarching
- Objectives - specific
- Activities - support goals and objectives
- Deliverables
  - Numbers
  - Results
  - Impacts

Grant Basics – Budget

- Personnel - salary and fringes
- Travel
- Equipment
- Supplies
- Contractual
- Direct
- Indirect
- No cost sharing

Grant Basics – Timeline

- Timeline for Activities
- Gantt chart example

	YEAR 1			YEAR 2			YEAR 3		
ACTIVITY 1	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**
TASK 1.1	X	X	X						
TASK 1.2		X	X						
TASK 1.3			X	X	X				
TASK 1.4			X			X			X
TASK 1.5					X	X	X	X	X

Grant Basics – Timeline

- Timeline for Activities
- Gantt chart example

	YEAR 1			YEAR 2			YEAR 3		
ACTIVITY 1	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**
TASK 1.1	■	■	■						
TASK 1.2		■	■						
TASK 1.3			■	■	■				
TASK 1.4			■			■			■
TASK 1.5					■	■	■	■	■

Grant Basics – Other

- Data collection
  - Data Management Plan - Security
- Evaluation
  - Evaluator – name if possible
  - Plan for evaluation
- Dissemination
  - Publications - Journals
  - Presentations - Conferences
  - Information sharing

Supplementary Documents

- References Cited – do your research
- Letters of Commitment
  - Specific commitments required
  - Follow solicitation (not PAPPG)
- NSF Biosketches
  - SciENcv format
  - Senior Personnel & Evaluator

Supplementary Documents

- Current and Pending support
  - Any related funding
- Collaborators and Affiliates
  - Partnerships
  - Projects

Grant Activities

Projects/Small Scale Projects

- Program Development and Improvement
- Professional Development for Educators
- Curriculum Development
- Educational Materials Development
- CTE and STEM Teacher Preparation
- Undergraduate Research Experiences
- Internships, Apprenticeships, Work Experiences
- Instrumentation/Equipment Acquisition

Mentoring Opportunities

There is something for everyone:

- MentorLinks
- Mentor-Connect
- Mentor Up
- MNT-EC
- Project Vision
- CCPI-STEM

Mentoring Examples

Mentor-Connect

- Small Scale Projects
- Second Chance – submitted and not funded
- Moving Up – higher level project funding
- Co-mentoring – Discipline partnership

70+% Funding Rate!

Mentor-Connect Services

- Individual Mentoring
- Technical Assistance
- Webinars & Tutorials
- Workshops
- Help Desk – Just-in-time answers
- Online Resource Library
- NSF Funding Process Guidance & Start-up Help
- Leadership Development

www.mentor-connect.org

MNT-EC Co-Mentoring

Micro Nano Technology Education Center

- Project proposal mentoring
- Co-mentoring with Mentor-Connect
- Emphasis in Micro Nano Technology
  - Materials Science Technology
  - Photonics Technology
  - Manufacturing Technology
  - Engineering Technology
  - Biotechnology

MNT-EC Mentoring Services

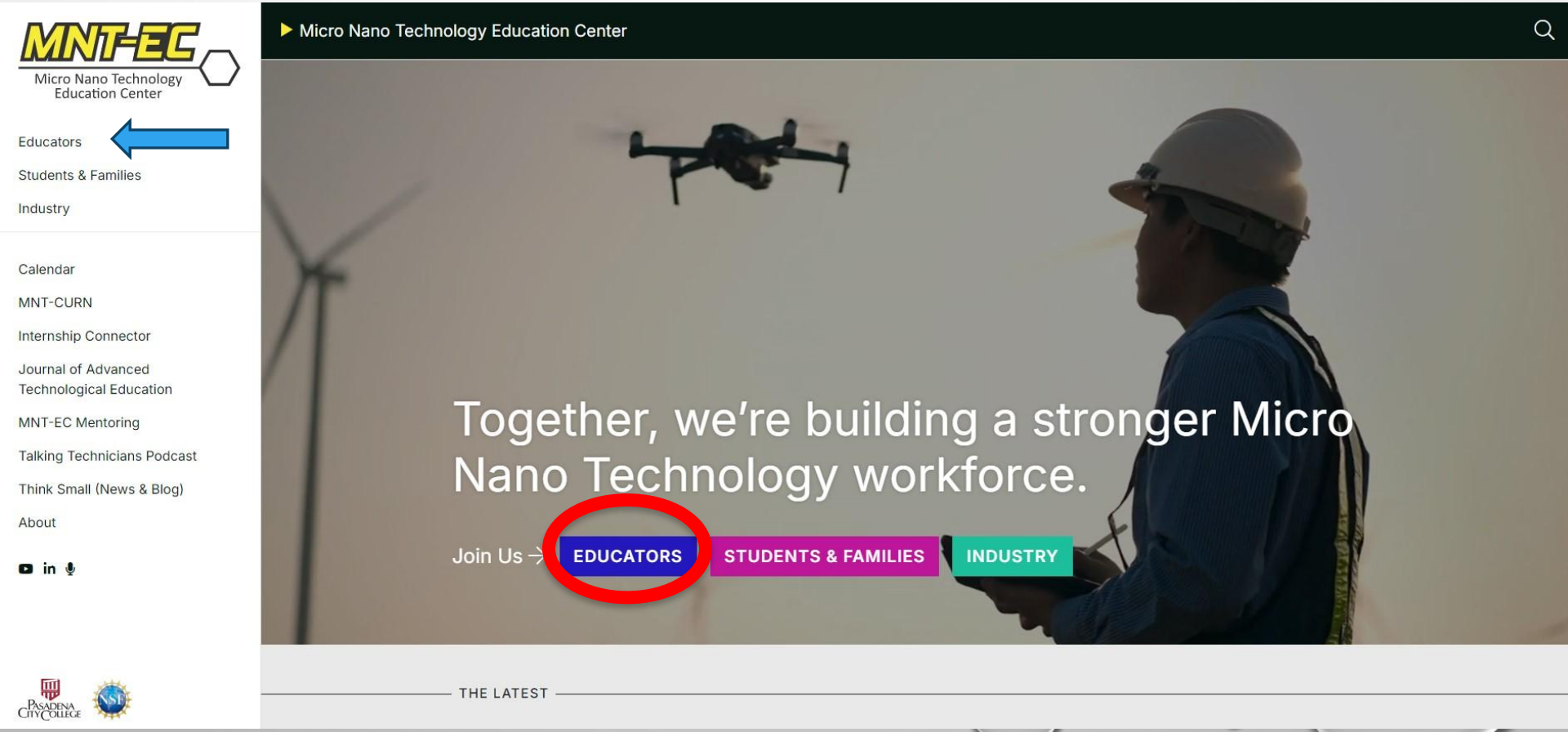
Review Micro/Nano related proposals

- Provide feedback and recommendations
- Subject matter expertise

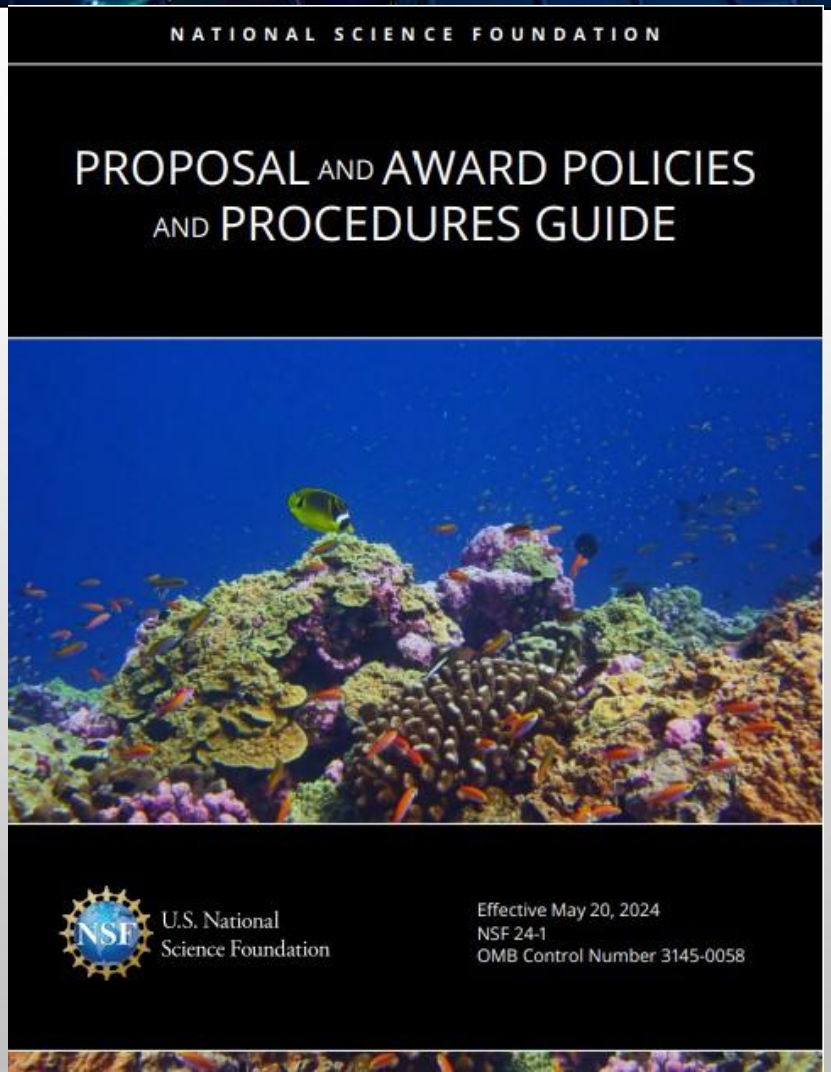
Guidance on:

- NSF ATE Solicitation 24-584
- PAPPG
- NSF New Awardee Packet
- NSF onboarding process

www.micronanoeducation.org



PAPPG


NATIONAL SCIENCE FOUNDATION
PROPOSAL AND AWARD POLICIES AND PROCEDURES GUIDE
U.S. National Science Foundation
Effective May 20, 2024
NSF 24-1
OMB Control Number 3145-0058

PAPPG

- Proposal preparation instructions
- Submission guidelines
- NSF proposal processing and review
- Budget information
- Allowability of costs
- Financial requirements
- Post award requirements
- Grant administration

JATE
JOURNAL OF ADVANCED TECHNOLOGICAL EDUCATION

Journal of Advanced Technological Education

- Peer-reviewed technical journal
- Focus on technician education
- Authors are invited to submit an article
- ATE collaborative effort initiated by MNT-EC
- Dissemination opportunity for projects

ATE Central

- Information hub for NSF ATE community
- Free online portal
- Collection of products and materials
- ATE Central Handbook
- ATE Outreach Kit
- Activity Reports

www.atecentral.net

ATE CENTRAL
SUPPORTING ADVANCED TECHNOLOGICAL EDUCATION

Search GO

HOME COMMUNITY RESOURCES EVENTS ABOUT Sign In

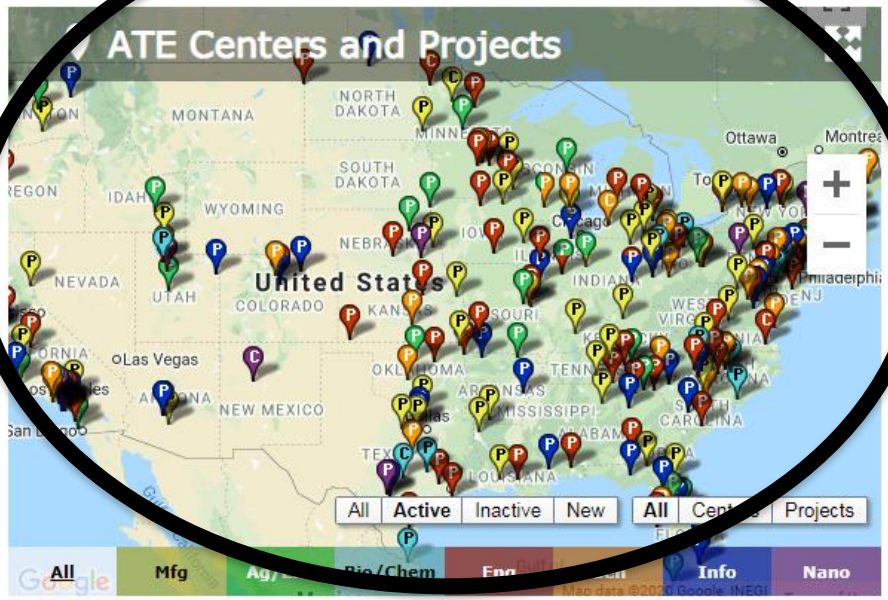
What is ATE?

With an emphasis on two-year colleges, the National Science Foundation's ATE (Advanced Technological Education) program focuses on the education of technicians for the high-technology fields that drive our nation's economy.

Learn More About ATE

ATE Central Tools & Services

ATE Centers and Projects



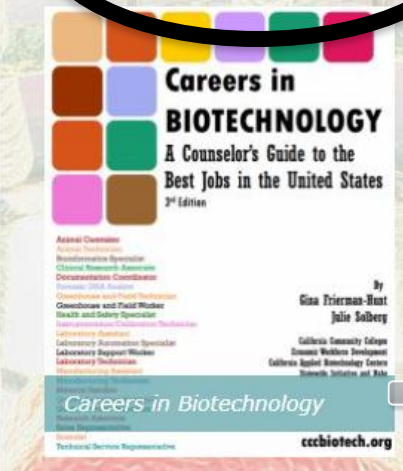
ATE Fact Sheet

Active ATE Centers	30
Active ATE Projects	335
ATE Resources	5,479
New Projects/Centers	116
New Resources	110

ATE Events

- *MNT-EC Seminar* Sep 9
- *NSF ATE Grant Proposal Help* Sep 10
- *Archiving with ATE Central* Sep 15
- *MNT-EC Seminar* Sep 16
- *MNT-EC Seminar* Sep 23
- *Midwest Cisco Networking*

ATE Resources



What Can ATE Central Do for Me?

ATE News

NSF ATE Resources

NSF ATE www.nsf.gov/ATE

Mentor-Connect www.mentor-connect.org

MNT-EC www.micronanoeducation.org

ATE Central https://atecentral.net/

EvaluATE https://www.evalu-ate.org/

ATE Exhibit Booth

ATE Impacts Books

Informational Flyers

- ATE Centers/Projects
- Mentoring Opportunities

Journal of ATE

ATE Program Survey Highlights and more

Want more information?

Complete a brief survey at:

Read the ATE solicitation NSF 24-584 at:

Questions?

Greg Kepner – gregkepner1@gmail.com
greg@micronanoeducation.org

Mel Cossette – icossette@yahoo.com
mel@micronanoeducation.org

Pam Silvers – Pamela.Silvers@fdtc.edu

Disclaimer: "This material is based upon work supported by the National Science Foundation under Grant No.2348519 and Grant No.2227301 and Grant No.2000281. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation."