

# Dissemination through Publication For Free through J ATE!





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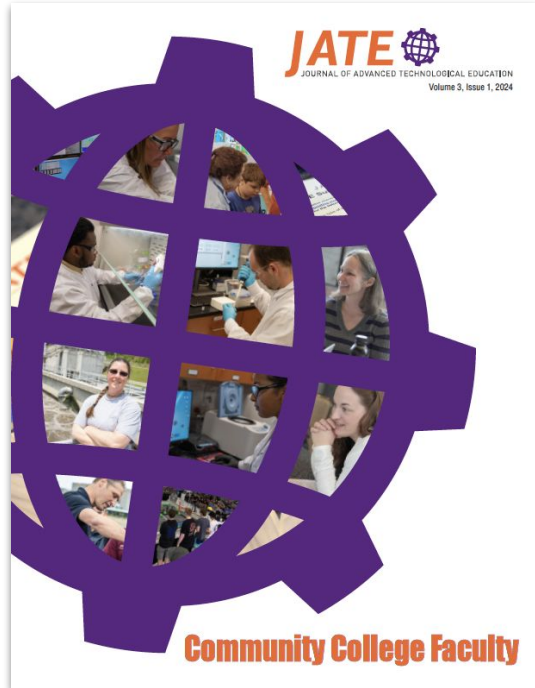
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# What is JATE?



- **Peer-reviewed journal**
- Produced by and **for the ATE community**
- **Readers and Writers:** ATE Project and Center personnel, community college faculty, community college students
- **Free** to submit
- **Free** to read

# JATE Connect

Pilot project to increase the quantity & quality of peer reviewed publications written by NSF ATE project teams.



**Writers:** ATE project team members

**Coaches:** Peer-reviewed published authors with experience working on ATE projects/centers



**Structure:** Bi-monthly virtual meetings, 2 in-person meetings, resources & support

**Stipend:** for travel & publication preparation for writers & coaches



**Expectations:** Write & submit a publication for JATE in January 2024

**Assessment:** Determine barriers and/or challenges ATE teams face in publishing their work and identify tools/resources to help them publish more frequently in the future

# JATE Connect

A pilot project to increase the quantity & quality of peer reviewed publications written by NSF ATE project teams.



J ATE Connect Timeline				
Jul	Aug-Sep	Oct	Nov-Dec	Jan
Teams meet virtually 2x/month Monthly Virtual Office Hour				
Writers & coaches selected  1st In-person meeting	Outlining & developing the manuscript	Drafting the manuscript  ATE PI Conference meetup	Writing and revising manuscripts  Submission of initial draft	J ATE Connect Meeting  J ATE Publication Submissions (January 31st deadline)

**10** manuscripts  
from **10** teams

# J ATE Connect Outcomes & Findings

**16**  
manuscripts  
from **11**  
writing teams

**89%**  
planning to  
publish again  
in J ATE

## Critical/Very Important Components

Being a  
team  
74%

Having a  
point person  
84%

Stipend tied  
to deadlines  
79%

In-person  
meeting  
68%

Interim  
deadlines  
84%

Having a  
coach  
74%

Time to  
Develop a  
Manuscript

**55 hrs**  
Median time  
writers spent  
on their  
manuscript

*A program like this is perhaps the ONLY way we would write a paper on our work.*

*J ATE Connect Writer*

# Barriers & Incentives

## Barriers:

- Time
- Competing commitments
- Lack of incentive to publish (internal or external)
- Need to practice writing
- Challenge of determining what journals are looking for

## Incentives:

- Showing the successes of their ATE grants
- Dissemination strategy for proposals
- NSF's interest in and recognition of publication
- Support systems for grant teams to publish, including financial support





Savita Prabhakar  
Frederick Community College



## Flow Cytometry - A Specialized Analytical Skill for the Cell and Gene Therapy Industry

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**Abstract:** Cell and gene therapy is one of the fastest-growing fields in the biopharmaceutical industry, and Maryland is witnessing the impact of this growth first-hand. Flow cytometry, a crucial analytical tool for ensuring the quality and purity of cell and gene therapy products, has become a highly sought-after skill. However, access to flow cytometry training is often limited and expensive. Recognizing this gap, Frederick Community College (FCC) has developed an innovative Cell Therapy and Flow Cytometry course, validated by industry, to make this training accessible and affordable to local students, particularly those from underserved communities. This specialized training in cell culture and flow cytometry offers students a competitive edge in the regional job market. Integrated into various program pathways, such as the new Cell and Gene Therapy Certificate, Letter of Recognition (LOR) for Cell Therapy, digital badges, and non-credit options. Flow cytometry training caters to a diverse range of learners, including traditional degree-seeking students and incumbent workers seeking to enhance their skills. In the successful pilot run during Spring 2023, the FCC Cell Therapy and Flow Cytometry course attracted ten students from the Biotechnology Associates program and six others eager to acquire new technical skills. This initiative aims to enable employers to recruit highly qualified and diverse candidates from the local talent pool, thereby supporting the biotechnology workforce in the region. FCC anticipates that this Cell Therapy and Flow Cytometry Workforce Project will serve as a model to enable other community college biotechnology programs to meet similar workforce demands as the cell therapy industry continues to expand across the country.

**Keywords:** Flow Cytometry, workforce, Cell Therapy, industry-validated, Gene Therapy

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### Introduction

Cell and gene therapy is the latest innovation in personalized medicine, and it holds the potential for revolutionizing patient care [1, 2]. Cell and gene therapy are related but distinct fields of practice that may be combined, e.g., to treat cancer. Cell therapy involves injecting or transplanting healthy cells into patients to trigger a medical effect. Gene therapy seeks to modify or manipulate the expression of a gene to alter the biological properties of living cells for therapeutic use. In cell therapy, cells – rather than medication or another type of therapeutic intervention – are used to treat patients. Cell and gene therapy are often combined. One example is the production of cells with Chimeric Antigen Receptors (CARs). A CAR gene contains the receptor-binding portion that binds to a protein on the surface of cancer cells fused to the signaling portion from another gene. CAR cells are made by putting these chimeric genes into cells from the immune system, such as T cells. When a cell makes the chimeric protein, the receptor portion sticks outside of the cell and the signaling portion stays inside. When the receptor binds to a molecule on a cancer cell, it triggers the signal and tells the cell it's time to attack the cancer cell. Most clinically evaluated CAR cell products are derived from a patient's immune cells. These are called "autologous" immune cells. The possibility of engineering cells from healthy donors (allogeneic cells) is also currently being explored [3].

Flow cytometry is a crucial analytical tool for the cell therapy industry. It ensures the quality and purity of engineered cells. Flow cytometry is also used to determine if cells possess the qualities needed to help a given patient. As it is one of the primary methods of ensuring quality control, it is indispensable in the manufacturing





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## K-12 Educational Cybersecurity Scaling Program Designed to Meet Industry Needs

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**Abstract:** The demand for trained cybersecurity professionals is paramount in securing digital assets at various levels, from individuals to organizations and even nations. The scarcity of cybersecurity talent is a critical concern across the United States, with over 663,000 unfilled cybersecurity positions reported in diverse sectors. The repercussions of this talent gap are evident, as cybercrime affects millions globally, costing an average of \$3.86 million per global data breach incident. With the various initiatives around North Carolina, there was a gap in the cyber education of K-12 teachers, which has a direct pipeline to the students' obtaining degrees and scholarships and participating in workforce development projects. To address this challenge, the Cyber Fellows program at Forsyth Tech was created to increase the number of cybersecurity professionals, enhance the expertise of cybersecurity faculty, and diversify the cybersecurity workforce in the Piedmont Triad region in North Carolina. The program also focuses on enhancing the cybersecurity skills of middle and high school teachers, aiming to increase the number of qualified adjunct faculty. This article highlights the program's significant contributions to bridging the cybersecurity talent gap, fostering diversity, and equipping educators to cultivate a future generation of cybersecurity professionals.

**Keywords:** cybersecurity, high school, middle school, student, teachers, diversity

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### Introduction

Trained cybersecurity professionals are crucial for safeguarding organizations, individuals, and nations from threats in the digital landscape. Unfortunately, cybersecurity talent remains in critically short supply across the United States. According to [cyberseek.org](https://www.cyberseek.org) roughly 663,434 vacant cybersecurity positions must be filled across various industries, such as banking, energy markets, and military operations [1]. The consequences of not meeting the demand are far-reaching. In 2020, it was reported that roughly 906 million people worldwide were affected by cybercrime [2], and each time there is a global data breach, the average costs are \$3.86 million globally [3]. The majority of the cyber attacks were from hackers around the globe, ranging from 17-year-old hackers to Chinese state-sponsored attacks [4].

In 2020, at least 38 states introduced legislation or resolutions to deal with cybersecurity. For example, California enacted the California Cybersecurity Integration Center, which monitored cybersecurity incidents and recorded whether the center's investigations resulted in prosecution. Georgia used leftover Coronavirus funds to enhance cybersecurity technology. Indiana adopted laws that require counties to use cybersecurity companies for various tasks and qualified personnel who have access to the statewide voter registration system. Louisiana provided mandatory Cybersecurity training for all state and local employees [5].

Several states have adopted proactive measures to enhance cybersecurity training and allocate funding for a wide array of programs and staff. In contrast, Forsyth Tech has made a deliberate choice to facilitate the introduction of K-12 Career and Technology Education instructors to the field of cybersecurity. This initiative aims to equip educators with the necessary tools and knowledge to elevate cyber hygiene within their classrooms while empowering them to expand their expertise in the realm of cybersecurity.

In 2020, the North Carolina Department of Information Technology launched the NC CyberStart program, which teaches high school students cybersecurity skills through online challenges and games. This helped create a cybersecurity talent pipeline in the community college system [6]. The North Carolina General Assembly allocated \$15 million in funding for the Cybersecurity Talent Initiative Fund to provide scholarships

# JATE Connect Writers Panel



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# How to get started

- Upcoming J ATE Online Workshops
  - Sept 10th-12th, 2024
  - 10am-12pm PST
  - Stipends Available
- J ATE Reader/Writer groups
  - Monthly 1 hour online meetings
  - No previous experience needed
- Build a J ATE publication into your next grant proposal (55 hrs)



# Questions and Discussion



Slide Share

# Acknowledgement



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