



# Engineering Technology (ET) Newsletter

Fall 2024, Spring & Summer 2025 | ISSUE 5

**AP Austin Peay**  
State University  
CLARKSVILLE • TENNESSEE

Editor - Professor Ravi Manimaran

## Graduate Success Stories



ET faculty, staff and award recipients

### Fourth Annual Engineering Technology (ET) Awards Ceremony

On May 1, 2025, the Department of Engineering Technology celebrated the Fourth Annual Award Ceremony and recognized 30 graduates from the four concentrations in the Bachelor of Science in engineering technology and the Bachelor of Science in aviation science degrees. Four graduates were from August 2024, five from December 2024 and 21 from May 2025. There were three categories of awards - Outstanding Achievement, Academic Achievement, and Professional Achievement.



ET faculty, staff and award recipients

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Technology Fusion Club - Mahesh Pallikonda, Jimmy Lemus



Professional Achievement Award – Md. Ali Haider, Dominick Mignano

**Jimmy Lemus**, graduated in May 2025 with a degree in **mechanical engineering technology**. After his internship at Metalsa, he accepted a full-time offer at Kennametal as an advanced manufacturing engineer in Summer 2025. Kennametal is a global industrial leader for the manufacturing of materials and tooling solutions. Lemus' role focuses on overseeing the pressing process of the tungsten-carbide parts primarily at the Nashville plant while also supporting other Kennametal locations. His responsibilities include conducting statistical analysis, leading new process introductions, diagnosing and troubleshooting equipment to support production, optimizing press operation, and improving tooling design and development. His future plans are to continue developing his technical expertise in the field, grow into leadership opportunities, and pursue further education.

## APSU IEEE Student Chapter

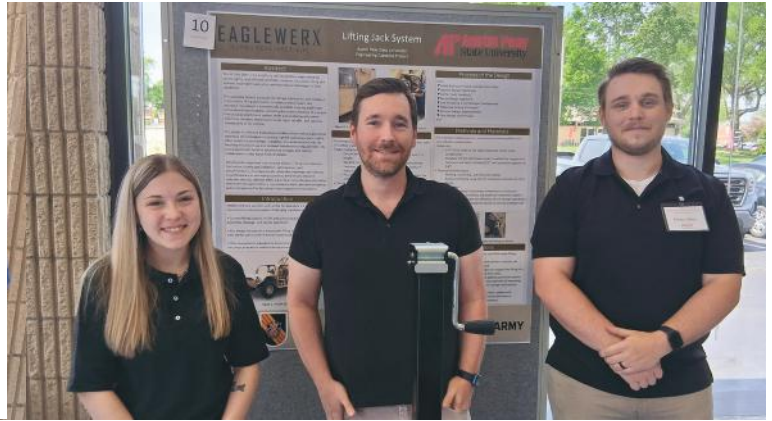
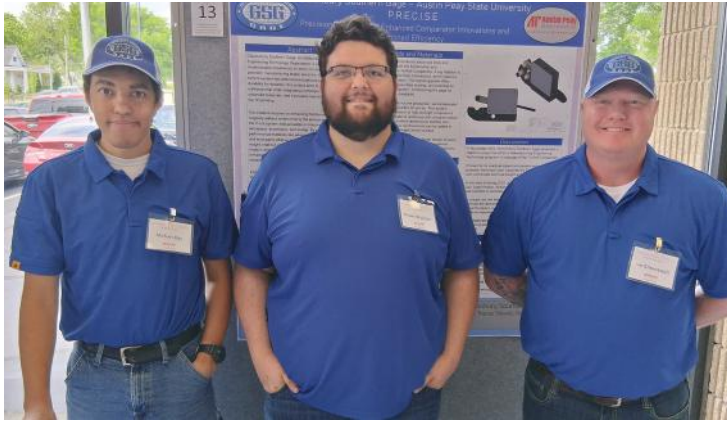
The APSU Institute of Electrical and Electronics Engineers (IEEE) Student Chapter held its inaugural meeting in Spring 2025, bringing together a group of motivated students eager to explore opportunities in technology and engineering. The IEEE Student Chapter aims to create a vibrant community where members can engage in meaningful projects, gain hands-on experience, and build valuable professional networks. With events, workshops, and collaborative initiatives planned for the upcoming semesters, the branch is set to provide students with a platform for growth, innovation, and leadership.



## The Innovation Experience

On April 24, 2025, the fourth annual Innovation Experience was hosted by the Austin Peay College of STEM. The event was created by Dean Karen Meisch to encourage collaboration between Austin Peay's CoSTEM programs, while also exposing promising students to local leaders in industry. Each program presented teams of students, led by a faculty

advisor, who were tasked with solving or researching a particular problem. Their work was then presented, and winners were selected based on their findings and presentations. From the Department of Engineering Technology, Associate Professor Anderson had two teams—Autonamics, AutoWorx; Assistant Professor Alberd had two teams – “Elevation Dynamics, PRISEM (Printed Reticle Iron Sight Emergency Module);” Professor Blake had two teams—“Feasibility Study of Participation by APSU Engineering Technology Students in Electric Vehicle Competitions, Food Trucks without the noise of a generator—a Feasibility Study;” Assistant Professor Md. AliHaider had one team that presented on “Smart Game Assistant Device” and Blake and Alberd had a joint team that on “Precision Retooling for Enhanced Comparator Innovations and Streamlined Efficiency (Project PRECISE).”



Innovation Experience-  
capstone projects



## Scholarly Activities

### PUBLICATIONS AND PRESENTATIONS:

In the 2025-26 academic year, the ET department faculty's scholarly efforts resulted in several publications and conference presentations.

Publications:

Tun, N. N., Lazo de la Cruz, G. A., Haider, M. A., Yang, Z. A., Wu, S. A., Deng, R., & Agarwal, A. (2025). Why Not for Society? *IEEE Pulse*, 16(2), 45–48. <https://doi.org/10.1109/mpuls.2025.3554917>;

H. Ahmed, “High-Fidelity Conjugate Heat Transfer as an Educational Tool for Engineering Technology Student,” in Conference for Industry and Education Collaboration (CIEC), 2025.

H. Ahmed, M. Anderson, M. A. Haider, “Impact of AI on Student Performance in Engineering Technology Courses,” in Conference for Industry and Education Collaboration (CIEC), 2025.

Dr. Hossain Ahmed served as a moderator for the Engineering Technology Division (ETD) session “ETD 435: Increasing Role of AI in STEM Education Impacting U.S. Industry” at the 2025 ASEE Conference for Industry and Education Collaboration (CIEC).

Dr. Mahesh Pallikonda: Textbook – Electricity & Electronics 12th edition <https://www.g-w.com/electricity-and-electronics-2026>;

Book chapter – Prospects of biochar for boosting crop productivity and soil sustainability – ScienceDirect

Dr. Md. Ali Haider organized a Workshop "Advancing STEM learning focused on Hardware Programming Experiences for 6-12 grade Students" for middle and high school students, in collaboration with The Department of Engineering Technology and the APSU GIS Center (June 2-5, 2025).

#### GRANTS:

ET faculty applied for several grant proposals, including TAF, that were funded for Fort Campbell and Clarksville. The department used the funds to maintain manufacturing equipment, renew the maintenance contract, and purchase new equipment to support more hands-on labs. They are:

(a) SASI Grant (Pallikonda): During Fall 2024 and Spring 2025, as part of the ET department's ongoing SASI grant-supported initiatives, the Technology Fusion Club (formerly TLC) led several impactful events to enhance student learning and industry engagement. In celebration of the National Manufacturing Month (Fall 2024), the club coordinated two insightful plant tours and hosted three guest lectures featuring regional industry professionals. These sessions provided our students with firsthand exposure to modern manufacturing practices and workforce expectations.

Building on this momentum, the Spring 2025 semester featured another enriching series of three alumni guest lectures—"Careers in Industry"—where alumni from APSU's ET program returned to campus to share their journeys, offer career guidance, and inspire our freshman cohort. These events were designed to support student success by offering developmental opportunities that foster engagement, exploration, and a strong sense of belonging. They empowered all Governors to become self-advocates in pursuing their academic and career aspirations.



SASI Grant Initiatives in collaboration with the regional industry



(b) Co-STEM Innovative Teaching Mini-Grant 2024 – Pallikonda, Ahmed, and Alberd

(c) In August 2025, the Department of Engineering Technology, working in collaboration with the Department of Physics, Engineering, and Astronomy, was awarded a National Science Foundation RED Planning Grant in the amount of \$150,000. Professors Ravi Manimaran, Jody Lee Alberd, Emmabeth Vaughn, and Alex King will lead efforts during the two-year period (2025-27) to develop innovative strategies that strengthen student pathways, foster cross-disciplinary collaboration, and align programs with industry needs.

(d) Professor Jody Lee Alberd, working in collaboration with Drs. Mike Wilson and Cody Covington, has been awarded a NASA grant of \$261,019 for the project *Community Air Mobility for Public Utilization in Support of Healthcare (CAMPUS)*. This three-year project will explore innovative air mobility solutions to address healthcare delivery disruptions in rural and underserved communities.

# The Aviation Science Program

## AVIATION GRADUATES:

Spring 2024 graduates - Anthony Mannon, Julian Cisneros, Jeremy Head, Havin Heytvelt and Brett Smith are employed as flight instructors; Raymond Johnson is employed as a tour pilot.

Summer 2025 graduates - Lynsee Koch, Michael Koch, Alexander Pappas, and Jacob Sierakowski.

## OUTREACH EVENTS:

|                                    |                |
|------------------------------------|----------------|
| Rossview High School Aviation Expo | Sept. 17, 2024 |
| Christian County Career Expo       | Jan. 29, 2025  |
| Montgomery Parks and Rec Egg Drop  | April 12, 2025 |
| Career Fair at Middle College      | April 21, 2025 |

## SPEAKER:

Science on Tap: Rotor Magic: The science that defies gravity, May 6, 2025 - Charles Weigandt

## ACCREDITATION

On May 19, 2025, the Bachelor of Science in aviation science entered candidate status with Aviation Accreditation Board International (AABI)



Pictures taken during the Egg Drop Event.



IAB members received plaques for their roles as co-chairs and their continuous contributions to the ET Industrial Advisory Board – Fall 2024

## Engineering Technology (ET) Department

**RAVI MANIMARAN**  
Professor & Chair

### Faculty:

Hossain Ahmed  
Jody Alberd  
Matthew Anderson  
John Blake  
Md. Ali Haider  
Mahesh Pallikonda  
Charles Weigandt (Aviation)  
James Gallagher (Aviation)

### Staff:

Andrew Bachmann (Lab. Technician)  
Crystal Erdmenger (Academic Assistant)  
Jerry Gray  
(Director of Aviation Maintenance)  
Kristina McDowell  
(Aviation Operations Coordinator)

### Student Workers:

Jackson Peer  
Jamieson Nunley  
Jimmy Lemus  
Calleway Schmidt  
Savannah Williams

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