

## National Center for Autonomous Technologies

ncatech.org | ncat@northlandcollege.edu



# THINK AUTONOMOUS

## Message from the **Director** **Jonathan Beck**



October 2021

### ***O\*NET Database Updates***

NCAT's continued collaboration with education, industry, and government has recently led to updating the U.S. Dept. of Labor's O\*NET database, addressing careers impacted by autonomous technologies. This database is critical for educational institutions seeking the resources required to develop programs in advanced technologies.

### ***Defining Skills Standards***

Through partnerships with organizations such as ASTM International, NCAT has helped define new, consensus-based, skill standards for Unmanned Aircraft Systems technicians. NCAT's recommendations will help inform the 942 community colleges across the nation, on the skills and education necessary to meet the future demands of the Autonomous Technologies Technician workforce.

### ***Feature Stories - UAS Leaders***

In a feature article, we hear about how the skills Tyler Beckman received during his time at Northland, have led to amazing opportunities with industry leaders and Northland partners such as Northrop Grumman, on some of the latest state-of-the-art technologies. In addition, at the last FAA-CTI meeting, we also heard from Rob

Corbett, a USAF veteran who has dedicated his life to educating and training individuals of all abilities.

### ***Congratulations!!***

A special note and congratulations to the Great Plains Technology Center in Oklahoma, winners of the Drone Safety Week TRUST Certification Challenge hosted by NCAT. Also, congratulations to the MATE Underwater ROV World Competition Champions - Jesuit High School from Carmichael, CA, North Paulding High School from Dalla, GA, Macau Anglican College from Taipa, Macau, and The Center for Robotics Development from Vladivostok, Russia. Your accomplishments are an inspiration.

***As always check out the opportunities to connect and learn within our community through the mentoring networks, workshops, STEM Camps!***

## **What's Your Story?**





FLIGHT TAKES MANY FORMS

## Rob Corbett's Story

Rob Corbett is an Inclusive Flight Advocate and USAF veteran from Waynesboro, Virginia. After suffering a catastrophic spinal cord injury in 2016, Rob has donated his time to educating and training individuals of all "abilities" in assistive technology, vocational skills, and adapted sUAS operations.

Rob is paralyzed from the chest down and has no finger function in his hands. Through many hours of research and development, Rob has found many solutions in adapting sUAS controllers and systems. Through that research, Rob has developed a fully inclusive drone training program based around the Skydio 2 platform.

[Read Rob's Story](#)

## Alumni Feature





## Alumni Feature: Tyler Beckman

NORTHLAND COMMUNITY & TECHNICAL COLLEGE

Let's take a minute to talk about alumni! This story features Northland Community & Technical College alumni, Tyler Beckman. Beckman attended Northland as one of the first students to be enrolled in the Unmanned Aerial Systems Maintenance Certificate program, graduating in 2012.

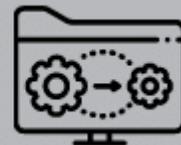
Individuals like Beckman are the reason drone technology is where it is at today. A supporter of education, and specialist in the drone industry, Beckman's career has flourished - supporting some of the world's most advanced products.

Story's like Beckman's are what drives the Northland and NCAT team to carry out their mission of preparing students with the knowledge, skills, and abilities to be successful in their future career endeavors.

[Read Tyler's Story](#)



## Center Activities



# That's a Wrap On Drone Safety Awareness Week!



# CONGRATS!

## Great Plains Technology Center

As a part of the FAA's Drone Safety Awareness Week, we hosted a giveaway that encouraged middle school, high school, and college-level educators to have their students take the online test to receive their TRUST certificate. By their class participating, they were entered into a drawing for NCAT swag and a day with our Drone Subject Matter Expert - Zackary Nicklin!

Overall there were 125 students that earned their TRUST certificate! Participants were from around the nation, including Georgia, Oklahoma, Minnesota, Idaho and Maine. Ms. Brown's class from Great Plains Technology Center in Oklahoma won the giveaway.

We thank all of the educators, students and schools who participated! Let's keep those skies safe! #FlySafe



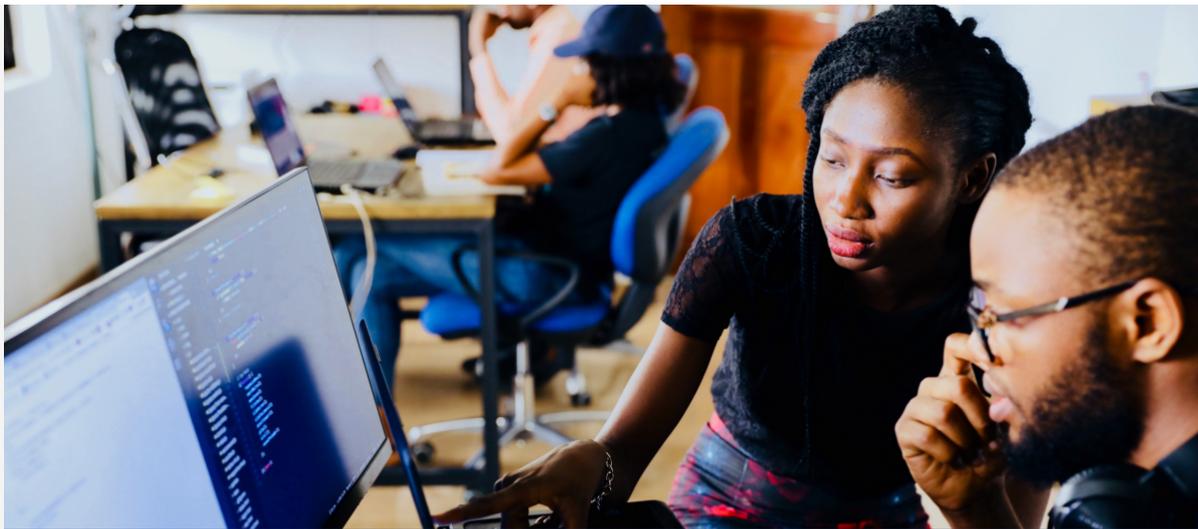
## NCAT Participates in the 2021 Girls In Aviation Day Activities

The National Center for Autonomous Technologies was excited to join the Girls in Aviation Day held at Flying Cloud Airport in Eden Prairie, MN! The event is dedicated to lowering traditional barriers and inspiring the next generation of female aviators, mechanics, business managers, and operations personnel.

The event was super successful, with 1099 attendees interacting with industry professionals across the aviation spectrum. NCAT brought its drone cage, drone simulators, virtual reality headsets, and thermal-capable industrial drone to show attendees the exciting future of unmanned aviation and career opportunities within the two-year technician sector.

Although an international event, the Eden Prairie site is the biggest GIAD event in the world! Attendees had over a dozen hands-on STEM learning activities and interacted with over 20 booths including NCAT, USAF, the Ninety-Nines, Delta Airlines and the University of North Dakota.

*Girls* ✈️  
**IN AVIATION DAY**  
A Women in Aviation International Event



## Grant & Mentorship Opportunities Webinar with Mentor-Connect

HOSTED BY NCAT || SEP 2021

On September 15, 2021, NCAT joined forces with Mentor-Connect's Elaine Craft to inform the UAS-CTI participants and two-year college faculty about the NSF Advanced Technological Education (ATE) funding opportunities that are available.

Mentor-Connect is funded through the NSF ATE program and facilitates knowledge transfer from the more experienced to the less experienced. Elaine Craft, PI for Mentor-Connect presented information on cost-free, one-on-one assistance offered to faculty, administrators, and grant writers to increase their capacity to submit a competitive ATE grant proposal.

Overall, there was great participation and we anticipate that Mentor-Connect will be receiving a good amount of applications for Cohort 10 of their program! The webinar was recorded and can be reviewed on NCAT's website, along with links to NSF ATE and Mentor-Connect information.



[ncatech.org/about-ate](https://ncatech.org/about-ate)



## Nitro-X Camp Highlights

MN TCOE || SUMMER 2021

This year Nitro-X looked a little different, normally hosting seven camps in Minnesota, but due to campus restrictions from COVID-19, only three were able to run.

Although a small number, the camp was revamped and a brand new camp was hosted in Albert Lea! The new camp format includes a one-day camp where students, along with their families can experience a race day and other typical Nitro-X activities.

Take a look at the camp highlights and photos!

[Read More](#)

**NITRO**X



## Winners from the MATE World Championship ROV Competition

HOSTED BY NCAT PARTNER, MATE INSPIRATION FOR INNOVATION

"In a competition season still impacted by COVID-19, we were grateful to have been able to offer our global student community the opportunity to showcase their talents and innovations. From the 28 teams that made the trip to Eastern Tennessee to the 25 teams that participated in the telepresence category, I am so impressed and proud of the students and the resilience and persistence they demonstrated. In my view, all 53 teams are winners," said Jill Zande, Executive Director and President of MATE Inspiration for Innovation (MATE II).

[Read More](#)



## UAS-CTI School Spotlight





FARMINGTON, NEW MEXICO

### Institution Fun Fact

San Juan College was founded in 1956 as the Farmington Branch of New Mexico College of Agriculture and Mechanical Arts. All classes were initially taught by part-time instructors during evening hours in facilities at Farmington High School. From its modest start in 1956 with 25 students, the college now has a fall credit enrollment of more than 11,000 students!

### UAS Program Info

The Small Unmanned Aircraft Systems (sUAS) certificate and degree at San Juan College offers students the education and skills to gain current FAA licensure and to qualify for employment positions as sUAS/Drone Pilots, Operators, Observers, Sensor Operators, or Operations Administrators among other positions. Students gain hands-on experience operating and maintaining drones.

### Offerings

Associate in Applied Science in Small Unmanned Aerial Systems  
Small Unmanned Aerial Systems Certificate

[ncatech.org/san-juan-college](https://ncatech.org/san-juan-college)

# Upcoming Events





**7**  
**OCT**  
**Zoom**

2 PM - 3 PM CST

**Connected by  
Drones** **WEBINAR**

*Keynote Speaker: Lance Brady, USGS*

Hosted by: 

**UAS SUMMIT  
& EXPO**  
a UAS magazine event

**13-14  
OCT**  
*Grand Forks, ND*

# UAS Summit & Expo

*NCAT is sponsoring the 2021 UAS Summit & Expo and will be sharing a booth with Northland Community & Technical College!*



**NIST**



**NIST sUAS Standards  
Test Methods  
Proctor Course**

**14-16**  
**OCT**  
Niceville, FL

8 AM - 5 PM

**5-7**  
**NOV**  
Glendale, CA

8 AM - 5 PM

**18-20**  
**DEC**  
Grand Forks, ND

8 AM - 5 PM



**National UAS**  
Training and Certification Center

**14  
OCT**

*Virtual Event*

# Unmanned Systems Academic Summit



**18-22  
OCT**  
*Virtual Event*

# 2021 ATE Conference

*Broadening Impact Through Innovation*



## Industry News

# Standards and Synergies in the Autonomous Technologies Technical Workforce

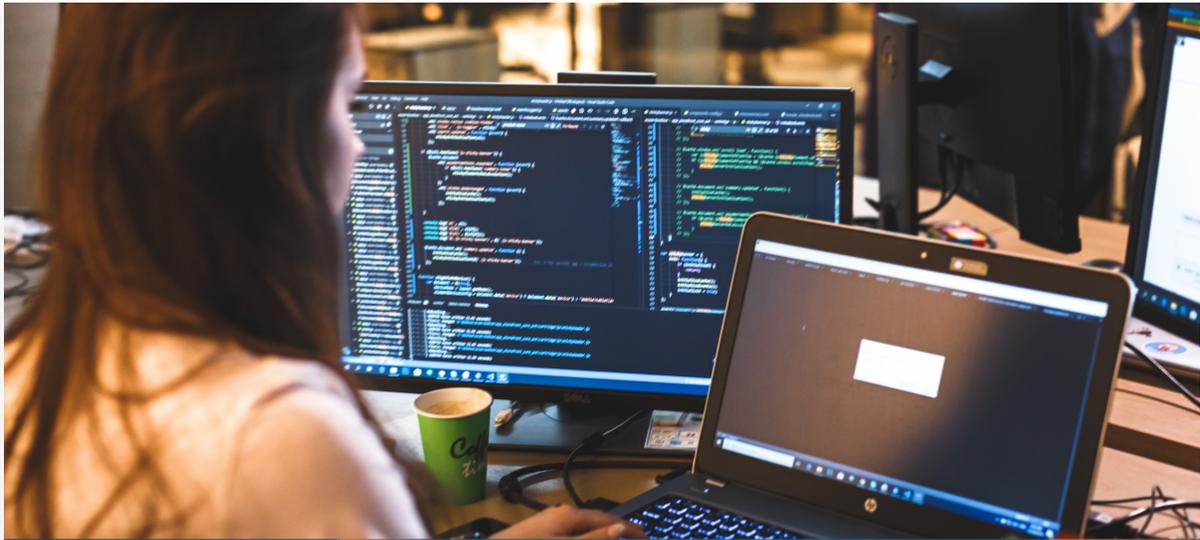
WRITTEN BY ZACKARY NICKLIN, NCAT CO-PI || OCT 2021



The Northland and NCAT Unmanned Aircraft Systems (UAS) team has been hard at work with several initiatives that have the potential to impact multiple autonomous technology industries.

The first initiative is being done in collaboration with ASTM, formally known as American Society for Testing and Materials. ASTM is an international standards organization with offices in six countries and over 12,000 standards currently in use, worldwide. ASTM uses groups of subject matter experts to produce consensus-based standards for many different industries, to include the Aerospace Industry.

[Read More](#)



## 2021 Machine Learning - Computer Coding Challenge

MATE ROV COMPETITION | MICROSOFT PARTNER CHALLENGE

### Your Mission

*Harness the power of cloud computing to identify and quantify organisms in benthic video transects. Start with pre-built Artificial Intelligence (AI) models to take it to the next level by building your own machine learning (aka coding) models.*

With those words, the MATE ROV Competition challenged students around the globe to use the Microsoft Azure AI Platform to create computer programs capable of evaluating marine organisms in benthic video transects. This was the second time the MATE ROV Competition and Microsoft partnered on a project designed to expose students to machine learning and encourage them to understand and apply AI to solving real-world, ocean-related problems.

[Read More](#)



# Collaboration Efforts Will Provide Updated UAS Occupational Information

WRITTEN BY FEDERAL AVIATION ADMINISTRATION || OCT 2021



## Background

A concern for lack of UAS job data was discussed during the Unmanned Aircraft Systems-Collegiate Training Initiative (UAS-CTI) kick-off meeting last year. This resulted in a praiseworthy collaboration between professionals from industry and academia, U.S. Department of Labor, O\*NET, U.S. Department of Education, U.S. Department of Transportation and the FAA to address this concern.

Why is job data important? This data helps colleges and universities justify the creation of new UAS programs and sustain such programs.

[Read More](#)



This material is based in part upon work supported by the National Science Foundation (DUE 1902574).

**National Center for Autonomous Technologies**

13892 Airport Drive  
Thief River Falls, MN 56701  
ncat@northlandcollege.edu  
ncatech.org

[Unsubscribe](#) | [Manage your subscription](#) | [View online](#)

