


Civil Air Patrol National Aerospace Education Teacher of the Year

CAP Form 50-3 Nomination Form

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|--|----------------|---|--------------|
| Nominee (Last Name, First Name, Initial) Panus, Julie S. | | CAPID # | Cell Phone # |
| Home Address | | City, State, Zip Code Warren, NH 03279 | |
| | | E-mail Address | |
| Formal Education: | | | |
| College/University | Dates Attended | Degree | |
| Plymouth State University | 2013-2014 | MEd - Curriculum/Instruction | |
| Fitchburg State College | 1986-1990 | BSEd- STEM/Engineering Ed. | |
| UMASS - Amherst | 1992-1994 | MEd (Candidate) Math Ed. | |
| Teaching Positions (list 3 most recent): | | | |
| 1. Title: K-8 STEM Specialist/Teacher (Since 1998) | | | |
| Name and Address of School | | Grade Level/Discipline | |
| Plymouth Elementary School; 43 Old Ward Bridge Rd. Plymouth, NH 03264 | | K-8 STEM/Engineering; all grades, all students | |
| 2. Title: STEM/Technology Education (1994-1998) | | | |
| Name and Address of School | | Grade Level/Discipline | |
| Littleton Regional MS/HS; 159 Oak Hill Ave. Littleton, NH 03561 | | Grades 6-12: General Technology Education/STEM | |
| 3. Title: Aerospace Teacher (Summers: 2016-current) | | | |
| Name and Address of School | | Grade Level/Discipline | |
| WinnAero: ACE Academy c/o Laconia Airport 65 Aviation Way; Gilford, NH 03249 | | Middle School: Space/Rocketry and Aerospace Engineering | |
| Honors and Awards Received by Nominee (list top 5): | | Date of Honor/Award | |
| 1. ITEEA Wilkinson Meritorious Service Award (for service to the  | | 2021 | |
| 2. CAP NH Wing Aerospace Education Officer of the Year | | 2019 | |
| 3. ITEEA - New Hampshire STEM Program of Excellence | | 2018 | |
| 4. NH AFA Aerospace Educator of the Year | | 2017 | |
| 5. ITEEA Elementary STEM Council Mary Margaret Scoby Award | | 2022 | |
| Professional Organization Affiliations and Activities to Improve Educational Performance (Attach one additional sheet if necessary. This will not be counted as an additional page in the overall package, if noted as additional to CAP Form 50-3.) | | | |
| Please See Attached page titled "Professional Organization Affiliations and Activities to Improve Educational Performance" | | | |
| Nominated By (can be self nomination) <small>William J. Moran, Jr. CAP/Col.</small> | | Title Commander NER-NH-056 | |
| Nominator's Contact Information (If other than nominee): | | | |
| Cell Phone | | E-mail Address | |

Section One: January 2023

Captain Julie (Sicks) Panus, CAP distinguishes herself with outstanding performance to her K-8 students, Hawk Composite Squadron, and the New Hampshire community as certified teacher, Aerospace Officer and the NH Wing CAP Director of Aerospace Education. Captain Panus is a fantastic person and teacher, and demonstrates a high level of initiative, enthusiasm, and teaching ability that excites our youth in the fascinating fields of aerospace.

CAP High Altitude Balloon Challenge (HAB): For the 2022 National CAP HAB Challenge, Julie was the Judging Chair. Drawing on her 30 years as a STEM educator, and 25 years' experience with requirements and rubrics for student competitions with the Technology Student Association, she researched, developed, and wrote the requirements and rubrics (scoring criteria) which were used by the National Judging Team to judge all the entries for the 2022 National CAP HAB Challenge: Pre-Launch Video, Mission Patch, Post-Launch Video and Science Poster. This qualifies as a one-time project of such significance that it has a major impact on the teaching of aerospace education as it applies to CAP Cadets nationwide and will be used for years to come.

Julie (who did not serve as a judge, since her squadron was competing!) guided Hawk Squadron Cadets to a 4th place finish overall out of 180 entries and a 4th place in Mission Patch.

As the newly appointed NH CAP Wing Director of Aerospace Education, she planned and organized the 2022 AE Weekend where 37 Cadets earned their Model Rocketry Badge.

Julie started a new Robotics team at Plymouth Elementary School, and with grant funding, her STEM program acquired VEX IQ robots and 25 students, new to robots, are now able to compete in an additional robotics competition arena. Other students have worked with Lego robotics for several years and students continue to compete in Systems Control Technology event using the Lego robotics. This means there are now over 45 students in grades 4-8 (12% of the student population) working on, and competing in robotics.

Julie is leading STEM teachers across the US in developing materials to enhance the teaching of aerospace. She participated in the International Technology and Engineering Educators Association (ITEEA) collaborative team on a major revision and update to the teaching standards used by K-12 STEM teachers across the nation. The ITEEA STEL (Standards for Technological and Engineering Literacy) were published in 2020, and are in use nationwide.

Julie has national outreach with her annual presentations at the ITEEA Annual Conferences on resources available for Educator Members in Civil Air Patrol. Her presentations reflect positively on the organization and all that CAP can offer Educators with aerospace education. Additionally, for the past 5 years (and planned for the 2023 Conference), at the request of the organization, Julie and a colleague present a 4-hour hands-on Pre-Conference Elementary STEM Workshop.

Julie is a leading educator of summer Aviation Career Education (ACE) camps for the nonprofit Aviation and Aerospace Educational Center at Winnepesaukee, known better as "WinnAero" (winnaero.org). This exceptional program attracts youth throughout the country as it enters its 14th year.

In 2021 and 2022, Julie was Co-Chair for the committee that updated and revised the New Hampshire State Technology and Engineering Curriculum Standards.

For all the accomplishments listed above, Julie Panus is a strong and accomplished candidate for the Award of Civil Air Patrol Aerospace Education Teacher of the Year. Her unwavering focus on STEM and aerospace education benefits students and is critical in developing our Aerospace leaders of the future, she has brought great value to Civil Air Patrol and her community.

Respectfully Submitted,

William J. Moran, Jr. CAP/COL Commander NER-NH-056

WinnAero ACE Academies
C/O Laconia Airport
65 Aviation Way
Gilford, NH 03249



January 12, 2023

To whom it may concern,

It is a pleasure for me to write this recommendation on behalf of Julie Sicks-Panus, for **Civil Air Patrol Aerospace Education Teacher of the Year**. I've known Julie for over 20 years and have worked with her in a variety of capacities on the local, state, regional and national levels of the Technology and Engineering educator's community.

We have served together in a variety of capacities on the New Hampshire and New England technology education leadership teams. New Hampshire is a small state and there is rarely more than one Technology & Engineering teacher at a particular school. Professional Learning Communities and curriculum work always includes teachers from a variety of schools. I've been very fortunate to have Julie as a member of my PLC. We have worked together in the past on updates to the NHTEA Curriculum Guide and this year we co-chaired the group for the latest update. As a member of the ITEEA task force that met to update the Standards for Technological & Engineering Literacy, her insights made her an invaluable resource.

Nine years ago, I invited Julie to be an instructor at our Aerospace Career Education (ACE) Academies summer program. At ACE Academy, Julie instructs our middle school engineering and our space academy students. It's during these sessions that I've been able to observe her working directly with students, developing activities, coordinating with other staff members and advising new staff. She is quick to learn new techniques and adapts easily to incorporate best practices into her teaching style. Even though she sees these students for only one week, she cares about their welfare, successes and failures as if they were her full year students at Plymouth Elementary School.

ACE Academies are constantly revising and expanding our programs and we couldn't do so without the participation and input from instructors such as Julie. She has become a valuable member of the WinnAero/FAA ACE Academy Team and we are proud to have her as a colleague and friend. The selection of Julie Sicks-Panus as the 2023 CAP Aerospace Education Teacher of the Year will provide CAP with an excellent spokesperson for Aerospace Education.

If you require further information, please contact me at dan.caron@winnaero.org.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dan Caron'.

Dan Caron

WinnAero Director of Education Services & ACE Academy Director
Gilford High School Technology & Engineering

Civil Air Patrol AEM Teacher of the Year 2013

Engineering byDesign Author, 2005-2011

ITEA/ITEEA Program Excellence, 1982, 1998, 2003, 2013, 2019

AFA Teacher of the Year 2004

ITEA Teacher Excellence, 1988

05 January 2023

To whom it may concern:

My name is Darlene Cray, Maj, CAP, and I am writing to you on behalf of Capt Julie Panus.

I have known Capt Panus for the past 11 years, through my affiliation with the Civil Air Patrol and her affiliation with the WinnAero ACE Academy.

Capt Panus exemplifies not only the warranted skills of an Aerospace Educator, but is a model of the Core Values of Civil Air Patrol. She is respectful of her peers, students, Cadets, and fellow Senior Members by the way she approaches the classroom and meets with Cadets to provide additional support. She displays integrity by not taking shortcuts in her work and plans for cadets during meetings. She Volunteers her time and resources to ensure that her students and cadets have supplies for activities, extra time before meetings and after school for additional help, and displays the core value of Excellence by presenting a curriculum that is truly professional. Moreover, Capt Panus possesses a positive attitude that is contagious, she has the ability to think critically and maintains a level head when faced with a challenge.

I first met Capt Panus when she was an instructor for the WinnAero ACE Academy which my son attended. I saw firsthand the enthusiasm that Capt Panus generated with students when teaching Aerospace Education and introducing young people to Civil Air Patrol, as she was at that time an Aerospace Education Member. As a result, my son became fascinated with Aerospace Education and could not wait until his next opportunity to both attend the Academy and to join CAP. Shortly after that, Capt Panus began attending Squadron Meetings. Capt Panus used her skills as both an Educator and Aerospace Education Member to completely transform the way that we approached our Aerospace Education Meetings. The meetings changed from didactic presentations to hands on activity events where our cadets left learning new skills and desiring more. Capt Panus also included additional classes for our Cadets to show them how to approach learning, how to study, and added opportunities for Cadets to obtain help with testing prior to meetings. Not only did the Cadets feel satisfied, but Capt Panus also chose to become a full member in our Squadron. As a Squadron Commander I noticed significant improvements. As a result of the transition in the way the meetings were held, our Squadron participation increased from approximately 6 cadets attending each meeting to approximately 25 Cadets attending each meeting within a year. Not only were they attending, but due to the additional support around Aerospace Education and basic teaching methods, our Cadets were actively promoting in all phases of the program. Capt Panus never misses an opportunity to share her Civil Air Patrol experience with incoming members, her school education colleagues, conferences, students, etc.

As well as continuing the above, Capt Panus currently assists with additional activities such Aerospace Weekends, Train the Trainer Aerospace Education Days, Aerospace Education Officer Technician in a Day, and Mentoring Senior Members through their Aerospace Education Specialty tracks. Capt Panus earned her Master Rating in Aerospace Education in 2018. As a mentor, Capt Panus challenges her mentees seek new and exciting opportunities. She is thorough, welcoming, and supportive, which encourages them to advance. She never asks anyone to do what she is not willing to do herself.

On a personal level as a parent, I watched Capt Panus as she assisted my son in the Squadron during his years as a Cadet from 2012 to his transition to Senior Member in 2019. Capt Panus encouraged him, assisted with studying skills, and motivated him through times that he wanted to give up. Even though those times were challenging for him, due to a learning disability, he not only promoted to C/LtCol in CAP but used the skills that she provided in his schooling as well.

It is my hope, from some of the examples that I have shown, that you will determine that Capt Panus embodies the commitment and standards necessary to be considered for this award.

Respectfully,

Darlene A. Cray, Maj, CAP
New Hampshire Wing Civil Air Patrol
Director of Education and Training

Heather McKenny
Plymouth, NH 03264

January 17, 2023

To Whom it May Concern:

I am honored to support the nomination of Julie Sicks-Panus for her outstanding accomplishments in promoting Aerospace Education in the classroom and in the community. My 13-year-old daughter has had the exceptional opportunity to have Julie as a mentor and teacher since she started kindergarten at Plymouth Elementary School (PES) eight years ago. Julie is an incredible role model for young women in STEM fields and a great teacher.

Julie embodies a unique ability to get kids excited about engineering processes, aerospace, and topics that can be a tough sell. She provides an outstanding learning environment for all kids, K-8, at PES through engaging, challenging, and fun STEM activities.

My favorite is the egg drop challenge for 5th grade that integrates engineering with English Language Arts. With Julie, the kids study forces of flight, Bernoulli's Principle then design and build a wing to attach to a fuselage that flies tethered around a power-pole. Then kids add weight to see how much they can lift. Integrated with science, the kids develop a vessel to "deliver" an egg from an airplane to help support a remote village. The project is based on the story City of Ember. In the end, they get to test their "egg drop" design at a small local airport where they see them dropped from a plane. The kids love it!

My daughter used to have a tough time when she could "see" what she was trying to construct but didn't have the skills to make the vision real. Through Julie's exemplary teaching, she taught my daughter to really enjoy the trial and error that is engineering. My daughter was thrilled when she reached 5th grade and was old enough to join the Technology Student Association (TSA) chapter that Julie leads at school. She and Julie have developed a wonderful relationship that is founded on mutual respect. Julie saw in my daughter leadership potential and recognized a passion for helping others as well as a skill for working through her own challenges. Julie has found so many ways to encourage my daughter to develop that potential. For example, Julie recruited my daughter to become a New Hampshire TSA State Officer. The leadership and organizational skills my daughter is learning through that role are fabulous. Julie also encouraged her to team up with younger TSA members and help with the VEX Robotics 3rd and 4th grader club Julie started. Through Julie's mentoring and support, my daughter is becoming a solid role model for young women in STEM and a good teacher. With Julie's support and confidence in her, my daughter is having a great time with the challenges of tackling projects for the competitions and working with her teammates and the younger kids.

My daughter has attended WinnAero ACE Academies the last two summers and is thrilled to be signed up for Space Academy this year. Julie is among the group of ACE instructors that have a passion for teaching kids aerospace technology. I'm always impressed watching the collaboration between instructors, the deep respect they have for each other, and the fabulous environment they create for the kids to learn some big topics like aerospace manufacturing and air traffic control. Julie is an integral part of this partnership. As a carpool mom, it is always super fun to hear the kid's excitement at the end of each day as they share the day's experiences. This is another example of the outstanding environment that Julie creates with her students and peers. She is an inspiration to kids, making them want to learn more about aerospace and possibly even enter it as a career.

Julie is an exemplary teacher, exceptional role model for young women, and an inspiring individual that gives an incredible amount of herself to her students and her community. I am thrilled to support her nomination for outstanding accomplishments in promoting Aerospace Education in the classroom and in the community.

Sincerely,
Heather McKenny

Section 4: Photos and Descriptions



2022 NH Wing AE Weekend: 35 Cadets earned their Model Rocketry Badge.



ACE Academy Space Group visits the New Boston Space Force: Space Base Delta 1.



Pictured with LT Brendan Drew, US Naval Aviator, my former elementary student, ACE Academy student and CAP Cadet.



Presenting information and benefits of becoming a cadet in the Civil Air Patrol to ACE Academy students.



Presentation of the 2019 NH Wing CAP Aerospace Education Officer of the Year.

Presentation of the 2022 ITEEA Mary Margaret Scoby Award for Excellence in Elementary STEM Education.





Hawk Composite Squadron: working on the 2022 CAP HAB Challenge. Cadets chose to study effects of High Altitude on seeds. Their project earned a 4th Place overall!

Hawk Composite Squadron: Final Picture before submitting 2021 CAP HAB Challenge



4th Place Mission Patch 2022 CAP HAB Challenge



Hawk Composite AE Lesson: Straw Rocket Launches! Cadets learn basics of rocketry with small, simple air powered rockets that are quick and easy to launch and re-launch as they improve their designs.

Plymouth Elementary School: Grade 5 Flight: Students flying the wings they have designed and shaped, they fly around a power pole on a provided fuselage, then add weight to test the efficiency of their designs.



PES Grade 4 students launching air-powered rockets. Students explore forces of flight and Newton's Laws of Motion. (right)



Plymouth Elementary Grade 1: Math enrichment with straw rockets. What angle makes the rocket fly furthest? Students practice identifying angles, counting by 5's, comparing, graphing. (above)



Plymouth Elementary School:
Some of the new VEX IQ
Robotics Team at their first
competition!

Section 5: Optional Extra Documentation

From: Technology and Engineering Teacher - Volume 79, Issue 6 - March 2020

2020 leaders to watch



Those who have contributed to the technology and engineering education field for many years are known for their teaching, written work, presentations, research, and recognition received from professional groups. The selected individuals who are highlighted here have shown outstanding leadership ability as educators early in their careers.

This list is by no means inclusive. There are many other professionals in the field with similarly impressive qualifications.

Individuals who want to recognize other technology and engineering educators with outstanding qualifications should forward their vitae and a sponsoring letter to ITEEA for consideration.

The leaders of our field are our future; we should promote and encourage them to realize their potential.



Julie Sicks-Panus

*K-8 Integrated STEM Educator
Plymouth Elementary School
Plymouth, NH*

Julie Sicks-Panus is the K-8 STEM Teacher/Specialist for Plymouth Elementary School in New Hampshire, a position she has held for the past 22 years. Ms. Sicks-Panus

brought the PES program from the more traditional industrial arts/tech ed program inherited when she started at PES into a professional Integrated STEM program. Julie works with classroom teachers to identify concepts and theories that she then targets with engineering design challenges. She works with classroom teachers—but often asynchronously meets students on a different schedule than their classroom teacher—weaving together the content and skills the students need when they present to experts during their STEM Showcase each spring.

Ms. Sicks-Panus designed and implemented the K-5 STEM program after the school voted to expand from a Grades 6-8 program to include the younger Grade 7 students years ago. This work has been a highlight of Ms. Sicks-Panus' career—the joy and confidence the younger students experience when they "make it work!" is reward she thrives on. She strives to find engineering design challenges that are relevant in both content and the students' lives, will stretch their capabilities—but not be impossible. This gives her students a path to increasing their own abilities and confidence as they grow through the K-8 STEM program at PES. The PES STEM program was recognized with ITEEA's Program Excellence Award in 2018.

Ms. Sicks-Panus has been a TSA Advisor for nearly 26 years, coaching students at Littleton (NH) MS/HS prior to bringing

TSA to Plymouth in 1998. She has coached countless students to NH State TSA Conference, and taken her chapter to several National TSA Conferences, with many of those students earning TSA National Finalist pins. Ms. Sicks-Panus was honored with a NH TSA Advisor of the Year Award in 2011, and a TSA Chapter of Excellence Award in 2013.

Four years ago, Julie also began volunteering as the Aerospace Education Officer for the Civil Air Patrol with Hawk Composite Squadron (NER-NH-056). Since then she has developed aerospace lessons for CAP Cadets, worked with the NH Wing Aerospace Weekend to teach model rocketry, and presented aerospace workshops at the annual NH Wing Conference. She has earned her Master Rating as a CAP Aerospace Officer and the Yeager Award. Additionally, she was chosen as the NH Civil Air Patrol Aerospace Education Officer of the Year for 2019.

In addition to her work presenting workshops and regular sessions for ITEEA conferences, and with the Elementary STEM Council (as treasurer), Julie has been active in promoting STEM education in NH through her involvement in the STEM-NH Executive Board and through presenting on Elementary STEM topics for district teachers' meetings and at the New England Association of Technology Teachers (NEATT) Annual Conferences. Ms. Sicks-Panus served as Secretary for NEATT for many years, as President in 2008, and as NEATT Conference Chair in 2007 and 2012.

During the past five summers, Ms. Sicks-Panus taught aerospace for a WinnAero ACE Academy, a local aerospace summer camp started by fellow ITEEA member Dan Caron. Teaching a Space Exploration Week and middle school aerospace engineering sessions inspired Julie to begin taking flight lessons also! Although she admits to not being very good at flying yet, she has found that learning something completely new and different as an adult pushes her capabilities and comfort level and gives her a renewed appreciation for how her students might approach learning something completely new.

Excerpts From: May 2021 CAP National Aerospace Newsletter

<https://myemail.constantcontact.com/May-CAP-AE-Newsletter---National-ACE-Awards-announced--important-reminders---more.html?soid=1133767797883&aid=wolUkNdjbTs>

May 13, 2021

Meet Capt. Julie Sicks-Panus. She is the Aerospace Education Officer for Hawk Composite Squadron in Laconia, New Hampshire (NER-NH-056). Capt. Sicks-Panus, who is also an assistant Director of Aerospace Education (DAE) for the New Hampshire Wing, joined CAP six years ago about a year after her son joined CAP as a cadet. In addition to her CAP career, she also is a veteran elementary school teacher. She has been the K-8 STEM teacher/specialist for Plymouth Elementary School for the past 23 years. She is a member of the International Technology and Engineering Educators Association (ITEEA) and has been recognized by that group as a "Leader to Watch." Whether it be working with cadets or working with her younger elementary students, she enjoys mentoring in AE/STEM. "AE is fun and engaging for all ages," she says. "It gives an exciting basis to teach scientific principles and explore engineering practices." Her teaching aerospace engineering lessons not only has had an impact on her students, but also on Capt. Panus-Sicks. It inspired her to begin flying lessons. We asked her some questions about CAP and her teaching career, and her answers follow.

How did you get involved in Civil Air Patrol?

My son thought he might like to go into an aviation-related field, and our school IT director at the time was involved with Hawk Squadron, my son went on to earn his Mitchell Award, but has since left CAP, but I have stayed!

Tell us about your career outside of Civil Air Patrol.

I am the K-8 STEM teacher/specialist for Plymouth Elementary School. I developed the program from the more traditional industrial arts/tech ed program that I inherited into the state of the profession integrated STEM program that it is now. I work with classroom teachers to identify concepts and theories that I then target with engineering design challenges. I also meet with students on a different schedule than their classroom teachers in order to weave together the content and skills the students need when they present to experts during their STEM Showcase each spring.

During the past six summers, I have taught aerospace for a WinnAero ACE Academy, a local aerospace summer camp started by fellow CAP senior member, 2nd Lt. Dan Caron. Teaching a Space Exploration Week and Middle School Aerospace Engineering sessions has inspired me to begin taking flight lessons. Learning something completely new and different as an adult pushes my capabilities and comfort level. It gives me a renewed appreciation for how my students approach learning something new.

Why do you work in and encourage youth in the Aerospace Education mission area?

AE is fun and engaging for all ages, it gives an exciting basis to teach scientific principles and explore engineering practices. Most projects or activities can be scaled to use with young children (K-2) all the way up through high school. Using a similar hands-on portion to talk about, explore and learn different parts of the systems, or the same parts in more depth. For example, I use paper-plate planes with my kindergartners to practice cutting and fine motor skills needed to assemble the plane. Then we fly them and watch what happens. We talk about basic airport areas (ramp, taxiway, runway, etc.) The students learn that planes do NOT fly on the taxiways! And on the runways, only one plane at a time! With older students, we explore pitch, roll and yaw with the control surfaces. And no matter where we are or what we are doing, we stop to watch planes overhead (and I will look them up on FlightRadar24 to see what they are!)

What's the best advice you have for a new AE officer working with cadets?

Don't expect cadets to enjoy sitting and listening to a lecture each week! That is so much like "school"! I work to have a small portion of AE Night, where we talk about the concepts and material they need, but then I strive to have a hands-on portion related to those concepts; take any and all hands-on activities and create a challenge. I rarely have them simply follow directions to build and end there. I have them follow directions to a point, then ask them to make it "better" somehow. I will occasionally give them directions to build something I know is only mediocre. I tell them this and then challenge them to make it better! Engaged learning can be messy, when cadets (or any students) are deeply engaged and building hands-on; it can seem chaotic and messy, but the results can be fantastic! Don't ever be afraid to admit you don't know something - but always be ready to help find the answer. I am not a pilot, but I love aerospace - I see my role as someone who gets them started and gets them excited, but I will readily admit I don't know it all. But I'm happy to help find the answers!

Professional Organization Affiliations and Activities to Improve Educational Performance

Capt. Julie (Sicks) Panus, CAP

Civil Air Patrol

Member since 2015
Aerospace Education Officer for NER-NH-056 since 2016
Director of Aerospace Education for NH Wing since 11/2021
Masters Rating in Aerospace Education
Yeager Award

International Technology and Engineering Association (ITEEA) www.iteea.org

Member since 1998

ITEEA Elementary STEM Council <https://www.iteea.org/About/Leadership/40079/ESC/163390.aspx#tabs>

Member since 2010

Treasurer for the Elementary STEM Council since 2017

ITEEA New Hampshire State Champion (serving as the NH Representative to ITEEA) since 2018

2022 Lemelson Foundation InventED Convening

<https://convening.inventioneducation.org/breakouts#h.n6358fr90apa>

I was invited by a group from Lemelson-MIT to co-present at the 2022 InventED Convening at the US Patent and Trade Office in Alexandria, VA. I was asked to talk about how I use engineering and design education to foster inventiveness and innovative thinking in my students.

ITEEA Standards Revision Committee, Elementary Representative.

2019 I was invited as the Elementary Representative to join a group of recognized experts in STEM Education at a retreat in Chinsegut, FL to kick-start the process of a major revision to the Standards for Technological Literacy (STL) into the Standards for Technological and Engineering Literacy (STEL). The group worked to break down and rebuild the standards into a document that will carry the profession forward. After our work in Florida, we continued to work virtually as the standards were rewritten and revised, culminating in their release in March 2020.

2021-2022 New Hampshire Technology and Engineering Committee to revise the state curriculum guide, Co-Chair. Along with 5 other STEM Experts in NH worked to update and revise the NH T&E Curriculum Standards. Myself and the Co-Chair had been part of both previous updates and revisions in 2008 and 2001.

ETS/Praxis

2021 Member of the Development Advisory Committee (DAC) for a new Elementary STEM Praxis Exam. Seven members regarded as experts in Elementary STEM were invited to the committee. As part of the DAC, I was charged with reviewing the National Standards from each of the STEM fields to determine test specifications and which standards would be assessed in a new Praxis exam for people seeking certification as an Elementary STEM Teacher.

2022 Member of the National Advisory Committee: The initial round of test specification were sent to leaders and practitioners of elementary STEM education nationwide, then I, along with the other 15 members of the NAC convened to make the final decisions as to which standards would be included and how each would be weighted in the final Elementary STEM Praxis Exam.

2022 Test Question Reviewer: Test questions written by ETS were sent back to the members of the NAC, I reviewed each of the 100 questions sent to me for final review as to their ability to assess the skill or standard desired. The ETS/Praxis Elementary STEM Exam is currently in pre-release validity testing.