

# INTERFACE

Journal of the WTEA

Volume 61

Number 2

Winter 2021 - 2022



## Technology Education: Building Wisconsin's Workforce

### SPECIAL FEATURES

- Energy Consortium
- WTEA Spring Conference News
- New TEE / SkillsUSA Leader



# WAZER

**Starting at  
\$7,999!**



**The world's first desktop waterjet.**

- Cut any material with precision
- Easy to set up and simple to use
- Hooks up to standard electric & water supply
- Web-based software that is fast & easy

**CONTACT US TODAY FOR A LIVE DEMO!**

**FIRST**   
**TECHNOLOGIES INC.**  
*Putting Education . . . FIRST*

Toll Free: 800-787-9717  
Phone: 262-753-6900  
Fax: 262-753-6901

Email: [info@firsttech.com](mailto:info@firsttech.com)  
[www.firsttech.com](http://www.firsttech.com)



## Support Our Advertisers!

First Technologies

Gateway Technical College

Goodheart-Wilcox Publisher

H2I Group

Inkworks

LAB Midwest

Machine Tool & Equipment

Wisconsin Technical  
College System

**Cover Design**  
by Howard Roloff  
[hroloff1@yahoo.com](mailto:hroloff1@yahoo.com)

# TABLE OF CONTENTS

## Feature Articles

### 12 Energy Consortium

WEWC promoting  
energy  
careers in  
Wisconsin



### 14 Meet Your New TEE Consultant

Jessa Dahmes  
also hopes to  
grow SkillsUSA



### 15 WTEA Spring Conference

Great speakers, sectionals,  
vendors, projects, & more



- 2 WTEA Board of Directors
- 3 President's Message
- 4 WTEA Board News & Dates
- 5 Vice-President's Message
- 6 VP Candidate for WTEA Board
- 7 UW-Stout & District G Reports
- 9 3D Printing on a Budget
- 10 Project Build: A Ring
- 11 WTEA Scholarship Info
- 16 Spring Conference Itinerary
- 17 Spring Conference Registration
- 18 Project Showcase Information
- 19 SkillsUSA Calendar
- 20 Autonomous Vehicle
- 21 WTEA Summer "Aviation" Tour
- 22 ChallengeUSA News
- 23 WATDA Teacher Institute
- 24 U.S. Navy: "Impact Influencer"



# TORMACH®

Tormach is a Wisconsin-based company

**We do what the big boys do,  
at a fraction of the cost!**

**Purchase your Tormach CNC products  
from **First Technologies**  
and receive these added benefits:**

- \* Full assembly & installation
- \* On-site product training and technical support
- \* Integration with existing design software

**FIRST**  
TECHNOLOGIES INC.  
Putting Education ... **FIRST**

**800.787.9717**

**[www.firsttech.com](http://www.firsttech.com)**



# 2021-2022 WTEA Board of Directors



**PRESIDENT - Dave Stroud**  
(C) 920-217-7439  
dstroud@ashwaubenonk12.org  
Ashwaubenon High School



**V. PRESIDENT - Bob Morehead**  
(C) 715-704-0850  
bmorehead@cwasd.k12.wi.us  
Chetek-Weyerhaeuser High School



**SECRETARY/TREASURER**  
**Michael "Mac" Chopin**  
(W) 920-478-3633 Ext 4158  
(H) 920-478-3881  
chopinm@waterloo.k12.wi.us  
Waterloo High School



**PRESIDENT-ELECT**  
**Doug Dimmer**  
(C) 262-388-0660  
ddimmer@cedarburg.k12.wi.us  
Cedarburg High School, Cedarburg



**EXECUTIVE DIRECTOR**  
**Joe Ciontea**  
(C) 920-904-2747  
(FAX) 920-239-8948  
joe.ciontea@wtea-wis.org  
WTEA Office: P.O. Box 531,  
Rhineland, WI 54501



**EXHIBIT COORDINATOR**  
**Tom Barnhart**  
(W) 920-492-2955 Ext. 2089  
(C) 920-615-1939  
tb.wtea@gmail.com  
Ashwaubenon High School



**PROGRAM COORDINATOR**  
**Steven Johnston**  
(H) 608-689-3033  
(W) 608-789-7700 x 3306  
johnston@mwt.net  
Logan High School, LaCrosse



**PROJECT SHOWCASE**  
**COORDINATOR - Steve Meyer**  
(W) 920-735-5668  
meyerst@fvtc.edu  
Fox Valley Technical College



**BUSINESS/ADVISORY**  
**TEAM LEADER-Bryan Albrecht**  
(W) 262-564-3610  
(C) 262-496-4592  
albrechtb@gtc.edu  
Gateway Tech. College



**DPI REPRESENTATIVE**  
**Jessa Dahmes**  
(W) 608-261-6334  
(C) 715-225-4784  
jessa.dahmes@dpi.wi.gov  
T & E Education Consultant  
Wis. Dept. of Public Instruction  
Wis. SkillsUSA State Director



**CESA REPRESENTATIVE**  
**Tom Martin**  
(H) 608-874-4414  
(W) 608-822-3276 x 242  
tmartin@cesa3.org  
CESA #3, 1300 Industrial Dr.  
Fennimore, WI 53809



**ITEEA REPRESENTATIVE**  
**Mason Pautsch**  
(C) 715-651-1028  
mpautsch@wisheights.k12.wi.us  
Wisconsin Heights High School



**WEBMASTER**  
**Michael Beranek**  
(C) 715-579-2273  
mkberanek@gmail.com



**UNIV. REPRESENTATIVE**  
**Duane Elfering**  
(W) 608-342-1120  
(C) 608-574-7889  
elferind@uwplatt.edu  
421 Pioneer Tower, 1 Univ. Plaza  
Platteville, WI 53818



**UNIV. REPRESENTATIVE**  
**Barb Bauer**  
(W) 715-232-5493  
(C) 715-672-5719  
bauerb@uwstout.edu  
355 Heritage Hall  
Menomonie, WI 54751



**DISTRICT A DIRECTOR**  
**Emily Fransway**  
(H) 715-459-4120  
(W) 715-684-3321 Ext. 4137  
efransway@bwsd.k12.wi.us  
Baldwin-Woodville High School



**DISTRICT B CO-DIRECTOR**  
**Brian Schiltz**  
(H) 715-453-2947  
(W) 715-453-2106  
schiltzb@tomahawk.k12.wi.us  
Tomahawk High School



**DISTRICT B CO-DIRECTOR**  
**Pete McConnell**  
(H) 715-536-2691  
mccConnell.pete@gmail.com



**DISTRICT C DIRECTOR**  
**Brennen Mickelson**  
(W) 920-755-3329  
(C) 920-323-7614  
bmickelson@mishicot.k12.wi.us  
Mishicot High School



**DISTRICT D DIRECTOR**  
**Jon Larson**  
(W) 920-788-7600  
jlarson@littlechute.k12.wi.us  
Little Chute High School



**DISTRICT E DIRECTOR**  
**Alan Mamerow**  
(C) 262-957-6022  
mameal@hamilton.k12.wi.us  
Hamilton School Dist., Sussex



**DISTRICT F DIRECTOR**  
**Eric Sutkay**  
(W) 262-359-8155  
esutkay@kUSD.edu  
LakeView Tech. Academy, Kenosha



**DISTRICT G DIRECTOR**  
**Stephen Hadfield**  
(W) 715-884-6412 Ext. 310  
HadfiSte@pittsville.k12.wi.us  
Pittsville Area School District



**DISTRICT H DIRECTOR**  
**Art Pronschinske**  
(W) 608-943-6312 Ext. 2017  
apronschinske@igs.k12.wi.us  
Iowa-Grant Sch. Dist., Livingston



**DIRECTOR AT LARGE**  
**Angie Arneson**  
(W) 920-833-7199 Ext. 355  
aarneson@seymour.k12.wi.us  
Seymour Middle School



**DIRECTOR AT LARGE**  
**Matthew Schultz**  
matt.schultz@tlbeloit.com  
The Lincoln Academy, Beloit



**DIRECTOR AT LARGE**  
**Meghan Walters**  
(C) 715-581-8482  
mwalters@pointschools.net  
Stevens Point Area Senior High



**DIRECTOR AT LARGE**  
**Anna Vitale**  
(W) 920-386-4404 Ext. 1327  
(C) 414-803-0082  
vitale@dodgeand.k12.wi.us  
Dodgeand School District, Juneau



**INTERFACE EDITOR**  
**Duane Apel**  
(C) 262-707-1044  
interface.wtea@gmail.com  
6804 Jamestown Dr.  
West Bend, WI 53090





# PRESIDENT'S MESSAGE

## It's Been A Weird, Wild Ride

By Dave Stroud, WTEA President

When the position of WTEA President was passed to me at the 2020 WTEA Conference, never did I imagine that less than two weeks later the world would come to a screeching halt as a new virus swept across the globe bringing fear, sickness, and death the likes that hadn't been seen in a hundred years. In the days, weeks, and months that followed, the WTEA switched gears from planning the first WTEA Family Outing event at a Milwaukee Brewers game, the WTEA Summer Tour which was going to have an aviation theme, and some High-Tech Weekend events for the fall, to holding virtual meetings to help Techno-



gy & Engineering teachers figure out how to teach hands-on skills in a newly virtual world. We created a resource list that we compiled from the many suggestions that were floating around the Teched Listserve, held virtual district meetings to see how we could help each other out, and worked with local CESA's to hold virtual discussion sessions so that teachers could share ideas. And to top it all off, we held the first ever WTEA Virtual Conference in place of our traditional in-person conference due to the lingering risks of Covid-19.

Now, almost two years later, I am writing my last President's Message and will soon be handing over the responsibilities of the WTEA President to Doug Dimmer, whom I am sure will continue the tradition of strong leadership well into the future. As of this writing, we will be going back to our traditional in-person conference format which will take place March 16th through the 18th at the Chula Vista Resort in Wisconsin Dells. The conference will be everything you remembered with an awards banquet Wednesday night, a trade show on Thursday, keynote



speakers, breakout sessions, project showcase, President's reception, general membership meeting, and breakfast on Friday morning. Most importantly, this year's conference will be the first time in two years that many of us will have the chance to get together and talk with our colleagues and friends about what has been going on in our lives for the past two years. I hope you all can make it.

As we continue to move back to normal operations, I would like to make everyone aware of two other events that will be happening this summer. The first is the WTEA Summer Tour happening June 21-22 in the Appleton and Oshkosh area. More details will be coming soon, but if you attended or heard anything about the heavy trucks or nautical events we put on a few years ago, then this is an event you will not want to miss. We will also be holding our first ever WTEA Family Outing at a Milwaukee Brewers game. Again, more information will be coming soon, but expect this event to happen on a Sunday in mid-June to early August.

In closing, it's been an honor serving as your WTEA President. I'm proud to have worked with the many hardworking men and women that make up the WTEA board, and it is only by their efforts that the WTEA is able to create value for its members.

Please consider increasing your involvement in the WTEA and our profession by joining the WTEA board.

There are a number of positions that become available on a yearly basis, so talk to your local director or any member of the board about how you can become more involved. Take care.



# WTEA BOARD NEWS & 2022 CALENDAR

## 2021 Fall Board of Directors Meeting Summary

*By Mac Chopin, WTEA Secretary/Treasurer*

The fall WTEA board meeting was called to order at 9:04 am on Saturday, October 16th, 2021. There were five members in person at Ashwaubenon High School and 11 members virtually present. Dave Stroud talked about changes to the board, he welcomed Jessa Dohmes as Technology & Engineering Education DPI Consultant/State SkillsUSA Director.

During the President's report, Dave Stroud talked about the fact that the Milwaukee Brewers still have our money for an event. We are planning on holding this the summer of 2022. The date will be determined prior to the conference. Dave also talked about the WTEA sponsoring two events hosted by the NEW Manufacturing Alliance. Bob Morehead was not present for the Vice President's report, but said he is not interested in running for re-election as vice president.

Doug Dimmer gave the president-elect report. He talked about how we are looking at working with other associations to have a Midwest Conference. He is also seeking vice president nominations. He also talked about trying to get more partnerships with power companies in Wisconsin, and help with training for their workforce.

Joe Ciontea gave the financial report, we are financially healthy. Memberships were down slightly, but it was a tough year to base it on. He mentioned that district or regional meetings can use the WTEA Zoom - contact him for details. The winter board meeting will be Jan 7-8 at Chula Vista. Joe also mentioned that there were two scholarships given this summer by the WTEA Foundation. He is looking into holding a Foundation golf outing.

Matt Schultz gave the awards committee update and

told the members the awards were going back to giving out full awards. He also said we have one student ambassador returning this year.

Steve Johnston talked about how the pandemic might still affect who can attend the conference in person. We have the key-note speakers set for the conference. He is still looking for more presenters. It was discussed how we could have more outdoor activities. Current and potential mask rules were discussed. We will have to wait a bit before making a final decision, but we will be following all local rules. Tom Barnhart talked about the timeline for filling the Grand Ballroom and lobby with exhibitors. He will know more by mid-February. The board discussed other ideas for hands-on activities. These would be similar to the pen making activity.

Jessa Dahmes informed the board that the SkillsUSA competitions were going ahead in person. Kevin Miller talked about the updated standards that the DPI was going to start working on. Duane Apel reminded board members that articles for the Interface are due on December 19th, 2021. Alan Mamerow reported on High Tech weekends, and Stephen Hadfield is working to add C2 Maker Spaces and has a date of November 17th, 2021, for a District G meeting. Angie Arneson talked about the summer Aviation Workshop.

Mike Beranek reported that the website has had good traffic and the site (2021 virtual conference) page had over 1000 hits for June, July, and August. He is also looking at purging some of the old files that are stored on the curriculum page, some date back to the 1990's. Dates for the 53rd Annual Conference are March 16-18, 2022.

*For additional information about this meeting contact any member of the Board of Directors.  
Complete minutes are available from Mac Chopin at [chopinm@waterloo.k12.wi.us](mailto:chopinm@waterloo.k12.wi.us)*

### - 2022 Dates to Remember -

**Jan. 27- Feb. 25 ..... SkillsUSA Regional Competitions ..... See page 19**  
**March 9 - 12 .....ITEEA Annual Conference ..... Orlando, FL**  
**March 16 - 18 ..... Our 53rd Annual WTEA Conference ..... Wis. Dells, WI**  
**March 25 .....Articles Due for *Interface Journal* ..... to Duane Apel**  
**April 5 - 6 .....SkillsUSA State Conference ..... Madison, WI**  
**May 15 ..... WTEA Foundation Scholarship Application Deadline**  
**June 20 - 24 ..... SkillsUSA National Conference ..... Atlanta, GA**  
**June 21 - 22 .....WTEA Summer Tour ..... Oshkosh & Appleton**

## VICE-PRESIDENT'S MESSAGE

### WTEA Provides Invaluable Support to My Career

By Bob Morehead, WTEA Vice-President

Ideas, opportunity, relationships, network, collaboration, purpose, benefits, teamwork, membership, camaraderie, innovation, progress, guidance, participation, resources and friendship: These are just some of the words that come to mind when I think about the WTEA.

During the first seven or eight years of my teaching career, I was on an island. Unfortunately, not a tropical island. I was a department of one. Isolated and stuck in my own way. I did not attend the WTEA conference. I remember thinking that I was too busy or didn't want to be out of the classroom for two days. What a mistake that was! The vast amount of resources that I missed out on could have saved me hours of work and changed my whole outlook on teaching.



I am now in my 20th year of teaching and finishing my fourth year as vice president of the WTEA. I can't imagine teaching in our field without having the support of this organization. I am choosing to forgo another term on the board. It is time for me to step aside and let someone else have that experience. I want to thank my fellow board members for allowing me to work with you over these last few years. I am not going away. I look forward to helping out with future events. Good luck to the next vice president and all of the future board members.

If you are looking to become a board member, please get in touch with me or any of the current board members. Our contact information is on the WTEA website and on page 2 of the *Interface*.

**GET PUBLISHED & SAVE MONEY!**

**Write an article for the *Interface* and receive a \$10 discount on your membership renewal. Submit articles and photos to editor, Duane Apel, at [interface.wtea@gmail.com](mailto:interface.wtea@gmail.com)**

## MASTERY — CODING —

Computer  
Science

Web  
Development

Game  
Development

eSports



## Coding & Computer Science

Prepare your students for computer science careers of tomorrow - no matter what their starting skill level!

Engage students with courses in computer science essentials, cybersecurity and IT foundations, web development, game development and esports.

**Build a portfolio | Earn industry credentials | No teacher experience needed!**



Call or email LAB Midwest today to learn more or get a demo: [info@labmidwest.com](mailto:info@labmidwest.com) | (414) 258-6415



---

# WTEA BOARD CANDIDATE

---

## Jesse Domer Steps Up to Fill Vice-President Spot

**A Message from Joe Ciontea, WTEA Executive Director:** *The election committee has been working since last spring to identify candidates for the office of WTEA Vice President. This is a two-year commitment which will begin at the spring conference this March. We used the Interface Journal, the Technology Ed listserv and contacted potential candidates by email and personal phone calls. We had some interest, but no one was willing to run at this time. Jesse Domer (WTEA President 2014-2016) contacted our current President, Dave Stroud, and indicated he would be willing to run for VP if no other candidates came forward.*

*Jesse will be running for office unopposed. According to our constitution, Article VI-C: "If a candidate is running unopposed, the board of directors will hold the election at the winter board of directors meeting. A majority vote of the board members present is required to elect the unopposed candidate." We will follow that procedure when the board meets in January. Information about Jesse is provided below.*

---

### Jesse Domer - Contact Information

Watertown High School  
825 Endeavor Dr., Watertown, WI 53098  
H (920) 219-2922 W (920) 262-7500 x6339  
DomerJ@watertown.k12.wi.us



### Education & Certification

- B.S. Technology Education, UW-Stout, May 2003
- Student Teacher Supervision Certification
- PI-34 PDP Review Team Certification
- PLTW Certifications, IED-RIT, POE-UIC, CIM-RIT

### Professional Experience

Watertown High School, August 2006 to Present

- Courses include; Engineering (IED, POE, Drafting), Welding 1-3, Machine Tool 1-3, and Video Production
- SkillsUSA Chapter & Electrathon-Supermileage Team

Colby High School – August 2003 to June 2006

- Courses include; Metals, Drafting, Graphic Communications, Video Productions, & 7th Grade Tech. Ed.
- SkillsUSA Chapter with national competitors two years and three state officers.
- High Mileage Vehicle Team three years

Business Owner (Top Notch Awards, LLC; and Not Stock Outdoors)

### Award and Achievements (\*In addition to being a husband and father of 4 kids (oldest just got her drivers license!!!)

- WTEA Member, 1999-Present
- SkillsUSA Advisor, 2003-Present
- PLTW certified: IED, POE, CIM, EDD, 2005-Present
- ChallengeUSA Advisor of the Year, 2021
- Herb Kohl Teacher Fellowship Excellence Awardee, 2015
- WTEA Teacher of the Year, 2013
- SkillsUSA Advisor of the Year, '05-'06
- Supermileage / Electrathon Advisor (since 2003)
- WTEA Past Board Member (District, Sec., Pres., & Foundation)
- Wis. Supermileage Executive Council Member & Webmaster



### Personal Statement

My journey in this amazing profession has roots and a strong foundation in the WTEA. From a college student attending the conferences, to a board member my 2nd year teaching, and so many steps in between then and now. The WTEA has been there for me for almost 25 years! I have sat next to great leaders and learned from their actions - while trying to pave my own path in the profession.

Ultimately, I continue to come back to "how can we support the youth of our profession - as the WTEA sup-

ported me when I was young in my career?" As the WTEA Vice President, I look forward to the support role to the president and executive council, I welcome holding our directors accountable to communication across the state, and I look forward to strengthening the WTEA Ambassador Program.

I recognize as a past-president, this is not my time to shine, rather, lift up our board of directors and membership to be the best they can.



## DIRECTOR REPORTS

### TEACH Day for High School Students at UW-Stout A Big Success

By Barb Bauer, UW-Stout Technology Education Program Director



Hope your semester is going well. While thinking about writing an article for the *Interface*, I thought I should let you know what we have been up to.

We are always being asked: What are you doing to get students into teaching? Not only for technology education, but other areas of teaching.

As a CTE group, Debbie Stanislawski, Diane Klemme (Family Consumer Science) and myself worked on a “pilot program,” called TEACH Day. Dr. Stanislawski, program director of marketing and business education, asked if we would be interested in trying this. Of course the answer was “yes”!

There is a shortage of CTE teachers in this country. We wanted junior and senior high school leaders to think about the teaching profession. We wanted to get them on campus, see the programs UW-Stout offers and get them excited about teaching.

We met with our student organizations on campus and put them in charge of a portion of the presentation. The TEECA (Technology and Engineering Collegiate As-

sociation) group led a lesson on creating a public service announcement on the need for CTE teachers. They were taught how to write a lesson plan that they could take back to their schools and use to teach a class.

The pilot program allowed students to tour the campus as well as speak to the program directors about what each program had to offer. It was a success!

High school students from Eau Claire, Prescott, Cameron, Brookfield, Holmen, Slinger, Jefferson and Merrill took part in this event.

We are hoping to duplicate this opportunity next year.



### District G: Area Schools Participate in Manufacturing Mania

By Stephen Hadfield, Pittsville Area School District



The Heart of Wisconsin Chamber of Commerce, in partnership with local businesses, hosted Manufacturing Mania as part of Manufacturing Month, in October. Five Central Wisconsin high schools were able to participate in the event including Wisconsin Rapids Lincoln, Pittsville, Nekoosa, Port Edwards, and Assumption. Students were able to gain in-

sight about today's high-tech



manu-  
facturing  
and engi-  
neering  
industries.



Participating businesses included SKS Machine, Tweet Garot Mechanical, and ERCO Worldwide.

In addition to learning about businesses, students toured Mid-State Technical College and learned about in-demand manufacturing careers.

#### Notice:

If you are not receiving the Technology Educators listserve postings, sign up by sending an email from your preferred email account to:

[subscribe-technologied@lists.dpi.wi.gov](mailto:subscribe-technologied@lists.dpi.wi.gov)



## ADD CLASSROOM EQUIPMENT TODAY FOR THE WORKFORCE OF TOMORROW.

H2I Group is a top-tier provider of technical education equipment ranging from starter level to commercial/industrial grade products. Offerings include Industry4.0 technology training systems (with NC3 certifications and training), 3D printers, laser cutters, wide format printer/cutters, CNC routers, plasma cutters, mills, lathes, AR/VR, lab furniture, and more. Services include lab and makerspace design consultation, extensive onsite training, plus ongoing support, maintenance, and repair.



Scan to connect



3D Printers,  
3D Scanners,  
Vacuum  
Forming



Laser Engravers  
& Fume  
Extractors



Large Format  
Printers  
Print/Cut &  
Specialty  
Printers



CNC Machines-  
Mills, Lathes,  
Routers, Plasma  
Cutters



Mechatronics,  
Robotics &  
Industry 4.0



Virtual,  
Augmented, &  
Mixed Reality

## PROFESSIONAL SUPPORT & SERVICE

At H2I, we strive for the best customer experience possible from sales, to customer service, and support. We do onsite maintenance, as well as over the phone consultation and troubleshooting. Our services include budgeting, design, project management, installation, training for all products upon installation, and maintenance contracts.



### PRODUCTS

Install a new lab or upgrade an existing one. We will help you pick the right products for your goals and budget.



### FUNDING

Tap into your ESSER funds for financial help. Skip multi-quote & bid requirements with the Sourcwell contract. Ask us how.



### SERVICE

Schedule equipment maintenance and training. Ask about our upgrade program!

**FESTO**

**stratasys**

**Formech**  
flexibly formed

**PHABLAB**  
Community Building, Learning, Making

**IGMI**  
Green Manufacturing, Inc.

**UNIVERSAL**  
LASER SYSTEMS INC.

**Roland**

**MakerBot**

**FOREST**  
CNC

**zSpace**

**H2I GROUP**  
An Employee Owned Company

Larry Granec  
608.630.1018



# MAKING THE MOST OF YOUR MONEY

## 3D Printing on a Budget

By Mason Pautsch, Wisconsin Heights High School

For many of us 3D printers are common place in our shops and classrooms. 3D printers are an invaluable tool when it comes to teaching students computer-aided design. These printers come in many different shapes, sizes, and most importantly price points. Desktop “consumer” 3D printers have greatly evolved since 2009. Slicing software, print times, and quality, along with filament have greatly increased in quality while the prices of fused deposition modeling (FDM) printers continue to become less expensive. Although Stereolithography (SLA) resin printers exist, I will be focusing on FDM printers as the price of FDM printers are much more accessible for the average classroom space.

FDM 3D printers feed spools of thin plastic filaments through an extruder head and onto a build plate. This works similarly to creating layers with a hot glue gun. Polyactic Acid (PLA) and Acrylonitrile Butadiene Styrene (ABS) are the two most popular choices of filament in classrooms. PLA is a great starter material while ABS is stronger but slightly more difficult to print. In a matter of minutes, a design drawn using CAD software can be converted to G-code by a slicer and loaded into the printer. Websites such as [www.thingiverse.com](http://www.thingiverse.com) provide a variety of free files for students to also download and print.

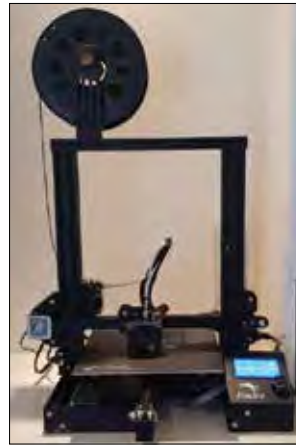


Original Prusa Mini

A few budget friendly 3D printers that I would recommend are the following: Creality Ender 3 (\$199.00),

Original Prusa Mini

(\$399.00) and Monoprice MP Select Mini 3D Printer V2 (\$199.00). As you can see, many of these printers are priced around the \$200 mark. Many other brands offer entry level printers between \$200-\$400. For instructors with a limited budget the Creality Ender 3 series is definitely going to be the best bang for your buck. Just like other equipment, 3D printers can range from a few hundred dollars to tens of thousands of dollars. Many premium 3D printer such as MakerBots (starting around \$1k) have many options for various extruder configurations, bed leveling and other premium futures. These printers typically support more



Ender 3

material types besides PLA and ABS while often producing better overall quality of prints.

If you cannot afford one of the higher end printers and do not currently have any 3D printers, I highly recommend going with several of the less expensive options over one premium printer. Printers like the Creality Ender 3 are affordable, dependable and do an overall good job for use in education. I would much rather have multiple students using several decent 3D print-

ers than one student printing on a premium printer. If you already have 3D printers, a higher end machine is great for capstone projects or niche needs for assignments. My philosophy has always been to choose quantity and decent quality over a single high-end unit. If I had to buy printers for the first time again, I would definitely go with some of the printers I listed above!

Make Plans Now To Attend!

WTEA

The 53rd Annual Spring Conference

“Technology Education:  
Building  
Wisconsin’s Workforce”

March 16-18, 2022

Chula Vista Resort • Wisconsin Dells





## “Ring” in the New Year

By Steve Meyer, Manager of STEM Education, Fox Valley Technical College

### Overview

Are you looking for a simple design project that doesn't require much material, incorporates a lot of different concepts and processes, and can be a great experience to get more females interested in Technology and Engineering? Below are the steps in designing and machining a wooden ring.

### Student Experience

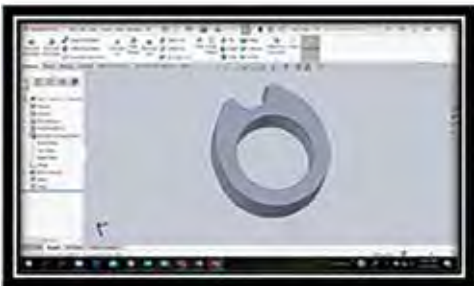
This ring design can be as involved or prescribed as you want. I had students take this on as a full-fledged design activity. Here are the design and fabrication steps:

- Measure finger size (ring size charts can be printed off online).
- Use graph paper to create a design, cut out to make sure ring fits.
- Draw ring in CAD program (3D model, color, render, engineering drawing).
- Create a toolpath to cut out ring on CNC router (my students used the *Vecetrics* series of software).
- Cut out ring on router (1/4" or 1/8" end mill). Drill out spot for jewel, epoxy, etc.
- Finish – sand, epoxy, stain, polyurethane, etc.
- Finish design portfolio with reflection, pictures of design, CAD drawing, toolpath, and build process pictures.
- Portfolio and ring were put on display.

### Ring Design and Build Steps

#### Step 1: Designing the Ring

The ring below was designed using *Solidworks* and was rendered within the program. The ring could also be drawn using 2D CAD software.



#### Step 2: Creating a Toolpath and Machining the Ring

A toolpath was created using *Vecetrics* software (*V-Carve*, *Cut2D*, *Aspire*). The rings were cut from a piece of walnut 5/16<sup>th</sup> inch thick. A 1/8<sup>th</sup> inch end mill was used. Toolpath tabs were put in place to hold the ring while machining.

*Continued on next page*



## Scholarship Applications Due May 15

The WTEA Foundation is offering a renewable \$1,000 scholarship for a high school senior who commits to pursue a career as a K-12 Technology & Engineering educator.



### ELIGIBILITY:

- Wisconsin resident
- Enroll in technology education at a Wisconsin university and start the fall semester
- Submit completed application form and 250 word essay prior to May 15

Details of the scholarship and the application form can be found on the WTEA Foundation website at [www.wteafoundation.org](http://www.wteafoundation.org)

### Step 3: Finish the Ring

These rings (below) were sanded, clear coated, then filled with a colored epoxy. The rings were then buffed and polished.



### Helpful Hints and Other Ideas

Below are some things that I found can help in design and fabrication of the rings:

- Use a hardwood like maple, cherry, or walnut as they machine well without chip-out
- Use a scrap dowel and a little masking tape to hold the ring while finishing (spray-can polyurethane works well)
- Instead of filling with epoxy, have students glue on a decorative bead or laser engrave on the face of the ring for a custom design.
- Have students 3D print or cut out some thin plywood or acrylic on a laser for a ring display holder.

### In Conclusion and What's Next

This project can be the starting point for developing some rich learning experiences. If students do not have CAM experience, the students could start with a basic design and the instructor could just cut out multiple rings for different finger sizes. This could also morph into a 3D printing experience. It is the perfect small-scale item to get lots of students through quickly. A ring could also be made by laminating and gluing up thin pieces of laser cut plywood and veneer.

### Thank You

*I hope you enjoyed and have success with this starter project. If your students make any rings, please share some pictures with me. Email me at [meyerst@fvtc.edu](mailto:meyerst@fvtc.edu) if you have any questions.*

# ENERGY CAREERS FOR TE STUDENTS

## “Mobile Learning Lab” A Focus for WEWC in 2022

By: Matt Flanigan, WEWC Executive Committee

The Wisconsin Energy Workforce Consortium (WEWC), formed in 2014, is developing solutions to meet the current and future workforce needs of the state’s energy industry. WEWC is led by representatives from Wisconsin’s utilities and electric cooperatives, technical colleges, universities, contractors, and state agencies and is a state consortium of the Center for Energy Workforce Development (CEWD).

The Wisconsin Energy Workforce Consortium [WEWC] 2020-2024 Strategic Plan focuses on the industry’s needs for skilled craft and technical workers and engineers while factoring in the unique industry and workforce challenges in Wisconsin and the need to diversify the utility workforce.



## Career Education Opportunities for K-12 Students & Teachers

Activity	Description	Activity	Description
Gas Fire	Demonstration of how to safely extinguish a gas fire (live), fire suits worn by employees; can be tried on by students/educators.	Bucket Truck Ride	Ride bucket truck up to 60 feet in the air.
Gas Leak	Staged leak at meter set, odorant discussion had w/smell, gas leak detector (sensit) to assist in locating leak.	Climbing Station	Pole climbing demonstration/PPE utilized to safely climb.
Pipe Coiling	Rolling of pipe; hands on experience with material.	Underground Cable Splicing	Demonstration of secondary cable splicing in cable pit. Review of tools- crimpers, cutters and press.
Excavators	Operation of excavator with employees guidance. Picking up dirt, creating piles.	Electric High Line Demonstration Box	Demonstration of the power of electricity and importance of electrical safety.
Pipe Wrenching	Hands on experience with wrenches/materials.	Gas House Demonstration	Demonstration of what occurs when there is a gas leak in a house (different levels) with a source of ignition.
Materials/Tools Review	Discussion of materials utilized by field/office employees. Opportunity to see/touch/pick up materials/tools.	Facility Tour	Subject matter experts from identified fields speak/present then lead tour. Q&A to take place at the end of tour. (Power Plant, Wind Turbine, Call Center)
Solar Panel Review	Exploration of sample solar panels	Virtual Field Trip	Video, teacher guide, student activities. Customizable for all ages (ex: wind





After the 2020 purchase of a trailer for a Careers In Energy Mobile Learning Lab, much of 2021 was focused on design, tool and material acquisition, build out, and usage documentation for the trailer. WEWC is excited to showcase the mobile learning lab in 2022 at various Careers in Energy events in Wisconsin. The mobile learning lab will utilize life size, mobile displays that promote both the electric and gas trades through visual and hands-on demonstrations.

Wisconsin Technical Colleges, honorary WEWC members, were awarded a National Science Foundation grant to create a Utilities and Energy Coordination Network. A website for the network was launched in 2021. Visit [nwtc.edu/EnergyNetwork](http://nwtc.edu/EnergyNetwork) to learn more.

Additional 2022 plans include: (1) Activation of the Wisconsin STEM Energy Career Pathway through a strategically planned rollout into school systems ready to implement; (2) the awarding of our first WEWC scholarships; (3) development of social media platforms; and (4) the creation of support materials for experiential events that support hands-on learning locally, including the trailer.

**For more information on WEWC, please visit:**  
**[www.wi-energyworkforce.org](http://www.wi-energyworkforce.org).**

***Developing solutions to  
meet the current and  
future workforce needs  
of the  
state's energy industry.***

## **Get Into Energy.....NOW!**

With the right education and training, you can begin a rewarding, well-paying energy career that benefits millions of people every day. Explore the many career opportunities in energy.

Get Into Energy (GIE) was designed and launched by the Center for Energy Workforce Development (CEWD), a non-profit organization. CEWD's goal is to build awareness among students, teachers, military veterans, transitioning workers, and others about the fantastic career opportunities available in the energy industry.



## **Careers in Energy**

Enjoy a long and rewarding career in an ever-changing industry. From jobs working on the state's poles, pipes and wires to growing our use of renewables or enabling more conservation, the energy industry has a job just for you.

Whether you want to live and work in the Northwoods, Door County or one of our state's great cities like Eau Claire, La Crosse, Green Bay, Milwaukee, or Madison – Wisconsin's energy industry has hundreds of excellent careers waiting for you.

## GETTING TO KNOW JESSA DAHMES

### Dahmes Brings A Variety of Experiences to Her New Role

*By Jessa Dahmes, DPI TEE Consultant & SkillsUSA Director*

I like to say that I came to career and technical education (CTE) late in life. My parents were both teachers so it should be easy to see why I went into education.

And I loved reading, so I became an English teacher. No one ever suggested any other path even though I had a variety of skills and loved working with my hands and seeing the physical results of my hard work. It wasn't until roughly a decade into my professional career that I came to understand the incredible value and opportunity presented by careers related to CTE in general, and technology and engineering specifically.

I earned my Master's in CTE-Administration and became an advocate for CTE in Wisconsin and then Minnesota. I was fortunate enough to be hired as the SkillsUSA Minnesota State Director where I received a crash course in the power of career and technical student organizations (CTSO's) and the way they round out a high quality CTE program. I am thrilled to be back in my home state and serving the educators and students across the state.

My professional background includes time teaching English in Minocqua and then Wausau, work as a college representative and/or events and outreach specialist for three different state systems including the UW System,

U of M System and MinnState System before stepping into the role of SkillsUSA Minnesota State Director prior to coming back to Wisconsin and joining the DPI.

I live in Chippewa Falls with my two young children (5 and 3). My kids and I love to do anything outside or work on art projects. I still love to read, but you're just as likely to find me helping a friend on a remodeling project these days.

I am a context person, so I'm looking forward to spending my first year learning how SkillsUSA in Wisconsin truly operates as I look for ways to make the organization as accessible as possible. It's also important to me to ensure that our conference programming is relevant and useful to both educators and students. I'm

excited about bringing in new partners and sharing the story of SkillsUSA across the state to help gain new interest from school and industry alike.

From a TEE perspective I'm gearing up to dive into the Technology and Engineering Standards this spring as we begin their overhaul. This is going to be incredibly important work and will require input from a variety of entities. I'm looking forward to the final product.



**IRIS™ Camera**

- Overhead Cameras With Live Views
- Easy Setup and Positioning
- Drag and Drop Artwork on Screen
- Quick Onscreen Camera Layout

800.787.9717 | INFO@FIRSTTECH.COM | FIRSTTECH.COM | EPILOGLASER.COM

**FIRST TECHNOLOGIES INC.**  
Putting Education ... FIRST

**EpilogLaser**



# WTEA SPRING CONFERENCE & TRADE SHOW

## “Technology Education: Building Wisconsin’s Work Force”

By Steve Johnston, Program Coordinator

The WTEA invites you to participate at the 53rd Annual Spring Conference, March 16-18, 2022, which will be hosted at Chula Vista Resort in Wisconsin Dells. The conference program is packed with excellent presenters offering a variety of topics to help inspire and motivate each of us. We encourage you to bring your school administrator with you to the conference; administrators are admitted free when accompanying a registered Technology & Engineering educator.

We start things off on Wednesday, March 16th, with the annual awards banquet. We will recognize and honor our colleagues for their outstanding contributions to Technology and Engineering Education as well as program award winners during the banquet, beginning at 7:00 p.m. The banquet cost is \$28, advance purchase is required. This is a great way to show appreciation and support for your peers.

On Thursday, March 17th, the conference will begin with a general welcome to all members given by WTEA President, Dave Stroud.

Our first general session will be given by Mr. Roger Stanford, President - Western Technical College. Roger will discuss how we are living in a disruption that is causing all of us to really look at our systems, structures, and opportunities with a fresh lens. He will share some perspectives from the technical college on the future of technical education and the impact the pandemic has had on education. He will also discuss how K-12, the technical college system, and 4-year colleges partner and work together to serve Wisconsin.

**Invite your administrator!  
- and -**

**Watch our website for more  
conference details and  
updates at  
[www.wtea-wis.org](http://www.wtea-wis.org)**

show features numerous vendor booths with professionals exhibiting up-to-date products and services for our field. This is the best “one stop” to bring an administrator or school board member looking for input to update a program.

Don’t miss the annual President’s Reception from 7:00 PM to 9:30 PM in the lower atrium level which will include complimentary refreshments, live entertainment, and a silent auction to benefit the WTEA Foundation.

On Friday we will again host the Early Riser Breakfast. During this time, we will have our General Membership Meeting presided over by President, Dave Stroud, and President-Elect, Doug Dimmer.

Following the General Membership Meeting, the day will continue with diverse sectionals and vendor sponsored workshops. Friday’s schedule also includes a day of hands-on automotive technology sessions.

Our mid-day luncheon will be followed by a keynote address from Leigh Estabrooks, Ed.D. Invention Education Officer, MIT. Leigh will discuss how workforce trends indicate three drivers of change including automation, digitalization, and hybridization.



### CHECK YOUR MAILING LABEL NOW!

Check the first line of the mailing label on back cover of this magazine to see when your WTEA membership expires.

You may not receive the next important issue of the Interface unless your dues are paid beyond 2021.

## Your FUTURE Our PRIORITY



**GATEWAY**  
TECHNICAL COLLEGE  
[gtc.edu](http://gtc.edu)





## 53rd Annual Technology Education Conference & Trade Show

### Tentative Conference Overview

#### Wednesday, March 16, 2022

5:30 p.m. – 8:30 p.m. Conference Pre-registration  
6:45 p.m. – 9:00 p.m. Awards Banquet

#### Thursday, March 17, 2022

7:30 a.m. – 3:00 p.m. Conference Registration  
7:00 a.m. – 9:00 a.m. Project Showcase Set Up  
8:00 a.m. – 4:00 p.m. Trade Show  
9:00 a.m. – 3:30 p.m. Project Showcase  
8:55 a.m. – 9:05 a.m. General Welcome  
9:05 a.m. – 10:00 a.m. 1st General Sessions  
10:15 a.m. – 3:30 p.m. Concurrent Sessions

#### Thursday, March 17, 2022

7:00 p.m. – 9:30 p.m. President's Reception

#### Friday, March 18, 2022

7:30 a.m. – 11:30 a.m. Conference Registration  
6:45 a.m. – 7:45 a.m. WTEA Breakfast  
7:45 a.m. – 8:30 a.m. WTEA Membership Meeting  
8:45 a.m. – 12:15 p.m. Concurrent Sessions,  
Demonstrations & Project Showcase  
12:30 p.m. – 2:00 p.m. 2nd General Session  
& Luncheon  
2:15 p.m. – 3:30 p.m. WTEA Board Meeting



#### Thursday Keynote Speaker:

**Dr. Roger Stanford**  
President  
Western Technical College



#### Friday Keynote Speaker:

**Leigh B. Estabrooks, Ed.D.**  
Invention Education Officer  
Lemelson-MIT Program  
MIT School of Engineering

**Session Topics Include:** Clean Energy Careers, Finance 101 for new teachers, Fostering Maker Faire, Plastics Technology Class, Simple Hydro-dipping/Painting, Engineering Academies, Project/Community Based Education, Women in Woodworking, FANUC Robotics, Aerospace Education, Pallet Wood Projects, 3d Scanning for printing and CNC, Apprenticeships, Welding and Machining, Building High Mileage Vehicles, Project Showcase, Skills USA, Middle School Roundtable, Manufacturing Project Ideas, New Teacher Boot Camp, and much more!



### Chula Vista Resort

4031 River Road, Wisconsin Dells  
Room Reservations: 1-877-745-6998

[www.chulavistaresort.com](http://www.chulavistaresort.com)  
\*Ask for WTEA Conference Rate

## WTEA Membership Application & 2022 Conference Registration Form

Membership year runs from September 1st through August 31st



Last Name \_\_\_\_\_ First Name \_\_\_\_\_

Home Phone (\_\_\_\_) \_\_\_\_\_ Local Tech College District \_\_\_\_\_ # Years teaching \_\_\_\_\_

School Dist. \_\_\_\_\_ School Name \_\_\_\_\_

School Address \_\_\_\_\_

School City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ E-mail: \_\_\_\_\_

**Check appropriate boxes below & total amount due.** (To pay fees with a credit card go to the WTEA website)

**Membership Fees:** ☐ 3 year membership - \$75.00 ☐ 1 year membership - \$30.00 \$ \_\_\_\_\_

**Spring Conference Registration** (After December 20, 2021:

☐ \$160 members ☐ \$190 non-members \$ \_\_\_\_\_

**WTEA Awards Banquet** (Wednesday, March 16, 2022) ☐ \$28 \$ \_\_\_\_\_

☐ Bill my school district - purchase order is attached ☐ payment enclosed **Total \$** \_\_\_\_\_

Send completed form with payment or school purchase order to: **WTEA, P.O. Box 531, Rhinelander, WI 54501**

Phone (920) 904-2747 • E-mail: [jc.wtea@gmail.com](mailto:jc.wtea@gmail.com)

If your school uses ACH payment please contact the WTEA for new bank routing.

To complete an electronic version of the WTEA membership/registration form, go to [www.tinyurl.com/WTEA-Conf](http://www.tinyurl.com/WTEA-Conf)

## WTEA Foundation Raffle

At the conference to support the WTEA Foundation

### Tickets

### \$5 each or 3 for \$10

Tickets available from WTEA Board members after February 1st.

Tickets will be sold at the conference up until the drawing.

The drawing will take place on Friday, March 18, 2022 at the end of the noon general session.

The winner need not be present to win.

### Prizes donated by WTEA Business Partners and Sponsors



**Watch WTEA website  
and the listserve for details**

The mission of the WTEA Foundation is to provide scholarships and fund STEM (Science, Technology, Engineering, Math) education opportunities for teachers, individuals interested in becoming teachers, and students.

The WTEA Foundation is a public charity as defined under section 501(c)(3) of the Internal Revenue Code.

# WTEA PROJECT SHOWCASE

Special Thanks to MADISON COLLEGE for Sponsoring Project Showcase

## Camper Dave Says....



## Bring Back the Projects!!!

### Overview

We are excited to get back to Chula Vista for the in-person 2022 WTEA Conference on March 16<sup>th</sup>-18<sup>th</sup>. This will be our 13th Annual Project Showcase! We are back to bringing in physical projects to showcase and

**WE NEED YOUR HELP!**

### The Process

It would be great if every member could bring in even just one project. Conference Room I will be set up with tables. Bring your project/s and set them up on a table. I will have nametags that you can fill out so people can contact you if they are interested. Tables with electricity are available. Activities that have been a big hit in the past include:

- |                        |                    |                       |                    |
|------------------------|--------------------|-----------------------|--------------------|
| - CNC machining items  | - 3D printed parts | - Robots              | - Graphics samples |
| - Woodworking projects | - CAD drawings     | - Welding art         | - Model homes      |
| - Laser engraved items | - Board games      | - Electronic circuits | - LED signs        |

These can either be student projects or teacher examples. You do not need to bring curriculum if you don't have it easily accessible....just bring the physical item.

### \*\*\*TRYING SOMETHING NEW\*\*\*

With the success of last year's virtual Project Showcase, we will be including a hybrid version of this at the conference. Send me a picture/pictures of a project with your name and an email. I will upload them into a looping slideshow and play them on a large flat screen television located in room I during the Project Showcase. This will provide a very easy way for you to share larger projects and initiatives going on at your school such as:

- Pictures of construction projects, tiny homes, etc.
- Larger woodworking projects.
- Unique tools/clamps/fixtures & storage ideas from your lab.
- Energy efficient vehicles, project grills, large robots.
- Mechanical and architectural 3D model renderings and files.



### It is Up to YOU!

Your contribution of projects will make the showcase a huge success and help continue the tradition. We want to see projects from all grade levels (elementary, middle, and high school). We are not asking you to spend much time on this, however, the value to our membership will be HUGE!

### Coming Soon

Watch for more information on the web and DPI listserv as time gets closer.

*Please email Steve Meyer at [meyerst@fvtc.edu](mailto:meyerst@fvtc.edu) if you have any questions.*



## Regional Competitions

- **SWTC:** Fennimore .....January 27-28
- **NTC:** Wausau ..... February 4
- **GTC (IMET Center):** Sturtevant .....February 11
- **FVTC:** Appleton .....February 18
- **UW-Stout:** Menomonie *(\*Note this is ONLY ONE DAY)* .....February 25

**SkillsUSA Week** ..... February 8-12

**SkillsUSA State Culinary & TeamWorks Competition** .....Pending

**SkillsUSA Membership Deadline** .....March 1

**Chapter Excellence Program Deadline** .....March 6

**49th Annual State Leadership & Skills Conference: Madison**

Alliant Energy Center & MATC .....April 5-6

**National Leadership & Skills Conference:** Atlanta, Georgia .....June 20-24



**MACHINE TOOL & EQUIPMENT, INC.**

145536 COUNTY RD. U WAUSAU, WI 54401  
PH: (715)675.6309 FAX: (715)675.5647  
WWW.MACHINETOOLWI.COM

Logos and equipment shown include: NEWALL, SUMMIT, CHICAGO, NATIONAL, TENNENTH, SawStop, HYD-MECH, The Rock Solid Solution, KENT USA, Ellis, and POWERMATIC.

\*CALL FOR SCHOOL SPECIALS\*

# AUTONOMOUS VEHICLE PROJECT

## Gateway Tech, UW-Madison and the City of Racine Partnering on Futuristic Vehicle

*By Lee Colony, Manager, Communications & Media Relations Gateway Technical College*

Gateway Technical College's Rudy the Red Hawk got a roommate this week: The Badger. The Badger isn't an animal – it's a vehicle of the future to be housed at Gateway's Racine Campus.

In October the city of Racine, Gateway Technical College, the University of Wisconsin-Madison Traffic Operations and Safety Laboratory, and Perronne Robotics officially launched the "Autonomous Vehicle Project: Driverless Public Transportation," in Racine, with the unveiling of the autonomous vehicle, The Badger. The event was held just outside of the space where the vehicle will be housed on Gateway's Racine Campus.

"Today, like Racine did more than 100 years ago, when the Spark – our nation's first automobile – drove down Main Street onto Monument Square, we celebrate the future of transportation and a vibrant economy," Gateway Technical College President and CEO Bryan Albrecht told unveiling event attendees.

"This new partnership will bring together

the experience of one of the nation's most successful transportation research centers with the talents of technical faculty and students of Gateway's information



**Pictured in front of The Badger: (From Left) Dr. David Noyce, UW-Madison Director of the Traffic Operations and Safety Laboratory (TOPS); City of Racine Mayor Cory Mason; State of Wisconsin Transportation Secretary Craig Thompson; and Dr. Bryan Albrecht, President of Gateway Technical College.**

and automotive technology programs."

Researchers from UW-Madison will collect and analyze data gathered from the vehicle's established route including such factors as weather conditions, operations, safety systems, road hazard avoidance, speed and adaptability.

Gateway information technology faculty and







students will participate in designing research questions and data analysis in research projects related to their information technology program.

Racine Mayor, Cory Mason, brought The Badger project to Racine and says it is part of the city's ongoing work to promote innovation, technology, and to transform Racine into a "Smart City."

"The ambition is to make the city itself a catalyst for experimentation, innovation and technology for autonomous vehicles and mobility," said Mason.

The Badger autonomous vehicle partnership was established to demonstrate technological applications

of vehicle and pedestrian safety, road hazard avoidance, efficiencies and traffic congestion.

The vision for the project consisted of multiple phases, with the first phase of operations limited to a test track around the Gateway campus and on Pershing Road.

"I think this will serve as a historical marker signifying the beginning of a new age in transportation just like The Spark did so many years ago," said Albrecht.



The photo above shows a classroom activity that schools can purchase to show students how autonomous vehicles operate. Lab Midwest brought this to the event to showcase the ability of schools to provide an experience for students to learn about this emerging technology.

**Save the Date and Mark Your Calendars!**

# **THE WTEA SUMMER TOUR**



**June 21-22, 2022**



**The Theme: AVIATION**

**Location: Appleton & Oshkosh Areas**

- Fox Valley Tech Spanbauer Aviation & Industrial Center
- Sonex Aircraft
- A third tour is still being ironed out....stay tuned!

***Be on the lookout for more details coming soon!***



## Electrathon and Supermileage Merge to Form CUSA

By Lauri Domer, Executive Director - ChallengeUSA



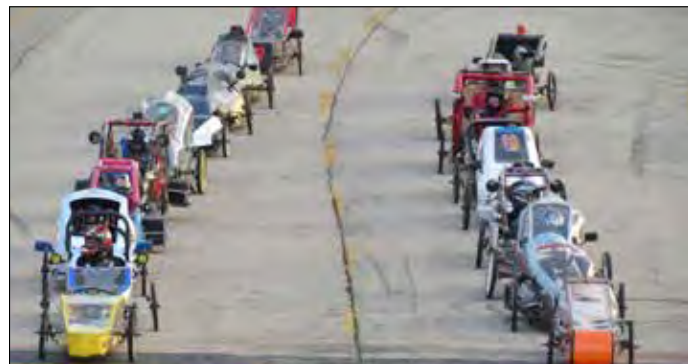
Newer name, same great concept, we used to be known as WEEVA (Wisconsin Efficient Energy Vehicle Association). ChallengeUSA (CUSA) is a Midwest USA entity including both Electrathon and Supermileage programs.

The goal of these programs is to bring attention to the environmental problems of conventional cars and demonstrate the viability of alternative transportation methods such as electric vehicles and/or higher mileage. Both programs provide a means of teaching young people how to evaluate alternatives and make sustainable lifestyle choices, and use a problem-solving discipline to design and build these efficient vehicles, all in a hands-on and team-oriented approach. Students are combining both mental and physical skills through applying manufacturing and engineering concepts and equipment to accomplish their tasks.

We recently had a school resume their program. Meet Shawn from Athens High School. He says "I went to Ath-



ens High School and we took our car to Fox Valley Tech during 2002 and 2003. I am currently in my second year (teaching) at Athens High School. I chose to start our high mileage class again to show the students the challenge and fun, building your own car from the ground up. I was greeted by many people throughout the community that took this class while in school and was surprised how excited they were to see it running again. It was a staple in Athens for a long time and I want those experiences to continue. Many of my students had a parent that went through this and it gives them all something to talk about and share in that excitement." Visit us for more information at [www.cusamotorsports.org](http://www.cusamotorsports.org)



### UPCOMING 2022 DATES & LOCATIONS

April 22-23.....	SWTC
April 25-26.....	Road America (earlier due to track renovations)
April 29-30.....	UW-Stout
May 1-2.....	Autobahn Country Club, IL
May 6-7.....	FVTC
May 21-22.....	Iowa
Fall (Date TBD).....	LaCrosse Speedway

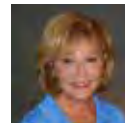
## NEW ©2023 resources that prepare your students for today's workforce



Flexible learning options: Print, Digital, Hybrid



Please contact  
Kathy Moehle  
[kmoehle@g-w.com](mailto:kmoehle@g-w.com)  
708.821.6545



Help your students find their  
passion & fulfill their potential

COLLEGES & CAREERS  
[wistechcolleges.org](http://wistechcolleges.org)



# WATDA TEACHER INSTITUTE

## Advancing Inclusion, Equity and Diversity in Transportation Education

by Brent Kindred, Vice President – WATDA Foundation

The work the WATDA (Wisconsin Automobile & Truck Dealers Association) Foundation does is workforce development. We are a skills gap solution for the transportation industry in Wisconsin. If we are going to have the greatest impact on solving this issue, we need to be encouraging everyone possible into these career pathways. According to the U.S. Bureau of Labor Statistics, nationwide only 2.1% are female auto mechanics. Furthermore, in a 2020 study, the most commonly found ethnicity among technicians is White, which makes up 66.9%, followed by 16.8% being Hispanic or Latino, and 9.1% being Black or African American ethnicity.

At the 2021 summer teacher training institute, the Foundation was proud to host a panel discussion with a few of our scholarship recipients. The discussion focused on how to increase inclusion and diversity in our automotive, collision and diesel programs. The purpose was to generate meaningful conversations on how teachers can create an environment that welcomes everyone into their classrooms regardless of gender, race or ethnicity. Teachers had an opportunity to hear first-hand

from the diverse panel why they took transportation classes in high school and why they are choosing auto technician as a career pathway. The students explained, from a race and ethnicity standpoint, problems they encountered while taking automotive classes. They spoke about teachers supporting them in a swift and effective manner when they encountered issues. The panel also provided insightful strategies for teachers to make their classes and classrooms more inviting for females and students of color. Teachers also took the opportunity to ask specific questions of the students. This was a powerful session. It provided an opportunity for teachers to hear directly from young technicians about their experiences.

On a personal note, it also reinforced why we do the work we do. Listening to our young technicians gives me great confidence that Wisconsin is in good hands with the next generation of technicians. They were poised, confident and spoke in an articulate manner about real societal issues they have encountered in their young lives. You would have been equally as proud.



## CREAFORM™ ACADEMIA 3D Scanning



Put the power of 3D digitization into the hands of your students with ACADEMIA, Creaform's easy-to-use professional-grade 3D scanner.



Give your students a hands-on learning experience and show them how they can use 3D scanners for a wide variety of engineering applications, such as product development, reverse engineering and inspection.

Teaching package includes 3D scanner, 50 seats of 3D application software, and teaching kits full of curriculum, videos, and lab exercises.

Available exclusively through LAB Midwest: [info@labmidwest.com](mailto:info@labmidwest.com) | (414) 258-6415



## TE INSTRUCTOR RECEIVES HONOR

### Jim Eastman Receives U.S. Navy's "Impact Influencer" Award

The United States Navy recently honored Technology Education instructor, Jim Eastman, of Menasha High School, for his impact on a former student who is now a sailor. In addition to teaching Technology Education, Eastman serves many other roles at MHS, including CTE Dept. Chair, CTE Curriculum Coordinator, Robotics Advisor, and SkillsUSA Advisor; as well as being a Driver Education teacher.

"I'm just a boy from Menasha who has the privilege of teaching at my alma mater Menasha High School, Eastman stated. "As a teacher we wear many hats: coach, mentor, teacher, confidant, listener. None is more important than being the moral compass and character developer/enhancer for our youth. The United States Navy decided to create an award that recognized their young sailors' teachers that impacted them and drove them to exemplify these characteristics.

I was honored and humbled to receive this 'Impact



Influencer Award' from the U.S. Navy. As a Navy Veteran myself, who enjoys telling stories of my time in the service and how it impacted my own life to my young students, to have a former student (Ethan Hewitt) think that highly of me was pretty cool. Ethan is currently going through their Nuclear program."



# TORMACH®

Tormach is a Wisconsin-based company.



**xsTech**  
(Desktop Router)



**Router**



**Plasma**



**Lathe**

## DID YOU KNOW...

Tormach offers a full line-up  
of CNC machines!

**FIRST**  
TECHNOLOGIES INC.  
Putting Education ... FIRST

**800-787-9717**

info@firsttech.com • www.firsttech.com

**Interface**, the journal of the Wisconsin Technology Education Association, is published & mailed from Stoughton, Wisconsin, three times a year and is distributed to members of the WTEA. Individual subscriptions available at \$30 per year. For subscription information, back issues, or reprints please send requests to [joe.ciontea@wtea-wis.org](mailto:joe.ciontea@wtea-wis.org). Articles for publication should be sent to editor, Duane Apel, at [interface.wtea@gmail.com](mailto:interface.wtea@gmail.com). Copyright (c) 2021. All rights reserved. Limited reproduction rights are granted to current members of the WTEA.

**WTEA Refund Policy:** The WTEA Membership fee is not refundable. The WTEA School Subscription fee is not refundable, but is transferable to other staff in the same school district. The portion of the non-member conference registration fee equal to the amount of the WTEA membership fee is non-refundable. Refunds for Conference Registration and/or Awards Banquet must be received by U.S. mail or by email at least 15 days prior to the event. Exhibit space cancelled after Jan. 10th will be subject to a \$100 cancellation fee. No refunds will be given for exhibit cancellations within 45 days of the event.





UNIVERSAL ROBOTS

Meet the World's  
#1 Collaborative Robot

# THE e-SERIES



PACKAGING AND PALLETIZING



MACHINE TENDING



INDUSTRIAL ASSEMBLY



PICK AND PLACE



INJECTION MOLDING



GLUING, DISPENSING, WELDING



CERTIFIED PLUG AND PLAY PRODUCTS  
WITH **UR+** ECOSYSTEM



FREE ONLINE TRAINING PROGRAM

Contact us today for more information!

**FIRST**   
**TECHNOLOGIES INC.**  
*Putting Education ... FIRST*

800-787-9717  
info@firstech.com

WTEA  
P.O. Box 531  
Rhinelander, WI 54501

CHANGE SERVICE REQUESTED

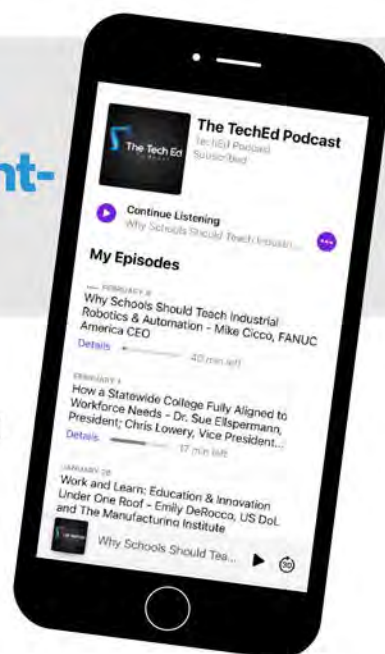
PRSR.T. STD.  
U.S. POSTAGE  
PAID  
Permit #1  
Madison, WI

**Bridging the gap between technical education and industry through thought-provoking & engaging discussions.**



**The Tech Ed**  
Podcast

Streaming wherever you get  
your podcasts and at  
**techedpodcast.com**



**Our guests include leaders from...**

- FANUC America
- The US Department of Labor
- UW System
- KOHLER
- The Manufacturing Institute
- Oshkosh Corporation
- WebMD
- The US Department of Defense
- Rockwell Automation
- Gateway Technical College
- Wisconsin technical College System
- Fender Musical Instruments



Catch up on episodes at [TechEdPodcast.com/Episodes](http://TechEdPodcast.com/Episodes)