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## WTEA PRESIDENT

### **Hill Country**

By Jesse Domer, WTEA President

The first couple weeks of school are upon us. Teachers are rejuvenated from a wonderful summer and planning for exciting new additions or adaptations to their curriculum. Students are back in the classroom and lab, eager to learn and waiting for that next project. As parents, our young kids can't wait to be with their friends, moving up a grade and excited to do something new. Though many who are close to me may think I love spring the most, it is this first few weeks of school that get me most excited

about my career. It is in this time that we often reflect on past practices and this gives us the opportunity to start anew, to be a different teacher, to take a better attitude, to be better

Moving into the new school year, I reflect upon my goals in life. As a Technology & Engineering Instructor, my goals include: fulfilling Vision2020, raising test scores for my students, following up on career pathways after graduation and more. As a parent, my goals include: finding time to see my kids more than breakfast and bed time, coming home with an open heart and energy left

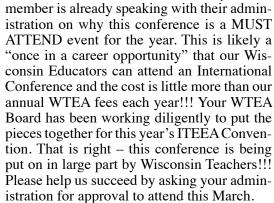
for my wife, finding the chance of leaving my computer at school. As WTEA President, my goals need help from everyone in our profession to eventually see reality.

WTEA President Goal #1: Remind our great WTEA Teachers that our profession is wonderful and worth our time to encourage students to follow our footprints into education. I know we have troubled times politically around us every day, be it contractual or administration, be it legislation or other reasons. I ask you to remember why you went into education. I know a few will say the benefits. I don't know anyone that says the pay. But most will say to make a difference and work with youth. My career over the past 12 years has had significant changes and I have not had a single year where my budget ever increased. As a profession I am told my career has been in a valley and I hear from my veteran mentors of the good times. However when I step back and wipe the fog from my eyes, I am reminded that I LOVE MY JOB! There are many great educators in our great state that love their jobs as well, but they get lost in the valleys with the fog that settled in. Every job has stuff we do not like, but at the end of the day – I am encouraging my students to follow my footprints into a career of CTE. I hope you can do the same. We will not survive as a profession if we cannot make this change.

WTEA President Goal #2: Encourage networking among our educators through focused gatherings. This can be the traditional WTEA Conference (or joint ITEEA/WTEA Convention this March), or attending the DPI Fall

Inservices, or hopefully helping to rejuvenate the HiTech Weekends with me this year. It is through the gathering of our educators that we can become better classroom teachers, sharing best practices, borrowing curriculum, aligning standards, connecting with each other, remembering we are not in this alone.

WTEA President Goal #3: Survive - I mean host - a successful joint ITEEA/WTEA Spring Convention this March in Milwaukee, WI - in which I know every WTEA



In closing, I wish to remind everyone we are on this venture of life together! As Technology & Engineering Teachers we are often buried in a classroom next to a shop at the end of a hallway and the end of a building. As Technology & Engineering Teachers we often forget about the support networks we have either via the list-serve or our colleagues next door or next community. As educators we have regular highs and lows in the 9 months to follow the chaos in our classroom. Though these weeks and months to follow are inevitable, I ask everyone to reach out ANYTIME we are in the valleys to gather together a group and rejuvenate each other – remind everyone how great it is to be on top of that hill looking out at our classrooms and students with an uplifted heart and open mind not daunted by the million daily tasks on our shoulders every day. Let's remind ourselves when we are in those valleys what matters most in life and our profession – so often the answer is youth. Please use the tools available to rejuvenate yourselves regularly, be it attending the DPI Inservices, WTEA HiTech Weekends, WTEA/ITEEA Convention, SkillsUSA, FIRST, WEEVA or whatever else helps you to climb the hills each day. It can be in these times of education that networking can be most important, as we have educators all over our great state thinking about leaving the profession, as we have a handful of new teachers wondering if they want to stay at this school or move, as we have numerous retired teachers back in the classroom serving their passion through a vacancy unfilled. As a WTEA, we can strive for the hill tops - as long as we hold our hand out to help each other.

## WTEA BOARD NEWS

## **Spring 2014 Annual Membership Meeting Highlights**

by Matt Schultz, WTEA Secretary/Treasurer

The following summary highlights the Spring 2014 WTEA Annual Membership meeting held March 6th at the Chula Vista in Wisconsin Dells, Wisconsin.

- WTEA will host a joint conference with ITEEA in the Spring of 2015 in Milwaukee.
- Registration "Scholarships" for the WTEA/ITEEA
  Conference have been announced: Membership to the
  ITEEA will be reduced to \$65.00 for all WTEA members. The registration cost of the four day conference
  will be 150.00 for all WTEA/ITEEA members.
- New WTEA President Jesse Domer was initiated into office.

- WTEA will be hosting a booth at this year's Skills USA Conference. The aim of the booth is to recruit future Tech-Ed teachers. Contact Matt Schultz if you want to get involved: mjschult@kusd.edu.
- University reports: Technology Education students are low across the state. Encourage students to consider the field of teaching tech-ed.
- WTEA is in support of State Educational Superintendent's Tony Evers position on AB 619.
- Skills USA State Confernce April 29th -30th in Madison WI at the Alliant Energy Center.

For additional information about this meeting contact any member of the Board of Directors.

Complete minutes are available from Matt Schultz at mjschultz@kusd.edu.

#### **WTEA Awards Nominations**

Each spring the WTEA recognizes Technology Educators, Industry, and Technology Education Programs that have demonstrated outstanding achievement at our annual awards banquet held at the WTEA Spring Conference.

The WTEA needs your help as educators to identify these worthy teachers, programs, and other professionals that deserve recognition. The WTEA is looking for educators that are going above and beyond in their classroom. The WTEA has a variety of award categories that cover teachers, programs, and examples of classroom excellence. Members are encouraged to visit the WTEA's Awards page on the website. There you will find the criteria for each award. As a profession we need to continue to recognize greatness in our profession. The WTEA Awards Banquet gives us that opportunity.

The awards committee will contact the nominee and request information regarding the nominee's curriculum, achievements, and contributions to Technology Education along with letters of endorsement. To nominate a teacher, program or industry, contact Matthew Schultz, Secretary/Treasurer or Joe Cointea, Executive Director and tell us who you wish to nominate, where to contact them, and why you feel they deserve recognition from our association. All nominations must be sent by U.S. mail or by email. The awards banquet will be held at the Harley Davidson Museum on Wednesday, March 25, 2015 as part of the WTEA/ITEEA annual conference.

#### **Notes:**

- Nominations must be received by November 22nd to be considered for recognition the following spring.
- To be considered for recognition, the Technology Educator must be a current member of the WTEA and have a history of WTEA membership during the 2012-2013 school year.
- For a detailed description of the awards, please visit our website or contact any board member.

Lakeview Technology Academy Attn. Matthew J. Schultz 9449 88th Ave, Pleasant Prairie, WI 53158 mjschult@kusd.edu

WTEA Awards Committee
Joe Cointea
P.O. Box 1312, Fond du Lac, WI 54936

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## WTEA VICE-PRESIDENT

## Change

By Mike Cattelino, WTEA Vice-President

Change is something that by nature, humans tend to avoid or shy away from. Change is certainly more than the round metallic monetary items that rattle around in your pockets.

As we find ourselves in another year with new stu-

dents, new staff, new assignments, etc., we realize that we are surrounded by change. As my 4th grade daughter ventured off to her first day of school this year, I asked what she was most excited about and she said "meeting the new people in school." It was refreshing to hear that excitement.

One aspect of change that I have found to be more personally difficult to work through is life changes, more specifically, major health issues. I would believe that most everyone knows someone that has undergone a major

surgery, health challenge, etc. It ranges from having children, to parents aging, to significant surgeries. As we reflect on these life events, we see the network of support that has helped us through the tougher times and possibly even helped us find the silver lining.

So how does this correlate with the tech-ed world and WTEA? Consider the changes that you might be going through as a department, school, district, and even at the state level. It can seem overwhelming and there are times

that you might feel alone in trying to work through it. Just like in life changes, there is a large group of people to support you. It ranges from your colleagues to the WTEA and beyond. I believe that the strength of the TEE profession lies in the strength of the professionals themselves to

work together toward a common goal.

As March 2015 approaches, choices will need to be made whether or not to attend the ITEEA conference in Milwaukee. The WTEA membership is used to driving to Chula Vista in early March for the annual membership conference, yet this coming spring that will change. The timing in March is different, the venue is different, the cost will be different, etc. The WTEA planning team for the conference is doing some great work to help offset the additional cost of the ITEEA conference

is order to support our membership in their interests to attend. Please reach out to the association if you are struggling with getting support to attend the conference. For some people, this will be a once-in-a-career opportunity to attend an international TEE conference in our own state.

I truly appreciate that we all understand that change is coming, ready or not. How we as professionals approach the solutions will shape us and our profession for years to come.

### - Dates to Remember -

October 2014	Manufacturing Month	Wisconsin
October 2014	<b>Careers in Construction Month</b>	Wisconsin
October 12 - 14	Career Pathways Network Annual Conference	Orlando, FL
October 15 - 17	SkillsUSA Fall Leadership Conference	Rosholt WI
November 19 - 22	ACTE CareerTech Vision 2014	Nashville, TN
January 10, 2015	Deadline for ITEEA Conference Registration S	cholarships
March 25 - 28, 201	5 WTEA/ITEEA Conference	Milwaukee, WI
March 25, 2015	WTEA Awards Banquet	Milwaukee, WI

## **DISTRICT NEWS**

**District E**Doug Kugler



Greetings to all WTEA members! I hope your summer was relaxing and restful. This will be my 29th year in teaching and (sometimes) it seems like I just left U.W. Stout!! I will try to connect with all of you in District E via email. I know there might be a lot of new faces, so I will try to update the

list ASAP. Please help me if I miss anyone and send me your information by emailing me at: dkugler@waukesha. k12.wi.us or call at 262-790-9128 (home) 262-271-6953 (cell). If you have changed jobs, please send me your new information and I will update it Also, for all retired teachers in District E, if you want to be kept on the list, let me know.

My goal as your representative this year is to have an updated teachers e-mail list, field trips and informational meetings at the technical colleges in our district (WCTC, & MATC), and a possible field trip to area industries. The meetings will be open to all Technology/Engineering teachers in our district and is not limited to WTEA members. If any of you would be interested in hosting a meeting or have a business/industry tour that would make a great field trip, please contact me. I will be sending out a short survey to the District E teachers on what days would be best to get together.

I look forward to hearing from you and I hope to see some of you at the WTEA/ITEEA Joint Conference in Milwaukee on March 25-28, 2015. Check out the great discounts before January 11, 2016 on the WTEA website. Hope you all have a great year!!



## **District F** *Eric Sutkay*



As District F director I would like to welcome everyone back from a much deserved summer vacation. While many of us probably did not spend a great deal of time away from the school or shop this summer, hopefully we still found a way to re-energize. I also welcome the new faces to district F

and I know that there are still many positions that need to be filled. As our president has addressed, we have a huge gap to fill when it comes to graduating Technology & Engineering Education Instructors. It is one of my many goals this school year to encourage one of my students to enter into this field. We are a great group of educators, if not the best, and I believe that this profession provides a lifetime of enjoyment. I look forward to seeing everyone at the WTEA/ITEEA conference in March and please do not forget to register ASAP! I also encourage you to look at the TEquity tab of the WTEA website and read at least one article about gender equity in Technology Education. If you do that, I'm sure you will be able to find something interesting to try and implement it this year! Check out the facts sheet and the top ten list! http://www.wtea-wis. org/wordpress/?page\_id=836 As always, if you have any questions please feel free to email me. Or, if you would like me to come in and visit your classroom, please don't hesitate to contact me. Have a great year!

### **District H**

Tom Martin



Welcome back Professionals! I look forward to working for and with colleagues in District H!

Our district encompasses both the Southwest Wisconsin and Western Technical College districts, a large service area. This doesn't mean I can't serve you.

My contact information is tmartin@cesa3.k12.wi.us and 608-822-2154. If given enough notice, I can attend your meetings to give WTEA, Wisconsin SkillsUSA and CTE updates to you. I am also available to assist you via email or phone call.

If you need assistance, please let me know. Otherwise, here's to a great year!

## WTEA EXECUTIVE DIRECTOR



## It's Time to Gear Up!

by Joe Ciontea, WTEA Executive Director

I'm sitting at my desk in August thinking about the trials and tribulations of the start of school: new students, missing tools and materials, budget cuts, schedule changes, fire drills, safety tests and

fall open house. I know how overwhelming September can be. Unfortunately I want to put one more item on your plate. Gear up, October is Manufacturing Month in Wisconsin and it's a great time to get some extra PR for your program and your students. Bring in a speaker, take a field trip, have an advisory committee meeting; just find a way to celebrate this important part of Tech Ed.

I hope you are also geared up to participate in the Spring 2015 International Technology and Engineering Conference in Milwaukee next March. Our Conference planning committee has been working all summer fundraising, planning sectionals, soliciting STEM exhibits, and creating some great networking opportunities for you. It all starts on Wednesday, March 25, with four rounds

of WTEA sectionals and one general session. We will be providing box lunches to all general session attendees. That evening we will hold our annual WTEA Awards Banquet at the Harley Davidson Museum. All who attend this event will receive a ticket for one free future visit to the museum. ITEEA will have a general session with keynote speakers on both Thursday and Friday. Both days also include four rounds of sectionals featuring presenters from all over the world. Be sure to include time to visit the ITEEA exhibit hall which will include exhibitors, ITEEA STEM Showcase, Wisconsin STEM Partnership displays, and the Wisconsin Tailgate. We are still finalizing plans for the Grand Reunion on Thursday evening - a celebration of UW Platteville and Stout alumni from all over the world. This is only an overview of the conference activities; you will want a sub for three days so you don't miss any of these opportunities. Full details will be available online at: www.iteaconnect.org and www.wteawis.org. The ITEEA has a block of rooms reserved at the Milwaukee Hilton. The Conference page on the WTEA website has a link for housing details.

#### **Tentative Schedule at a Glance**

#### **Milwaukee Hilton Hotel**

Wed. Mar. 25 8am WTEA registration and check in.

Wed. Mar. 25 11am - 5pm WTEA General Session with keynote speaker, 4 rounds of sectionals, and Project Showcase.

#### **Harley Davidson Museum**

Wed. Mar. 25 7pm - 9pm WTEA Awards Banquet (includes free future museum admission)

#### Wisconsin Center & Milwaukee Hilton Hotel

Thurs. Mar. 26 8am - 5pm ITEEA General Session with keynote speaker, exhibits & trade show, 4 rounds of sectionals

Thurs. Mar. 26 5pm - 6pm ITEEA Reception, open to all attendees

Thurs. Mar. 26 7pm - 9pm Wisconsin Grand Reunion (location to be determined)

Fri. Mar. 26 8am - 5pm ITEEA General Session w/keynote speaker, exhibits & trade show, 4 rounds of sectionals

Fri. Mar. 26 2pm - 3pm WI Tailgate in the exhibit hall

Our Wisconsin planning team is working hard on fundraising for the joint WTEA – ITEEA conference. Our fundraising efforts have created partial scholarships for WTEA members to attend this event. If your WTEA membership expires 9/1/2014 renew NOW! Register early, when the scholarship funds run out you pay full prices. Here's how the pricing will work:

#### Fee Schedule for Wisconsin Educators

ITEEA Electronic Membership (expires on April 1, 2015)	. \$65.00
ITEEA Membership Scholarship for current WTEA members	-\$65.00
ITEEA member Early Bird conference registration fee	\$339.00
Partial Registration Scholarship for current WTEA members	\$189.00
Conference Fee subtotal	\$150.00
To get the above rates your WTEA membership must be paid through 9/1/2016, or	or later.



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## **SUBSCRIPTION**



## **Interface School Subscription**

The WTEA school (building or district) subscription provides you and your local colleagues with an opportunity to keep informed about technology education in Wisconsin. The more local technology educators you sign up, the more you save. An individual subscription is \$30, but you can sign up 6 people for only \$125 - that's a savings of \$55 (see fee schedule listed below). Each additional person beyond the initial 6 is only \$10.

#### How it works:

Complete the form below and list every technology educator in your building. If your department has teachers in more than one building, duplicate the form and provide us with the correct school address for each educator. That way separate buildings in the same school district can be combined to increase your savings. All names listed must be employees of the same dehool district. Tally the fees on the form and send it along with a check or school purchase order to the address on the bottom of the form. To be eligible for all benefits of this special pricing, school subscriptions should be sent as soon as possible.

#### What you get:

Each person receives: a personal copy of the *Interface*, all association mailings and notices, invitations to attend regional technology education meetings and workshops, unlimited access to the WTEA website, discounted admission to the association's annual technology education conference, and eligibility to receive all association awards (educator of the year, program of the year, award of excellence, 25 year award). All mailings will be sent to the school address on the form. This school year subscription will expire the following fall. This form will be published in the *Interface* each fall; it is also available on the WTEA website.

Please type or print all information. Duplicate this form as necessary. School District \_\_\_\_\_ School Name \_\_\_\_\_ School Address \_\_\_\_\_ School City \_\_\_\_\_ State\_\_\_\_ Zip \_\_\_\_\_ Phone ( ) School Fax \_\_\_\_\_ Local Technical College District (used for regional workshops and meeting invitations) Local Tech. Ed. Contact (Dept. Chair, LVEC, etc.) Email address of local Tech. Ed. contact \_\_\_\_\_ Name and email # of years teaching Fee \$30 \$25 \$20 \$20 \$15 \$15

Each additional person is \$10 each; names and school address may be attached on a separate sheet.

Please note: The Interface is published 3 times per year: fall, winter and spring.

Send this form with check or Purchase Order to: WTEA PO Box 1312 Fond du Lac, WI 54936-1312 Fax (920) 922-0779

## **SKILLSUSA**

## 2014 State Championships April 29 - 30



## **SKILLSUSA**

## 50th National Leadership and Skills Conference

Wisconsin was again successful at the SkillsUSA National Leadership and Skills Conference. Here is a list of our medalists and top 10 placements. Congratulations again to everyone who helped make our nationals a huge success.



Gold Medal - Automated Manufacturing Technology Watertown High School



Silver Medal – Motorcycle Service Technology Hartford Union High School



Bronze Medal - Entrepreneurship Bonduel High School



Bronze Medal – Marine Service Technology Eau Claire North High School



Gold Medal – Electrical Construction Wiring Pulaski High School

#### **Top Ten Placements**

Computer Maintenance Technology -Lakeview Technology Academy Photography - Bay Port High School Community Service - Lakeview Technology Academy Prepared Speech - Northwoods High School Engineering Challenge - Wilmont High School Promotional Bulletin Board - Slinger High School American Spirit - William Horlick High School Broadcast News Production - West Bend High School Opening and Closing Ceremonies - Winter High School Graphic Communications - Slinger High School Automotive Service Technology - Grafton High School Electronics Technology - Marshfield Senior High School Urban Search and Rescue - Monona Grove High School Sheet Metal - Oconto Falls High School Technical Drafting -Slinger High School Precision Machining - Portage High School Robotics and Automation Technology Lakeview Technology Academy CNC Milling - Osseo Fairchild High School

CNC Milling - Osseo Fairchild High School

Extemporaneous Speaking - Waunakee High School

T-shirt Design - Hartford Union High School

Architectural Drafting - Chippewa Falls Senior High School

Power Equipment Technology - West Salem High School

Carpentry - Lincoln High School - Wisc. Rapids

## **SKILLSUSA**

## Fall Leadership Conference Coming Up

By MacKenzy Slaght, SkillsUSA State Treasurer

SkillsUSA Wisconsin, it's almost here! Believe it or not, Fall Leadership Conference is right around the corner. FLC is a great way to give your chapter a strong start on the school year. Fall Leadership will teach what it takes to run a great meeting, how to work with members and how to have a successful chapter. At this conference, students will meet new people, have the opportunity to participate in team building activities, learn many new ideas, and take home the skills to build a stronger chapter.

There is nothing to lose and everything to gain from this awesome experience, so get involved today. See you there! Be sure to visit www.skillsusa-wi.org to view a video of what Fall Leadership Conference is all about!

#### When:

Wednesday, October 15th - Friday October 17th Where:

Lions Camp, 3834 County Rd A, Rosholt, Wisconsin How:

Register online by visiting www.skillsusa-wi.org



**Fall Leadership Conference** Activities



SkillsUSA 2014 - 2015 Calendar

#### SKILLSUSA FALL LEADERSHIP CONFERENCE

Lion's Camp, Rosholt

#### WELDING CHALLENGES

Oct. 11, 2014 Chippewa Valley Technical College Oct. 25, 2014 Advanced Welding Institute, Eagle River Oct. 28, 2014

Fox Valley Technical College - Oshkosh Campus

#### FIRST SEMESTER (EARLY BIRD) MEMBERSHIP

SkillsUSA-WI Affiliation Fee Due Nov. 15, 2014

#### SKILLSUSA DISTRICT COMPETITIONS

District 1: WITC - Rice Lake Dec. 3, 2014

District 2: Eau Claire North High School Dec. 15, 2014

District 3: Pulaski High School Dec. 3, 2014

District 4: Oregon High School

Dec. 1, 2014 District 5: LakeView Technology Academy Dec. 11, 2014

#### SKILLSUSA MEMBERSHIP FINAL DEADLINE

Feb. 15, 2015

#### SKILLSUSA REGIONAL COMPETITIONS

7TH ANNUAL Southwestern Tech College Jan. 29-30, 2015 **3RD ANNUAL** Northcentral Tech College Feb. 6, 2015

Gateway Tech College Feb. 13, 2015 Fox Valley Tech College Feb. 20, 2015 32ND ANNUAL UW-Stout Feb. 26-27, 2015

#### **42ND ANNUAL SKILLSUSA STATE** LEADERSHIP AND SKILLS CONFERENCE

April 28-29, 2015 Alliant Energy Center, Madison

#### 51ST ANNUAL SKILLSUSA NATIONAL LEADERSHIP AND SKILLS CONFERENCE

June 22-26, 2015 Louisville, Ky.

## **DPI NEWS**

## **October is Manufacturing Month**

By Brent Kindred, Wisconsin Department of Public Instruction

The State of Wisconsin has declared October 2014 Manufacturing Month. I strongly encourage everyone in technology education to join this celebration. Last year we were successful being part of this statewide effort to inform everyone about the bright future of the manufacturing industry. We explained the many high-skill and high-wage jobs available, and continued to help change old stereotypes and outdated perceptions about this proud Wisconsin industry. October will be a great time to highlight your manufacturing program by holding school events, organizing field trips to local manufacturing companies, hosting guest speakers, or visiting a tech college.

The Wisconsin Department of Public Instruction and Technology and Engineering Education is proud to partner with Wisconsin Department of Workforce Development (DWD), Wisconsin Department of Revenue (DOR), Wisconsin Economic Development Corporation (WEDC), Wisconsin Manufacturing Extension Partnership (WMEP), Wisconsin Technical College System (WTCS), and Wisconsin Manufacturers & Commerce (WMC) as we promote manufacturing and manufacturing careers.

Please consider celebrating manufacturing and the great things you are doing in your classroom. For more information, visit our manufacturing month website at http://te.dpi.wi.gov/te\_october-manufacturing-month.

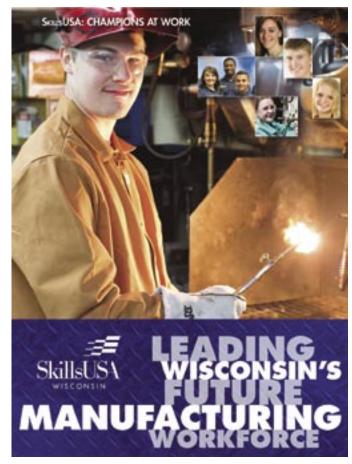


If you are not receiving

the Technology Educators listserve postings,

you can sign up by contacting

Brent Kindred at: brent.kindred@dpi.wi.gov





See You in Milwaukee for the WTEA/ITEEA Joint Conference

## 



## Plan to Attend the WTEA - ITEEA Joint Conference

## March 25 - 28, 2015 · Wisconsin Center & Milwaukee Hilton Hotel

Wednesday Keynote Address **Dawn Tabat** 



Generac Executive Vice President of Community and External Relations

Ms. Tabat has a proven track record of leading change, high performance and disciplines that have gained Generac's solid reputation as an innovative leader in the manufacturing of consumer and industrial power products.

Thursday Keynote Address Nicholas T. Pinchuk



Snap-on Incorporated Chairman and Chief Executive Officer

Mr. Pinchuk joined Snap-on in 2002 as senior vice president and president of Snap-on's Worldwide Commercial and Industrial Group. He was elected chief executive officer in December 2007 and subsequently chairman in April 2009.

Friday Keynote Address Margaret A. Williams



Cray, Inc. Senior Vice President, Research and Development

Peg Williams is responsible for software and hardware engineering efforts for all of Cray's research and development projects. Dr. Williams has more than 20 years of experience in the high performance computing industry.

WILA Member	rship and 2015 Co	nference Registra	ation Form
WTEA Membership:	[ ] 3 year \$75	[ ] 1 year \$30	\$
*2015 WTEA/ITEEA Conference *Pa	ce Registration Fee ayment or P.O. must be re	\$150 eceived by 1/10/2015	\$
WTEA Awards Banquet (Wedn	esday. March 25, 2015):	\$32	\$
			Total \$
*The actual cost of early bird regis on or before 9/1/2014 you must re above price. You may also join/rer	new your membership to tal new your membership using	ke advantage of the partia g the Interface School Sub	l scholarship included in the
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## Be a Part of Building Technology and Engineering STEM Partnerships!

#### ITEEA's 77th Annual Conference in Milwaukee - March 26-28, 2015

ITEEA is building on the success of the Orlando conference as we continue the planning for Milwaukee 2015 in earnest! The Milwaukee Conference theme is "Building Technology and Engineering STEM Partnerships." STEM is very much a buzzword on today's educational landscape. Every teacher, school, district, and state has its own version of what STEM means as well as how to help students engage in experiences that will prepare them for the 21st Century. Technology and Engineering is the foundation for making these experiences meaningful through integrative STEM education.

STEM implementation embodies the spirit of partnerships—working collaboratively to reach common goals. Now is the time to examine linkages to the community and other content areas to further refine and define Technology and Engineering's role. The 2015 Milwaukee Conference theme and strands are provided to address the important work that has been achieved and to showcase the progress.



With over 100 learning sessions, preconference workshops, the STEM Showcase, the latest products and services, student competitions, and MUCH MORE, the 2015 ITEEA conference offers an unparalleled integrative STEM professional development opportunity.

Watch the ITEEA website for information about preregistration, which is opening SOON! Preregistration provides numerous benefits including saving TIME and MONEY as well as eligibility for a \$100 VIsa gift card.

Preregistration is opening soon!

For the latest conference information, go to www.iteea.org/Conference/conferencequide.htm

## **SCHOLARSHIP**

## Dexter Karban & Bryan Lammers Awarded WTEA Foundation Scholarships

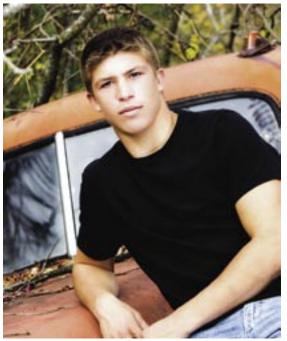
Dexter Karban graduated from Coleman High School and plans on attending UW-Stout. His scholarship essay is printed below.

I chose to major in technical education at UW-Stout

due to the fact that I am a handson learner. I enjoy being a craftsman and am proud of my completed wood and metal projects. I receive a lot of satisfaction and pleasure from taking raw materials and turning them into useful items. I would like to instill that same value into my future students. When I graduate from Coleman High School I will have received a vocational and academic endorsement on my diploma. The vocational endorsement requires eight semesters of technology education. I have exceeded that amount immensely by taking 16 technical education semester classes during high school and have learned many essential skills in all of them. While taking all of these classes I imagined

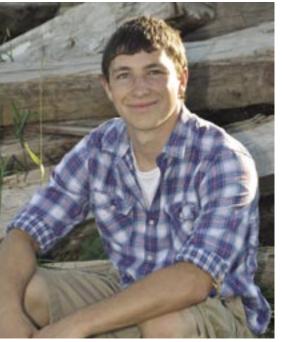
myself teaching to see if I would enjoy doing this for a career. I was able to peer tutor some technical education classes which helped me in deciding my major. I have a cousin and uncle who are both technical education teachers in Wisconsin school districts

and UW-Stout graduates. Both of them told me how much they enjoyed their time at Stout and are proud of their teaching profession. My current technology education high school teachers are also graduates of UW-Stout and have encouraged me to pursue this as my professional career choice. They have seen my passion in working in their classroom and have commented on how my personality is a great fit for a teaching profession. Hearing this from these four technology teachers has really encouraged me to pursue my goal of graduating from UW-Stout with a major in technical education and a minor in coaching.



Bryan Lammers graduated from Oostburg High School and plans on attending UW-Stout. His scholarship essay is printed below.

I would like to pursue the career of a Technology Education teacher for a number of reasons. First, I enjoy being in the shop environment and being able to move around and work with my hands. Also, I enjoy working with other people and being able to help them learn how to work with the tools and processes in and around the technology education department. My high school technology education teacher Mr. Bauman, (UW-Stout Graduate) also inspired me to pursue this career path. From what I see every day in the classroom



and in the workshop, I believe that he enjoys what he does and has a lot of fun interacting with people and being able to create some high quality and interesting projects. I then realized that he and I have similar personalities, and I wanted to pursue a career that would allow me to enjoy what I do and interact with people and teach them about what I love to do. I believe that this path is the one that will help me achieve my passion to become a technology education educator.



## **GATEWAY TECHNICAL COLLEGE**

## Seminar Teaches Real-World, Tech-Savvy Training to Area High School Teachers

A seminar hosted at Gateway Technical College Aug. 11 to Aug. 14 gave several area high school instructors the skills and equipment to provide cutting-edge training to their students to successfully enter their career or a college program.

Called a "train-the-trainer" event because college instructors train high school instructors to better train their students, the session provided nationally certified instruction on Snap-on automotive diagnostic equipment used in the industry today. The skills gained by high school teachers allows them to deliver even more real-world skills to their students which are needed to become college and career ready. The session was the same certification training Gateway has offered to instructors from across the country since 2008.

"This type of in-depth, nationally recognized professional development is rare and expensive to attend, so being able to provide this opportunity for our local instructors at no cost is a great benefit for the entire community," said Gateway and session instructor Matt Janisin.

Teachers from the following high schools within the Gateway district participated: Bradford (Kenosha Unified School District), Park (Racine Unified School District), Wilmot Unified, Lake Geneva Badger (Lake Geneva Area Schools), Burlington (Burlington Area Schools), Whitewater (Whitewater Unified School District), Waterford Unified, Union Grove, Elkhorn (Elkhorn Area School District).

"This seamless transition into Gateway's programs saves students, their parents, and taxpayers' money by not having to pay for duplicated services," said Janisin. "Accelerated students will come to the entry-level job market and post-secondary education with higher skills that benefit area employers as the skilled workforce expands."

In addition to providing the training at no cost, Gateway and the National Coalition of Certification Centers-NC3 donated \$6,000 worth of Snap-on diagnostic tools to the teachers – the same equipment they trained on in the session – for their high school.

"Equipment and training are essential for improving student experiences within the classroom, and building a more skilled and career-ready workforce," said Janisin. "This donation of advanced automotive diagnostic equipment, along with nationally recognized certification training, ensures instructors will be comfortable and confident in teaching their own students how to effectively diagnose problems found on today's complex computer controlled vehicles."

The event was hosted at Gateway's Horizon Center for Transportation Technology. This opportunity was made possible by the strong partnership Gateway has created with Snap-on, Inc. though NC3.

Instructors from the high schools of West Allis Central and West Allis Hale (West Allis-West Milwaukee School District) and Beloit Memorial (School District of Beloit), also participated.



Front Row L to R:

Aaron Troxell, Beloit;

Matt Kerhin, West Allis Central;

Tom Sheeley, Lake Geneva Badger;

Rick Romanski, West Allis Hale;

Casey Cushman, Kenosha Bradford.

Back Row L to R:

**Austin Thorson,** *Elkhorn*;

Nick Schilleman, Burlington;

Jake Ruff, Waterford;

Dave Dixon, Racine Park;

Matt Janisin, Gateway Technical College;

Jeff Kehoe, Wilmot;

Mike Wintz, Whitewater;

Travis Kornely, West Allis Hale.

## **GATEWAY TECHNICAL COLLEGE**

## **New Teacher Licensure Program First in Wisconsin**

A new partnership between the University of Wisconsin-Parkside and Gateway Technical College creates the first post-baccalaureate teacher licensure program in the state of Wisconsin for professional educators specializing in career and technology education (CTE), and pre-engineering.

The licensure program, approved recently by the Wisconsin Department of Public Instruction, addresses the shortage of CTE and pre-engineering teachers. One example of the shortage is found in the Kenosha and Racine unified school districts where seven CTE and pre-engineering teachers are on emergency licenses this year. The districts expect vacancies of up to 15 over the next three years due to retirements and new programs at the middle school level.

According to the Wisconsin Standards for Technology and Engineering, K-12 students who participate in technology and engineering classes are exposed to increased academic, technical and employability knowledge and skills that are critical for students to be college and career ready.

However, a shortage of CTE and pre-engineering educators poses an obvious problem. Gateway Technical College President and CEO Bryan Albrecht described the snowball effect of fewer teachers resulting in fewer CTE programs in K-12 schools, and fewer students interested in technology and engineering. "If you don't have inspired teachers, it's unlikely you will have an inspired cohort of students," Albrecht said.

The National Association of State Directors of Career Technical Education Consortium notes several factors contributing to the shortage in CTE teachers, including increased student demand for CTE courses; elimination of existing teacher education programs that license CTE teachers; and retirements affecting the current supply of teachers.

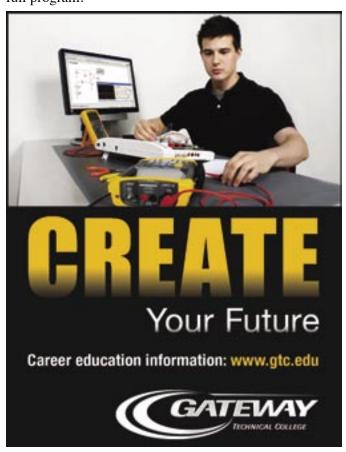
"Building the workforce for tomorrow begins in our classrooms today," Albrecht said. "The partnership between Gateway Technical College and UW-Parkside serves as a national model for addressing the critical need to align technology and engineering teachers with the needs of industry."

The partnership between Gateway and UW-Parkside is a post-baccalaureate program that leads to a technology and pre-engineering license to teach at the early child-hood-adolescence level. It is the sole licensure-only pro-

gram in the state of Wisconsin.

The University of Wisconsin-Parkside Institute of Professional Educator Development and Gateway Technical College will partner on the state's first licensure-only post-baccalaureate program. UW-Parkside will provide oversight of the licensure process including pedagogy coursework and required field experiences. Gateway will support candidates with content courses aligned with the Wisconsin State Standards.

The new technology education licensure program answers the need for technology and pre-engineering teachers. Today, only UW-Stout and UW-Platteville prepare technology and pre-engineering educators with a bachelor of science or master's degree. Individuals looking for a licensure-only alternative were challenged to find a regional program to participate in without enrolling in a full program.



Check out the WTEA Home Page www.wtea-wis.org



## \_ook.

## Experience. Understand.

Come see What's Brewing at the Wisconsin STEM Partners Showcase. Experience STEM through interactive exhibits featuring high schools, colleges, business partners and key STEM-related associations.

Understand why Wisconsin leads the way in engineering and technical education.

Visit the Wisconsin STEM Partners Showcase (within the main Expo Hall) Thursday, March 26 • 11 am - 6 pm Friday, March 27 • 11 am - 3 pm

#### The Wisconsin STEM Partners:

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Kenosha Unified School District-LakeView Technology Academy

Kloss Foundation LabCorp Miller Electric

Milwaukee Bradley Tech High School Milwaukee School of Engineering









Manufacturing Skills Standards Council (MSSC) National Coalition of Certification Centers (NC3) National Coalition of Advanced Technology Centers (NCATC) National Occupational Competency Testing Institute Peter Scherrer Group Plastics Ingenuity

Snap-on Incorporated Three Lakes Junior and Senior High School

Union Grove High School

University of Wisconsin- Stout University of Wisconsin- Platteville University of Wisconsin-Parkside

Watertown High School

Wisconsin Automobile and Truck Dealers Association

Wisconsin Built

Wisconsin Department of Public Instruction

Wisconsin Manufacturers and Commerce

Wisconsin Technical College System

Wisconsin Technology and Engineering Education Association





## **ARTICLE**

## Prototype Device Faculty Training to Spur Moroccan Business Productivity

Reprinted with permission by Gateway Technical College

Getting a new product idea from the conceptualization phase to a physical model can be a slow and expensive process for entrepreneurs leading start-up companies as well as established businesses. This process can stall business growth but 3-D printing offers a fast-track method to a tangible product. The higher education collaboration project funded by the U.S. Agency for International Development between Gateway Technical College (GTC) and Ecole Supérieure de Technologie d'Oujda (ESTO) in Morocco calls this rapid prototyping and has been training ESTO faculty to use the special printer to support entrepreneurship and business development.

Through a 3-D printing training, more than 30 students and teachers involved in the Higher Education for Development partnership are able to concretely produce their designs or industrial models, developed initially on their computers in design software. They become very motivated to invent and dream of new 3-D models. "The whole team is excited to use the 3-D printer for teaching and student projects," said M. Smail Zouggar, head of the Applied Engineering department at ESTO.

Furthermore, because the plastic-like material that the partners are using is of medical grade, ESTO is beginning to receive proposals to manufacture medical components used directly in human bodies. "By talking to specialists, there is a need for some tools used in surgical operations and they are very expensive, we can achieve them for low cost using our 3-D Printer," said Jamal Yousfi, a teacher of mechanics at ESTO. Other professionals in Oujda, Morocco also expressed interest in rapid prototyping, particu-

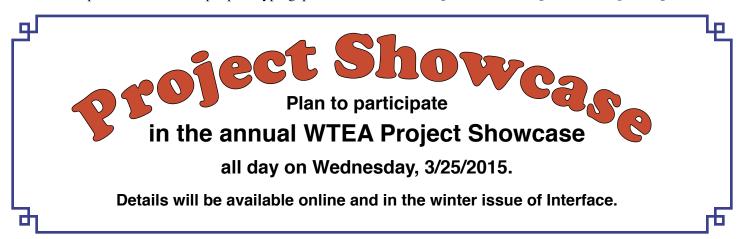
larly for complicated prototypes such as pumps or bottles that are locally difficult to make using the conventional prototyping and require more expensive molds.

"In some student projects, some parts are so hard to obtain by [the] manufacturing process; but we can design them easily using 3D CAD software, and then produce them on our 3-D printer," adds M. Mohammed Boughaleb, teacher of rapid prototyping at ESTO.

The next step will be to introduce companies in the region to the technology with the hope of having the students working with the companies on real-world projects. The partners are eager to train new students in these desirable and employable prototyping skills. With a newly skilled workforce and modern equipment, businesses will be able to introduce products to the market faster, allowing them to gain market share thus bringing more business to the area.



Faculty and students learned to use rapid prototyping and created plastic models of products using a 3-D printer.



## **ARTICLE**

## **Spotlighting Technical Education in Wisconsin's High Schools**

The transformations taking place in a growing number of high school technical education departments across the state are nothing short of amazing.

We invite you to share news of your programs for publication in *Manufacturing Today WI* and *Transportation Today WI* newspapers. These newspapers are aimed specifically towards encouraging and celebrating technical education at the high school level. You can view the electronic versions at http://www.manufacturingtodaywi.com/ and http://www.transportationtodaywi.com/. We want to highlight your technical education classrooms and spread this excellent news to other high schools, manufacturers, and technical colleges in Wisconsin.

Manufacturing Today WI's first issue was sent out to Wisconsin's high schools in late August 2013 and though it did highlight two high schools' manufacturing programs, the focus was more on the manufacturers themselves calling out to the schools. "We are in need of employees! They must have these skills and we would like them to have acquired this knowledge." said the manufacturers. The response to this publication was wild and we were hard put to keep up with the numbers of extra copies that were requested by the high schools and associations. The second issue was published in late January and unlike the first one, articles about successful manufacturing programs from Wisconsin high schools were the rule. We saw it as an answer of sorts from the schools to the manufacturers. "Look what we are doing!" Partnerships between the high schools, technical colleges and manufacturers were featured along with stand-alone programs.

Now we are in the midst of putting the third issue together. The emphasis in this one will be on how skills are rewarded. We all hear about the "skills gap," but our

goal is to highlight the positive benefits of obtaining the knowledge and skills desired by future employers. It will be printed in September and another issue will come out in January.

Transportation Today WI was originally developed in response to educators asking for information about various transportation subjects to use in the classroom. This publication and its website do that, but the newspaper also serves as a pipeline to show the technical education classrooms engaged in transportation related programs. It also features articles from the entities that are looking for employees with the skills and knowledge that these increasingly progressive classrooms/educators are imparting to their students. Published four times a year and like our other newspapers it is always free to the schools. Transportation Today WI is a non-political resource and communication tool committed to serving Wisconsin's schools and their technical education departments in particular. Work has started on the fall issue which will be coming out in late October.

We would like to commend all of the people who have endeavored to elevate so many of the technical education departments to where they are now. No longer at "the end of the hallway" but rather standing in a well-deserved place of honor.

For more information on submitting an article please contact:

Renee Feight, publisher at renee@teachingtodaywi.com 715-839-7074 or

Andria Reinke, editor at andria@teachingtodaywi.com 715-360-4875





### Check your mailing label now!

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

You may not receive the next important issue of the *Interface* unless your dues are paid beyond 2014.

## **UW-PLATTEVILLE NEWS**

#### **Tornado Strikes Platteville**

By Francis X. Steck, UW-Platteville

The date was June 16, 2014. Most Platteville residents went to bed aware that a thunderstorm was approaching southwest Wisconsin from the west. No alarms sounded, so many residents woke up thinking all was right with the world. However, for residents of the southeastern side of Platteville, the night of June 16 would turn into their worst nightmare.

Lurking in heavy rainclouds was an EF 2 tornado. At the same time, a smaller second tornado struck the north side of Platteville, where damage was confined mostly to the trees on the Platteville Country Club.

The tornado approached Platteville from the west, paralleling County Road B. The first area of destruction was in the "Driving Range area" of the Greenbelt. Trees, along the southern hillside above the Rountree Branch stream were laid down as if cut by a mower. The tornado continued through Memorial Park, taking out more than 60% of century-old oak and maple trees that for decades shaded picnickers and hikers.



Next in its path were three new buildings, dorms Bridgeway Commons and Southwest Hall and Engineering Hall. Windows were blown out, roofing was ripped up, and debris was strewn everywhere. Vehicles parked in Engineering Hall parking lot were left battered and twisted, looking more like balls of wadded tin foil than automobiles.



Crossing Southwest Road the tornado bore down on Pioneer Football Stadium. Stadium lights and aluminum

visitor bleachers were twisted and destroyed beyond recognition. Sections of concrete decking were lifted off their supports. Shards of glass strewn across the artificial turf rendered the surface useless.



Crossing Markee Avenue the twister struck a third new dorm, Roundtree Commons. Several businesses on Chestnut Street were leveled. The twister then leveled several homes in the neighborhood between Chestnut Street and Harrison Park. One resident was torn from her bed and thrown into the street.

Next, businesses on Business 151 were struck, leveling the canopy and Shell Station at Ed's Café. Trees behind Dunkin Donuts and Culvers were dropped into the Rountree Branch stream like matchsticks. The final destruction included twisted-uprooted trees and tousled gravestones in Hillside Cemetary.

The impact of this terrible night has been felt most by engineering programs, the dormitories, and intercollegiate athletics. The Department of Industrial Studies was forced to relocate classes originally scheduled for Engineering Hall, but that pales in comparison to the impact on mechanical engineering. Dorms should be ready to go, with about 80 students still waiting to find alternate living arrangements due to storm damage. Perhaps the greatest need will be for replanting of trees along the Greenbelt and in Memorial Park.

On Friday, August 29, 2014, UW System President Dr. Ray Cross joined UW-Platteville Chancellor Dennis J. Shields and Provost and Vice Chancellor for Academic Affairs Dr. Mittie N. Den Herder on the back patio of Engineering Hall to reopen the University. 74 days since the tragic night of June 16, 2014 the University was ready to declare, "It's a great day to be a Pioneer!"

Photo credits:

Andrew McNeill and Tyler Ensrude, UW-P Photographers



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## **ARTICLE**

## The 2014 Summer Institute Celebrates 15th Year of Service to our Teachers

By Gary R. Beier, Vice President - Foundation of WATDA

That was the theme as the Foundation's annual Summer Teachers Training Institute opened at the same campus where it all began in 2000 – Milwaukee Area Technical College, Mequon.

It all began when our Team Wisconsin education consultants came up with the concept of summer school for transportation technology teachers, which could provide them with their required professional certification tools namely: meeting with industry representatives, new curriculum elements, safety standards, new technology and links to classroom and student resources. The first institute was a single session. It has come a long way since that early beginning.

This year's institute attracted teachers from all four corners of the state. In fact, we served an equivalent of nearly 50% of all of the high school automotive programs in Wisconsin. The subjects included paperless classroom, virtual painting, hybrid battery technology, power stroke diesel maintenance, advanced diagnostics, electrical/electronic classroom concept to reality, web-based training, drivability and open forums on jobs and grants. In all, there were 14 individual subjects offered during the four-day program that ran from July 8 through 11.

The depth of subjects presented and the 72 attendees would not have been possible without the support of a host of sponsors including:

Automobile Dealers Association of Mega Milwaukee
ADAMM
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Gateway Technical College
GM North Central Region
Goodheart-Willcox Publisher
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Milwaukee Area Technical College
Milwaukee Area Workforce Funding Alliance
Moraine Park Technical College
Snap-on Corporation
University of Wisconsin La Crosse
Wisconsin Auto & Truck Dealers Association

Wisconsin Department of Public Instruction Wisconsin Technical College System

Wisconsin Technology Education Association This fall, our transportation service technology class-

rooms and labs will be better for the education services provided by our Teachers Institute team! And, next spring we will be joining the WTEA team for the international ITEEA in Milwaukee. See you there!



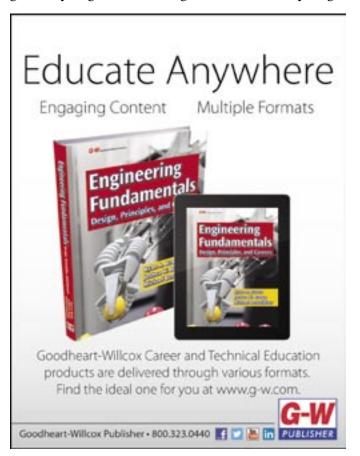
## **ARTICLE**

## **Summer STEM Camp**

By Eric Sutkay, Lakeview Technical Academy

Another summer has passed and again Lakeview and Kenosha Unified District held their summer STEM camps. This year was extremely exciting as we added the addition of a middle school STEM camp. Not only do the camps provide additional, valuable, educational experience to many students, they also focus on girls as well as minority students. The focus is excellent and the kids spend a good amount of time doing hands on experiments. A STEM camp is a great way to build excitement in the classroom outside of the school day, as well as encourage students who might not normally take your classes, to enroll for the upcoming school year.

Kenosha Unified has been providing summer STEM camps for students for close to 5 years now. We have offered them at several high schools and this year we were excited to offer them at the middle school level. Providing an opportunity like this, not only for interested high school students, but interested middle school students is a great way to get kids thinking about STEM at a younger





age. With different engineering curriculums added at the middle school level, there is no wonder why there is such interest at a young age. Students are already designing playgrounds and playground equipment on Inventor at that age. What an opportunity to expose them to some additional computer time and hands-on experience that will prepare them for their future.



Most of the camps held in Kenosha are geared towards minority students and girls. The goal is to introduce students to what the shops/labs are, what STEM is, and how fun and exciting it can be to learn about STEM. Traditionally these students may have never taken a STEM course or had an opportunity to work in this type of setting. With camps specifically geared towards getting them interested in STEM, we can focus on their particular interests and engage that excitement and creativity that the STEM

fields desperately need. Students at the LakeView camp spend one day studying four different topics including: Manufacturing and Machining, Engineering, Information Technology, and Biomedical Engineering. Our local partnerships with BRP, Bradshaw Medical, XTen Industries and Shiloh Industries provide an excellent opportunity for the campers to see their STEM field of interest at work. Field trips each afternoon make this a huge success.



We all know that enrollment in our courses hinges upon many different things and one of those can be common misconceptions about what your area of the school is. Things like how it looks, what it smells like, what you make their and the overall attitude of the teacher and other students. If you can change some of those common misconceptions, in a smaller controlled atmosphere, you may find that your enrollment increases, due in part to the positive relationship built in the shop at the STEM camps. Think about setting up a STEM camp in your district. Talk to your administrator and find others that are on board with some of the cool things you are doing. It may be helpful to talk with teachers in other disciplines as well. If an entire summer camp is not for you, think about a weekend camp, or one day weekend camp, or even possibly something you might be interested in throwing a few hours at over a winter or spring break. The benefits can be very rewarding!



If you have questions about setting something up, please do not hesitate to contact me at esutkay@kusd or by phone at (262) 359-8155.

## This Snap-On Master Metric Mechanic Tool Set Valued AT \$33,700 Could Be Yours!

### Enter To Win – Support the Future of Technology and Engineering!

All proceeds benefit the ITEEA and WTEA Foundations and will go towards building a brighter future for technology and engineering students.

Tickets can be purchased at the ITEEA Conference Registration Desk (cash or credit) or in designated areas on the floor (cash only). Purchase one ticket for \$5 OR increase your chances and buy 3 for \$10.

Don't miss this exciting raffle event following lunch (and during the Wisconsin Tailgate) Friday afternoon, March 27, 2015.

To learn more about the ITEEA Foundation for Technology and Engineering Education (FTEE), visit http://www.iteea.org/Awards/awards.htm. To learn more about the WTEA Foundation, go to www.wteafoundation.org.



## FROM THE ARCHIVES

Editor's Note: The following article is reprinted from the Fall 1987 issue of the Interface.

## **Changing Yourself and Your Job**

by John Olson, Industrial Technology, North Branch High School, North Branch, Minn.

In today's rapidly changing technological and educational process, schools from large cities to small rural areas are experiencing many of the same problems with industrial technology courses.

With declining student enrollment, increase in required academic cuts, staff reduction and larger class sizes, we in industrial technology are faced with many crucial decisions as to the future of our classes and our employment.

There are vital issues that must be addressed and we in the profession have the choice of getting involved and addressing the issues or sitting back and allowing others to address them for us.

Faced with these issues, we made the decision, with the help of our administration, to update our program. When our turn for curriculum revision came up in the 1984-85 school year, we set to work with Department and District meetings and attending state industrial technology workshops. We also visited other schools.

We are now in our third year of hard work and extra hours, but we have a successful industrial technology program to show for our efforts. At our high school, enrollments are either holding steady or increasing in some areas due to the changes that were made. At the middle school, two new programs - manufacturing in the sixth grade and construction in the seventh grade - are very successful with excitement not only from the teacher, John Forstrom, but also from students and our school board.

We would like to share some of the ideas we feel necessary for the successful improvement of an industrial technology program:

Real world learning.
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- 1. Dedication and commitment to "keeping the best and changing the rest" must come from all industrial technology staff members.
- 2. No staff member is too young or old to update himself and their program.
- 3. You must sell your program (if you don't, no one else is going to).
- 4. Believe in your program (tell others about the good things).
- 5. Visit other schools.
- 6. Get involved in workshops presented by your Industrial Technology Education Association or the State Department of Education.
- 7. Update yourself.
- 8. Believe in yourself ("You are the best qualified person to be teaching industrial technology").
- 9. You must learn to market your product ("technology classes"). Go to the student and sell your product.
  - a. invite people to come in and see what you are doing (school board, parents, administration)
  - b. enlist the help of business to help with promotion.
- 10. Prove to your school board that you have an important product and you need their support.
- 11. Lobby for a five-year plan. Be convincing that it will take that long to do a superior job of updating.

We have come a long way and expect to continue with new successes in the remaining two years of our five-year plan.

It is not an easy task to redesign industrial technology. Dedication is important and a lot of extra time and hard work is involved.



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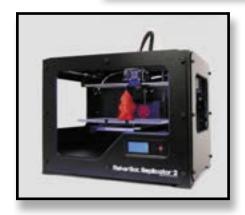
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