MTEA Journal

"Information for the STARS!

President's Report by Eric Waldoch

<u>Greetings!</u>

I am honored and humbled to be addressing you as President of MTEA. Increasing communication with the MTEA membership is a high priority for me. One way I will help to accomplish this is by attending affiliate meetings and speaking with MTEA members around the state. Your views are important to MTEA and me. Affiliate Presidents please contact me with meeting dates. Either Executive Director Gary Gronquist or myself will try to attend. I realize that not everyone can attend the fall conference but still need to feel a connection with MTEA to keep informed on what is happening. This journal is an important way for MTEA to communicate with its membership. Although there has been a recent gap in journals, I am committed to keeping it going.

MTEA is a strong, active organization because of its members and their willingness to give of their valuable time and talents. All of us are busy with jobs, family, and other interests but without the dedication of others in the past, MTEA would not be as solid as it is today. The organization needs your help. Using a baseball metaphor, it's time for people to step up to the plate and take a swing. Please think seriously about taking a leadership role.

Please continue to keep up the important work you do with students. The end of the school year is near, enjoy your summer and take time to recharge your batteries. I hope to see you at the Fall Conference!
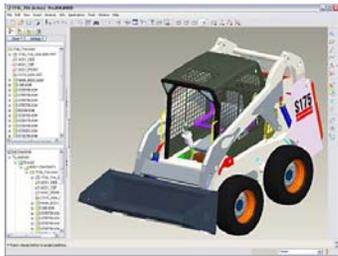
**Open the Door to
The Fall Conference**
For the latest information:
www.mtea.net

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*MTEA Fall Conference.
A great opportunity to
meet with friends and
colleagues.
St. Cloud Holiday Inn.
September 26 and 27,
2008.*

"Make an impression
on your students- get
trained to use Pro-
Engineer Schools
Edition this summer.
Check www.mtea.net
for the training
schedule.

MTEA Fall Conference: September 26/27, 2008

This years Fall Conference theme is "Back to the Future III" and is destined to be a great, not to be missed opportunity. The tentative conference agenda is on the web at www.mtea.net. MTEA colleagues, presenters and vendors are all working to make this an informative and fun event.

New this year is one conference registration fee which covers the Awards Dinner and lunch on Saturday.

We will also be celebrating three Threes: 30 years of MTEA Conferences, 30 years of Supermileage challenges and 30 years of Technology Challenges. Make plans now to attend the MTEA Fall Conference.

Come and be **HYPNOTIZED** by best practices in the educational field.

PTC and Engineering Education:

PTC's Design Quest Schools Program is developed specifically for secondary education to introduce students to design technology - thus helping them to become better problem solvers, critical thinkers and collaborators. With considerable investment in software and training, PTC is able to provide a fully sponsored program for teachers to bring 3D design into the classroom.

After teachers complete a training workshop, PTC donates 300 seats of Pro/ENGINEER Schools Edition 3D design software that students can use in the classroom **and** at home. PTC also provides additional teacher training opportunities, classroom materials, discussion groups, and web-based resources for design collaboration between schools.

- Donated Pro/ENGINEER Schools Edition software (requires teacher training workshop)

- For classroom and home use (up to 300 seats per school)

- Multimedia tutorials, learning aids, project-based activities and classroom resource materials

- Fully associative capabilities spanning modeling, assemblies, drawings, animations, kinematics analysis and design optimization, renderings and more.

The MTEA is sponsoring a training session in August at Lakeville South High School. Registration information is posted on the MTEA web site. Register early!

Effectively Communicating with Lawmakers

Excerpts from an article by Becca Pryse and Valerie Dosland - Ewald Consulting

The best idea in the entire world is no more an idea without an effective strategy to communicate and generate support for the idea. Here are some of the things you can do to make sure your ideas are well received.

Know your audience

If you are meeting with legislators or testifying before a legislative committee, it's a good idea to know something about the individual legislators such as their political affiliation, the area of the state they represent, and some of the issues they have championed as legislators.

Use terms your audience will understand

Stay away from jargon or technical details that may cloud your message.

When in doubt, spell it out

An acronym that your audience is not familiar with only confuses the message you are trying to communicate. While you know that MTEA is the Minnesota Technology Education Association, your audience may not be.

Just the facts

Most legislators appreciate getting solid facts about a particular issue. Any facts that can be provided to help make your case are a good thing. Accuracy of your facts is crucial. Legislators do not want to be misled, whether it is intentional or not.

Short and sweet

Legislators greatly appreciate short communications that get to the point quickly. Have additional information to back up what you are saying in case they have questions.

The messenger matters!

If you have a choice of who will be the spokesperson for your cause, choose carefully. You want someone who is relatable, articulate, and knowledgeable. Keep in mind; if you are speaking to legislators one on one, the spokesperson may need to be changed depending on which legislator you are speaking with.

ITEA Report

ITEA – Your Tool of Choice

By Joel Ellinghuysen ITEA Representative

As another school year comes to a close you are likely to reflect on the past year and begin plans for the next. As I look back, I think about how our curriculum area has changed and continues to change. Words and acronyms such as PLTW, (Project Lead the Way) STEM, (Science, Technology, Engineering, and Mathematics) TIDE, (Technology, Innovation, Design, and Engineering) and EbD, (Engineering by Design) are new acronyms that I have become acquainted with over the past couple of years. Along with new acronyms, technology is also changing; laser engravers, solid modeling, nanotechnology and robotics to name a few. At first glance all of this change could be a very scary thing for someone teaching in our curricular area. But, as I think about it, technology has always been changing and will always continue to change. I believe that this is probably one reason why many of us enjoy teaching technology education, the constant change! Given constant change, professional organizations are very helpful. The MTEA and ITEA are two such organizations. Being involved will aid you in keeping informed of the latest changes. Many people ask what professional organizations can do for them. I look at these organizations as tools. I can buy a tool and put it in my toolbox, but to really get my moneys worth I need to use it. I need to learn what a tool does and how it can help me. The same goes for professional organizations. You can pay for membership and it looks good on a resume. But to really get something out of it you need to get to truly understand what it can do for you! For example: As a member of the ITEA you can be a member of the Idea garden, a listserv that technology educators and others use to communicate and collaborate on the latest activities and ideas. Next fall ITEA will begin interest groups to help people focus on special areas of interest such as design, innovation or engineering. ITEA also has tools in the curricular area such as Engineering by Design; which is a comprehensive, hands-on, standards based solution for STEM. These are some of the ways your professional organizations can help you keep abreast of constant change.

So check your toolbox for these great tools available to you and begin honing your skills by using your professional organizations! Check out the websites of MTEA and ITEA to see what you can do with your tools and plan now to attend the upcoming conferences.

Project Lead the Way

Figures for 2007-2008 school year:

- **States with PLTW programs:** 49 states and the District of Columbia

- **Total schools nationally:** 2,000

- **Total teachers trained:** 6,000

- **Total counselors trained:** 3,500

- **Total students enrolled in PLTW classes:** 175,000

- **Total number of students who have experienced PLTW:** More than 300,000

PLTW High School Curriculum

Pathway to Engineering™

The High School Program is a four year sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering prior to entering college. However, those not intending to pursue further formal education will benefit greatly from the knowledge and logical thought processes that result from taking some or all of the courses provided in the curriculum.

Foundation Courses:

- **Introduction to Engineering Design** - A course that teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software. In NYS, Circuit test the course is called Design and Drawing for Production and follows the syllabus developed by the State Education Department.

- **Principles of Engineering** - A course that helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change.

- **Digital Electronics** - A course in applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.

Specialization Courses:

- **Aerospace Engineering** - Through hands-on engineering projects developed with NASA, students learn about aerodynamics, astronautics, space-life sciences, and systems engineering (which includes the study of intelligent vehicles like the Mars rovers Spirit and Opportunity).

- **Biotechnical Engineering** - Relevant projects from the diverse fields of bio-technology, bio-engineering, bio-medical engineering, and bio-molecular engineering enable students to apply and concurrently develop secondary-level knowledge and skills in biology, physics, technology, and mathematics.

- **Civil Engineering and Architecture** - This course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real world problems and communicate solutions to hands-on projects and activities. This course covers topics such as:

    o The Roles of Civil Engineers and Architects

    o Project Planning

    o Site Planning

    o Building Design

    o Project Documentation and Presentation

(High School Courses continued)

- **Computer Integrated Manufacturing** - A course that applies principles of robotics and automation. CAD design The course builds on computer solid modeling skills developed in Introduction to Engineering Design, and Design and Drawing for Production. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing, and design analysis are included.

Capstone Course:

- **Engineering Design and Development** - An engineering research course in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor. They must present progress reports, submit a final written report and defend their solutions to a panel of outside reviewers at the end of the school year.

MnACTE Report by Steve Ullrich, President

Greetings MTEA/MnACTE Members,

I am sure that many of you are aware of the fact that Minnesota is hosting the 2008 Region III ACTE Conference this year. We hope to see a significant number of MTEA members representing our Minnesota ACTE affiliate in attendance at this event. Please be sure and note June 16, 17 and 18 as conference dates on your planning calendars. Updates, registration materials and break out session and tour information will be posted to www.mtea.net/MnACTE/RegionIII.htm as available. We are offering workshops and break out sessions designed to meet the needs and interests of all CTE programs in the state. We have excellent tours and social events planned. Join us. This conference will be fun as well as professionally relevant.

2008 ACTE Region III Conference
Being a Highly Effective Association

MTEA MEMBERSHIP

An International Technology Education Association
Affiliate

An Organization That:

• Sponsors a Fall Conference – the single best place to find out what's going on in teaching technology with presentations, demonstrations and commercial vendors.
• Is instrumental in advocating for inclusion of technology as a Minnesota graduation outcome.
• Works cooperatively with the Minnesota Department of Education to develop teacher's licensure, program standards and other matters of mutual concern.
• Publishes a top-flight journal packed with articles, resources and all the latest news in Minnesota education.
• Networks with organizations like SciMath Minnesota, the Minnesota Association for Career and Technical Education, the Minnesota High Technology Council, Minnesota Precision Manufacturing Association, Printing Industries Minnesota and the Minnesota Tooling and Machining Association to promote teaching about technology.

• Was instrumental in passing legislation to have state universities review entrance requirements regarding technology.
• Sponsors competitions and workshops for technology teachers and students.
• Recognizes teachers for their accomplishments with awards for outstanding teachers, programs, 25-year awards and retiree awards.
• Provides up to date information through our home page at www.mtea.net.

The Minnesota Technology Education Association focuses on what is of value to students and supportive of teachers in the field; is dedicated to local and national technology organizations; and makes a difference in the quality of education in our state.

Minnesota Technology Education Association and MnACTE Membership Application

Last Name: _____ First Name: _____ MI ____
Home Address: _____
City: _____ State: _____ Zip: _____
Home Phone: _____ Local Technology Affiliate: _____
Home e-mail: _____
School Name: _____
School Address: _____
City: _____ State: _____ Zip: _____
School Phone: _____ School Fax: _____
School e-mail:_____

• New or renewing professional – 1 year - $40.00
• New or renewing professional – 3 year - $100.00
• Student – 1 year - $20.00
• Student – 3 year - $50.00
• Retired professional – 1 year - $20.00
• Retired professional – 3 year - $50.00
• New Teacher – 1st year teaching in the state – Free!
• MnACTE membership – Included!

MTEA membership year runs from October 1 through September 30 annually.

MTEA JOURNAL – SPRING 2008

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MTEA on the Web!
See us at:
WWW.MTEA.NET