May 10, 2017 Meeting

The May 10, 2017 Waterloo Technical Society (WTS) meeting was called to order by President Gary Dorhout at 7:15 pm. President Dorhout noted that this was the eighth meeting of the 103rd year of the Society.

A total of 33 members and guests attended.

Treasurer's Report. Ken Friend reported a beginning balance of $934.17 with a $250 check to the Electric Boat Club at UNI outstanding. There were no new member dues but expenses of $90 for five April presenter meals leaves a balance of $844.17 with a $250 check outstanding. Useable funds are $594.17. Treasurer Friend stated a total of 8 honorary and 55 paid members gave a membership roster of 63 members.

Election of Officers. President Dorhout presented an unchallenged slate of officers. Dale Hatinger moved and Bob Dietrich seconded that the slate be approved as presented. Motion carried unanimously.

Officers for the 2017-2018 year (year 104) are:

President:	Gary Dorhout
Co-Vice Presidents:	Jerry Mohling and James Stevenson
Treasurer:	Kenneth Friend & Paul Anderson
Dinner Reservations:	Derek Eagles & Steve Lang
Secretary:	James Stevenson
Publicity/Recognition:	Todd Whiting
Auditing:	Bill Mitchell & Jim Garrett
Nominating Committee:	Open
Web Site:	Tim Schoenfelder

Old Business. The speakers for the remainder of the fiscal year have all been identified. Suggestions are still being accepted from the membership. President Dorhout presented this lineup:

Speakers for the 2016-2017 Meeting Year (Year 103)

- 14 Sep 2016 - Dr. Donald Gurnett from U of I. Voyager Spacecraft
- 12 Oct 2016 – Dr. Tim Nagel – Sign Technology
- 9 Nov 2016 – Mr. Steve Crouse – Facilities Changes at PEC
- 14 Dec 2016 – No Meeting
- 11 Jan 2017 - Brian Keierleber – County Engineer, Independence – Ultra High Performance Concrete used in Bridge Building
- 08 Feb 2017 – FIRST (For Inspiration and Recognition of Science and Technology) Robotics – Team Presentation
- 08 Mar 2017 -- Mr. Erick Mandt– Vice-President of Sales and Marketing at Fluidyne Corporation in Cedar Falls -- “ISAM™” (Integrated Surge Anoxic Mix), an innovative wastewater treatment process for municipalities and industries.
- 12 Apr 2017 – UNI Solar Boat Team
- 10 May 2017 – Jeremiah Treloar -- Virtual Painter Training System

Speakers for the 2017-2018 Meeting Year (Year 104)

- 13 Sep 2017 – Cody Wilkinson – John Deere Small Grains, Air Seeding Equipment

11 Oct 2017 – Mr. Gomes – Using Ultra-lights for Crop Inspections
8 Nov 2017 – Robert Levis -- WCF&N Railroad by Gene Van Gorder, 319-233-4235
13 Dec 2017 – No meeting
10 Jan 2018 --Willie Calderwood, Cedar Valley Corp - Road Construction Techniques and Equipment
14 Feb 2018 -- Tom Parsons – Current Concrete Road Paving
14 Mar 2018 -- Bill Close – Mega Sculptures
11 Apr 2018 -- Eric Thorson, P.E. City of Waterloo -- Water Tower System
9 May 2018 -- Available

New Business. No new business was discussed.

Guest Speaker: Mr. Jeremiah Treloar spoke about the 2D and now 3D virtual reality paint training system developed at the University of Northern Iowa. Over 170 systems have been sold in 15 countries. There will be a demonstration as part of the presentation. Jeremiah is the Manager of the Iowa Waste Reduction Center (IWRC) located at the University of Northern Iowa (UNI) and has been working there since 2002.

History. Software development began 15 years ago. The program was developed to train people who spray paint on parts. The market is broad because many industries spray paint their own parts. The software can visually display what a painter would see as the software records data on film thickness, paint costs, number of times the gun is triggered, gun angle, pattern overlap and defects like curtains, runs and overspray. Brian Bratvold contributed to the development of the laser distance guide to educate the operator on the proper distance to hold the gun from the workpiece.

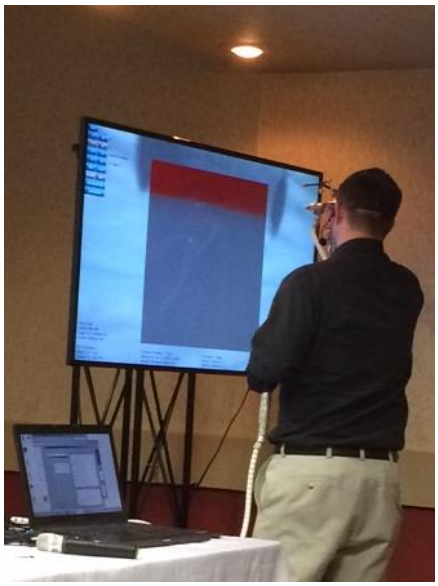


Figure 1. UNI IWRC Director Jeremiah Treloar demonstrating 2D virtual paint software.

Developed by the Iowa Waste Reduction Center's painter trainers, the award-winning VirtualPaint is a highly adaptable virtual reality training simulator that mimics a fully customized painting and coating production environment. Specific advantages offered by the VirtualPaint software are:

- Take hands-on training out of the spray booth and into the classroom
- Customize coatings, parts and equipment to replicate day-to-day operations
- Track data in real time to quantify painter skills
- Allows for continual practice and immediate feedback
- Completely eliminates hazardous air emissions and waste
- Significantly reduces the proper spray application learning curve
- Benefits experienced and novice painters
- Unlimited practice parts and coating at the touch of a button
- Use for hiring skill assessments and re-training evaluations

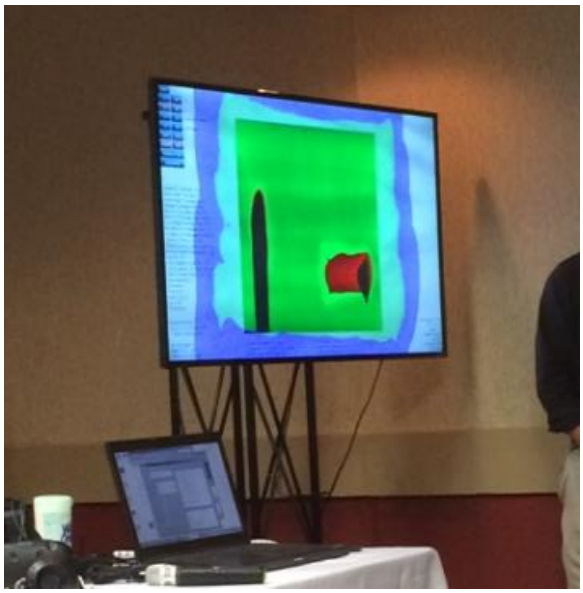


Figure 2. VirtualPaint 2D display of film thickness. Black stripe is paint run, red rectangle shows thick zone.

How It Works. The VirtualPaint software provides instantaneous feedback, determining the spray pattern distribution, film thickness, transfer efficiency, and overspray in real time. The computer and tracking system communicate to a projector, which displays the VirtualPaint canvas onto a portable rear projection screen.

Features like adjustments to air pressure, fan size, fluid pressure, flow rate, partial triggering, on a real spray gun allow for the most realistic training experience. The end result is better technique, control, performance, and an incredible level of feedback to the painter.

In the past, the only way to train painters involved costly, time consuming, and labor intensive in-booth training. Training was expensive. Today with the VirtualPaint, realistic hands-on painter training can be conducted in a classroom. Instructors provide effective training demonstrations, address spray gun setup and proper application in front of a class of any size.

No more waiting for coating to be mixed, parts to dry or materials to be provided! Instructors can watch students practice what they have learned; training painters quickly, easily, and more effectively than ever before!

More Benefits of VirtualPaint Training.

- Completely eliminates hazardous air emissions and waste.
- Significantly reduces the proper spray application learning curve.
- Precise feedback benefits experienced and novice painters.
- Unlimited practice parts and coating at the touch of a button.

For additional information go to https://iwrc.uni.edu/virtualpaint.

Next Meeting. Our September 13, 2017 meeting features Cody Wilkinson speaking on John Deere Small Grains, Air Seeding Equipment.

Meeting adjourned at 8:55 pm.

Respectfully submitted,

James R. Stevenson, Vice President and Secretary