February 8, 2017 Meeting

The February, 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 fifth meeting of the 103rd year of the Society. Gary then introduced the new members: Vaughn Griffith, Tim Stage, Jerry Green and Jerry Hogenkamp.

A total of 41 members and guests attended along with 8 members of the FIRST Robotics Team. Dinners for the Team were compliments of the Clarion Inn.

Treasurer's Report. Ken Friend (reported account balance and membership numbers, this report was prepared by Secretary James Stevenson from earlier reports) reported a balance of $986.17. Secretary Stevenson believes the treasury had a beginning balance of $1,194.17 with income of $60 from dues and expenses of $18 for the January speaker's dinner and a donation of $250 to UNI Solar Boat team leaving a balance of $986.17 (reported by Treasurer Friend) with a check to FIRST Robotics of $250 still outstanding. Treasurer Friend stated a total of 8 honorary and 53 paid members gave a membership roster of 61 members.

Old Business. The speakers for the remainder of the fiscal year have not 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

Officers for 2016-2017

President:	Gary Dorhout
Co-Vice Presidents:	Jerry Mohling & 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

New Business. No new business was discussed.

Guest Speakers: Mr. Richard T. Hurban, Team Mentor, introduced the speaker team:



Figure 1 FIRST Robotics Team speakers with President Dorhout. Team members from left to right: Jose Chavarria, Emma Harnack, Gabe Sullivan, Taylor Roguet, Zion Dale, Audrey Dillavou and Coach Vaughn Gross.

Robotics Team 5837 was formed in fall 2015. The team's name is "Unity4Tech" and their motto is "Together in Promoting Success" (TiPS) and is made up of 20+ students. This team symbolizes youth from the Cedar Valley (East and West High and Hudson, Waverly and Shell Rock, also Teams in Cedar Falls, Columbus, and Union High in LaPorte) coming together to learn about STEM. The team won the Rookie "All Star" award and their mentor, Mr. Richard Hurban was named a "Woodie Flowers" Finalist. The competition promotes professional and personal development using real world problem solving.



Figure 2. President Dorhout, center, presenting $250 check to Coach Gross (left) and Mentor Hurban (right). Zion Dale is in background.



Figure 3. All members of FIRST Robotics Team.

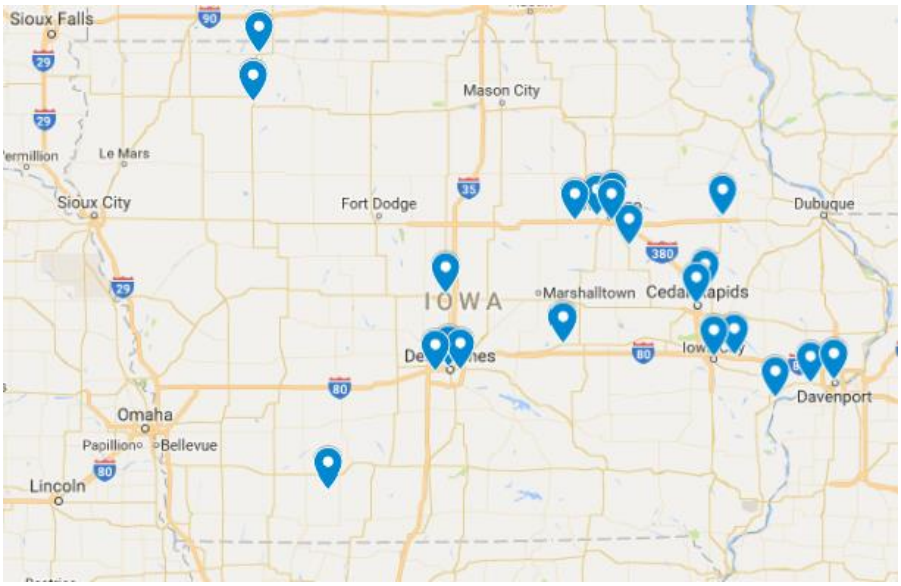


Figure 4. Location of FIRST Robotics Teams in Iowa in 2017.

There are 13 Teams in Eastern Iowa this year, double the number in 2016 due to a STEM grant from the state of Iowa. Each team is allowed six weeks to create a 120 pound robot from a kit. After crating and shipping a Team is allowed 30 more days to work to refine and improve the robot. The Robot is autonomous for part of the competition which requires that its control be programmed. After the autonomous part of the competition, a driver controls the movement for the remaining 2:15 to 2:30 minutes. The Robot moves over a field that is approximately the size of a basketball court, 27 by 54 feet.

Teams form alliances of Red and Blue after the individual team competitions. Bumpers wear the color of the alliance to easily identify them to the audience and the Robot drivers. One rule is that no Robot is allowed to block an opponent's Robot.

Representatives of the “FIRST” Robotics Team from East & West Waterloo Schools presented their accomplishments from their 2016 Rookie Year. This team was formed to actively promote STEM. They brought “Brutus” their 2016 Robot which has a unique All Wheel drive system, a Novel Boulder pick-up device and exciting Defensive Mechanism.



Figure 5. Brutus Robot from 2016 competition. Some parts have been scavenged to build the 2017 Robot.

The Robot is battery powered (motorcycle size) with compressed air actuators. This year's competition is in Cedar Falls on 23-25 March at the UNI Dome and McLeod Center. On 21 February Robots must be packed and shipped. There will be 53 Teams from 6 states competing. Awards are given for 20 competition and behavior categories. To view the complete list visit http://www.firstinspires.org/sites/default/files/uploads/resource_library/frc/game-and-season-info/awards/2017/2017-complete-awards-chart.pdf

For more information on FIRST Robotics in Iowa visit http://iafirst.org/iowa-frc/.

Next Meeting. Our March 8, 2017 meeting features Fluidyne's ISAM (Integrated Surge Anoxic Mix).

Meeting adjourned at 8:10 pm to view Brutus which was displayed for WTS members to see and ask questions.

Respectfully submitted,

James R. Stevenson, Vice President and Secretary