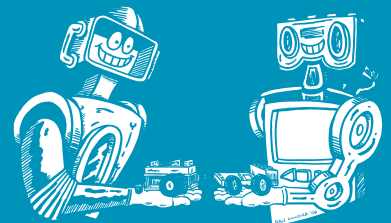


NEBRASKA ROBOTICS EXPO

CEENBoT™
SHOWCASE

CREATIVE VISUAL
ARTS EXPO

FIRST®
LEGO®
LEAGUE



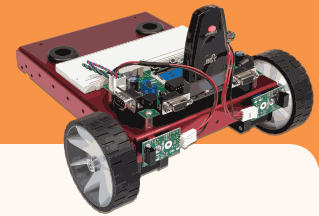
#NERoboticsExpo
neroboticsexpo.unl.edu

UNIVERSITY OF
Nebraska
Lincoln

Saturday, February 17, 2018
Strategic Air Command & Aerospace Museum
Ashland, Nebraska

UNIVERSITY OF
Nebraska
Omaha

CEENBoT™ SHOWCASE



Welcome to Nebraska Robotics Expo

The Expo represents a collaborative effort between the SPIRIT Project and the Nebraska 4-H Youth Development project, and *FIRST*® LEGO® League to create an outstanding robotics competition for about 1,000 of our local and greater Nebraska area youth. As you cheer on our future scientists and engineers, we encourage you to visit the CEENBoT™ Showcase, *FIRST* LEGO League events, sponsor booths, and museum exhibits.

The CEENBoT Showcase features a custom robot developed through the SPIRIT project called the 324 CEENBoT. This “open-source” robot has a totally new and enhanced platform featuring multiple autonomous programming options that include a TI Graphing Calculator Interface, a Graphical Programming Interface (GPI), and programming in the C language with an Application Programming Interface (API).

Public Invited to Play

A feature of the showcase is the CEENBoT Games, open to the general public, including kids of all ages! We have booths set up for anyone to explore the 324 CEENBoT. Come play games such as CEENBoT Tae Kwon Do, “Minute to Win It,” Driving a Maze, Bumpbot Mode, Precision Driving, and more.

Creative Visual Arts Expo

Again this year at the 2018 Nebraska Robotics Expo — we are excited to have the Creative Visual Arts Expo featuring robotic-inspired art pieces selected from 120 entries created by K-12 students from nine participating schools! This year’s Creative Visual Arts Expo continues a growing robotics art display at the Nebraska Robotics Expo, showcasing student creativity and their understanding of robotics at the intersection of art and science. The coordinator for this event, Tom Orange, is hosting robotic art demonstrations during the day inside the entrance of Hangar A (see page 5).

The CEENBoT Showcase

The 2018 Nebraska Robotics Expo marks the tenth season for the CEENBoT Showcase. There are 110 teams participating this year from 21 Nebraska elementary, middle, and high schools and organizations. This year we celebrate the theme of “CEENBoT Winter Games.” We invite you to take in the many activities and enjoy this day of excitement and anticipation as our youth demonstrate the possibilities of STEM achievement and creativity in the context of robotics.

About CEENBoT Robotics

The CEENBoT Robotics program has its roots in the SPIRIT grant project, which stands for the Silicon Prairie Initiative for Robotics in Information Technology. The SPIRIT program was funded by the National Science Foundation (NSF) and has provided the instructional foundation needed to help teachers to use educational robotics to teach important science, technology, engineering, and mathematics (STEM) concepts. The current CEENBoT Robotics program combines the technical expertise of engineering professors and staff in the University of Nebraska–Lincoln Department of Electrical and Computer Engineering with the educational expertise of professors and staff in the College of Education at the University of Nebraska at Omaha.

This collaboration has created a national educational STEM robotics curriculum for middle schools.

About the SPIRIT Program

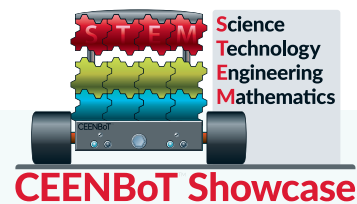
Through the initial funding for the SPIRIT program, more than 500 teachers have been trained in NSF extended workshops and graduate courses, and more than 300 Internet-based lesson plans have been created. Teacher surveys and student assessments have documented significant growth in problem-based learning, robotics, electronics, and engineering design. Educators are encouraged to check out the extensive SPIRIT website at the following URL: tekbot.unl.edu/SPIRIT2. Participating schools and teams for this year’s Expo are listed on page 3.



2018 CEENBoT Showcase Teams

School	Division	Team Name
Aspen Creek	Elem	Aspen Creek 4
	Elem	Bob the Builders
	Elem	Girl Power
	Elem	NERDS
Bellevue West HS	HS	Thunder Bot Alpha
	HS	Thunder Bot Bravo
Bennington	Elem	The Botinators
Davis Middle	MS	Davis 1
	MS	Davis 2
	MS	Davis 3
	MS	Davis 4
EVVMS	MS	EVV1
	MS	EVV2
	MS	EVV3
	MS	EVV4
	MS	EVV5
	MS	EVV6
	MS	EVV7
	MS	EVV8
	MS	EVV9
Guardian Angels CC	HS	Blue Jays 1
	HS	Blue Jays 4
	MS	Blue Jays 2
	MS	Blue Jays 3
Howard Kennedy	Elem	Golden Tigers
	Elem	Legendary Tigers
	Elem	Mega Tigers
	Elem	Tiger Squad
Lewis & Clark Middle	MS	LC Navigators
	MS	LC Pathfinders
	MS	LC Pioneers
	MS	LC Pride
	MS	LC Robotics Club
Madison HS	HS	Dragon
	HS	Flying Dragons
Marian	HS	Marian Aquaphoenix
Millard North Middle	MS	Anvitha's Android Archives
	MS	Cyber-Clydesdales
	MS	Hydraulic Horses
	MS	Manogna's Mechanics Manual
	MS	Mecha-Mustangs
	MS	Programmable Ponies
	MS	Vishaals Vivid Vision
Mission Middle	MS	Cyber Chickens
	MS	Gear 4
	MS	Robots Four Life
	MS	The Burritos 33
Oakdale	Elem	Oakdale Rogue 1
	Elem	Oakdale Rogue 2
	Elem	Oakdale Rogue 3
	Elem	Oakdale Rogue 4
	Elem	Tigers One

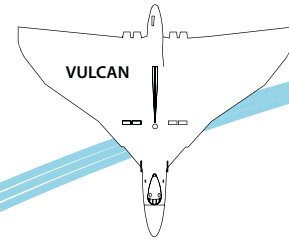
School	Division	Team Name
Oakdale (continued)	Elem	Tigers One Plus
	Elem	Tigers Two
	Elem	Tigers Three
	Elem	Tigers Three Plus
	Elem	Tigers Four
	Elem	Tigers Four Plus
	Elem	Tigers Five
Rockbrook	Elem	Rockbots
Spring Lake Magnet	Elem	Team Puma 1
	Elem	Team Puma 2
	Elem	Penguin 1
	Elem	Penguin 2
	Elem	Penguin 3
	Elem	Puma 1
	Elem	Pumas 2
	Elem	Pumas 3
St. Bernadette	Elem	The Hockey Bots
	Elem	The Mighty Tigers
	MS	ACDC
	MS	Fluffy Muffin Reign
	MS	Radioactive Dragons
	MS	The Destroyers
	MS	The Dynamic Duo
	MS	The Lone Programmer
Westside	Elem	Westside Elementary 1
	Elem	Westside Elementary 2
	Elem	Westside Elementary 3
	Elem	Westside Elementary 4
	Elem	Westside Elementary 5
	Elem	Westside Elementary 6
Willa Cather	Elem	Cather Boys
	Elem	Cather Kids & Bots
	Elem	Cather's Engineers
	Elem	Motorized Mustangs
	Elem	Mustang Minions
	Elem	Tenacious Team
	Elem	The Teckers
	Elem	Two Girls & a Bot
	MS	C-5-G-E
	MS	Guys With Ideas
	MS	Middle Engineers
	MS	MS Roboters
	MS	Robot Divas
York HS	HS	York Black
	HS	York Blue
	HS	York Gold





Strategic Air Command & Aerospace Museum

sacmuseum.org

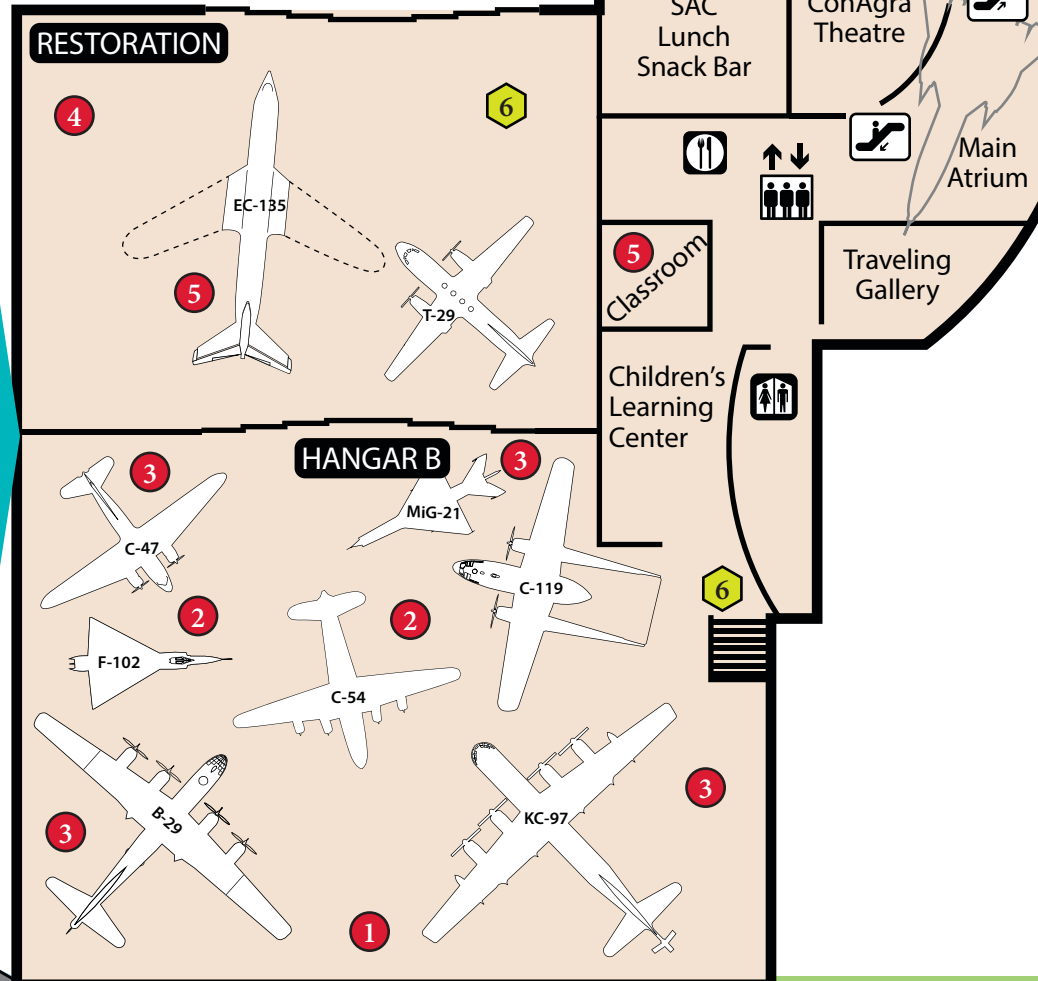


Schedule of Events

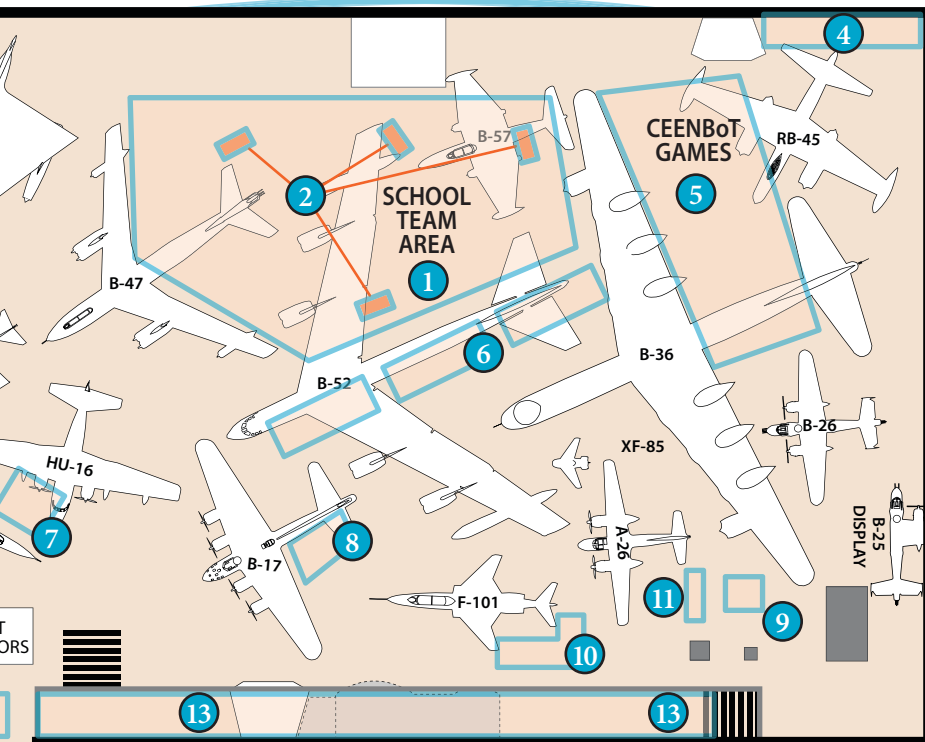
- 7:30 am Team Check-In
- 8:30 am Opening Ceremony (Main Atrium)
- 9:00 am FLL events begin (Hangar B and Restoration Hangar)
- 9:30 am CEENBoT Showcase events begin (Hangar A)
- 9:30 am - 3:30 pm Free Events and Competitions
- 4:00 pm FLL Closing Ceremony (Hangar B)
- 4:00 pm CEENBoT Showcase Closing Ceremony (Hangar A)

FIRST LEGO League: Hangar B

- 1 FLL Robot Game Tables
- 2 FLL Practice Tables
- 3 FLL Pit Tables
- 4 FLL Volunteer Area
- 5 FLL Judging Area
- 6 Lunch area
- 7 FLL Registration Tables
- 8 Sponsor Booths
- 9 Creative Visual Arts Expo

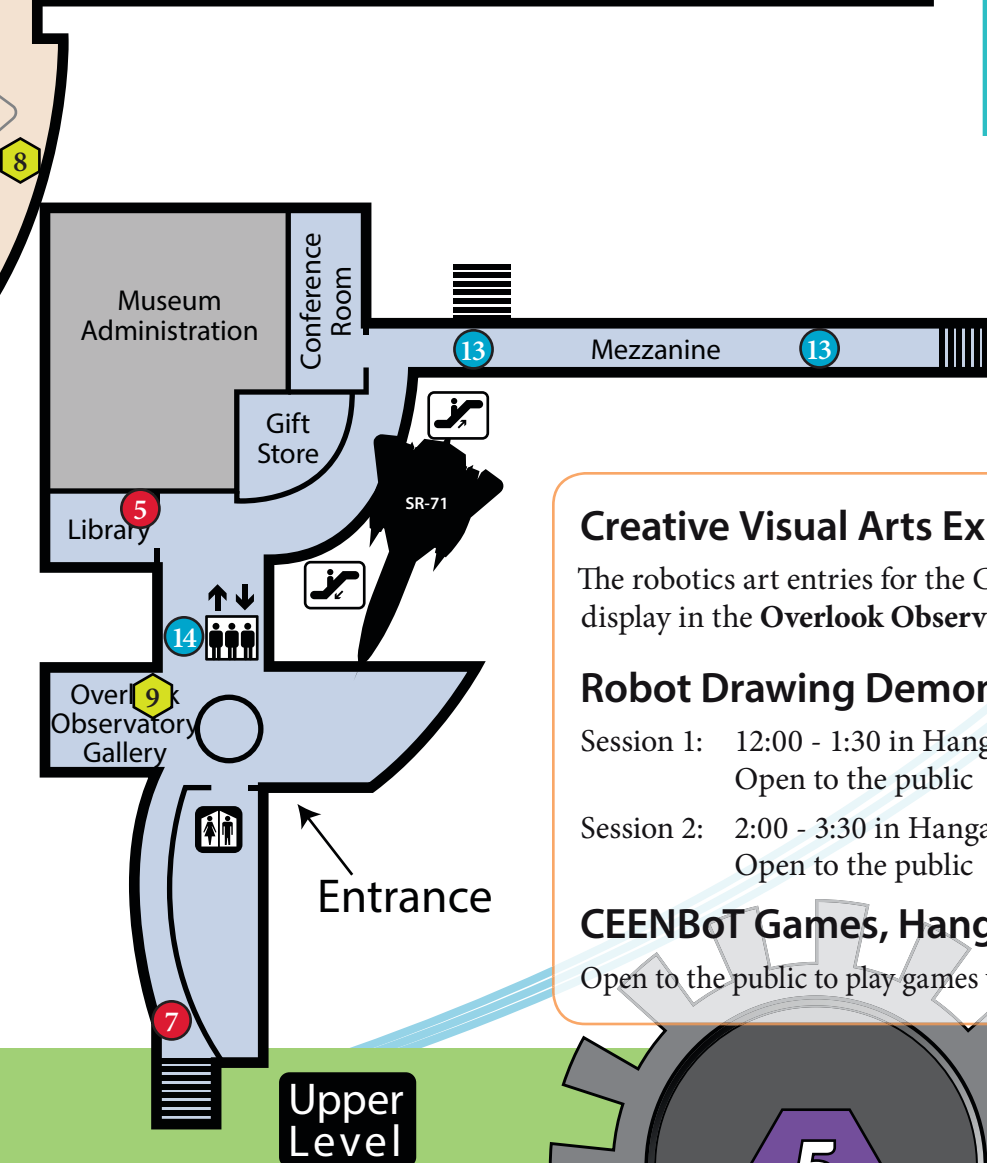


Lower Level



CEENBot Showcase: Hangar A

- 1 School Team Area
- 2 Charging Stations
- 3 Practice Area
- 4 Tech Repair
- 5 CEENBot Games
- 6 Competition Arenas
- 7 Art Demo
- 8 Navigational Course
- 9 Driving Course
- 10 Autonomous Course
- 11 Awards Stage
- 12 Snacks
- 13 Exhibitor Robotics & STEM Displays (on the Mezzanine)
- 14 CEENBot Registration



Creative Visual Arts Expo 9

The robotics art entries for the Creative Visual Arts Expo are on display in the **Overlook Observatory Gallery**.

Robot Drawing Demonstration and Art Activity: 7

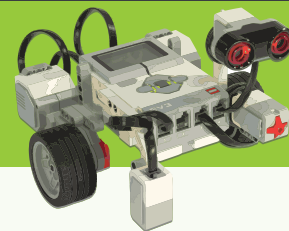
Session 1: 12:00 - 1:30 in Hangar A
Open to the public

Session 2: 2:00 - 3:30 in Hangar A
Open to the public

CEENBot Games, Hangar A 5

Open to the public to play games with the CEENBot and win a prize.

FIRST® LEGO® LEAGUE



About Nebraska 4-H

The mission of Nebraska 4-H is to empower youth to reach their full potential working and learning in partnership with caring adults. Nebraska 4-H strives to help young people achieve their greatest potential by introducing high-quality youth development experiences into the lives of Nebraska youth and families. Engagement in 4-H results in youth who are making positive decisions related to their health and their future goals. Further, they are advocates and leaders determined to leave a lasting impact on Nebraska.

Learn more about Nebraska 4-H at 4h.unl.edu.

About FIRST®

FIRST® (For Inspiration and Recognition of Science and Technology) was founded in 1989 by inventor Dean Kamen to inspire young people's interest and participation in science and technology. Based in Manchester, NH, FIRST is a 501(c)(3) not-for-profit public charity. FIRST is supported by a strong network of sponsors and volunteers.

FIRST provides the FIRST Robotics Competition (FRC) and FIRST Tech Challenge (FTC) for students in grades 7-12, the FIRST LEGO League (FLL) for grades 4-8 (ages 9 to 14), and the FIRST LEGO League Jr. for grades K-3 (ages 6 to 10). For more information, visit 4h.unl.edu/first-robotics.

FIRST and its logos are registered trademarks of US FIRST.

FIRST LEGO League

Children are immersed in real-world science and technology challenges as part of the FIRST LEGO League Program. Teams build LEGO-based robots and develop research projects. Through their participation, children develop valuable life skills and discover exciting career possibilities while learning that they can make a positive contribution to society.

Children ages 9 to 14* get to:

- Strategize, design, build, program, and test a robot using LEGO MINDSTORMS® technology
- Create innovative solutions for challenges facing today's scientists as part of their research project
- Apply real-world math and science concepts
- Develop employment and life skills, including critical thinking, time management, collaboration, and communication while becoming more self-confident
- Engage in team activities guided by FLL Core Values
- Become involved in their local and global community
- Choose to participate in official tournaments and local events coordinated by their community

* ages 9 to 16 outside the U.S. and Canada.

LEGO, MINDSTORMS, and their respective logos are registered trademarks of the LEGO Group.

FIRST LEGO League in Nebraska

The FLL Planning Committee gives special thanks to the Nebraska 4-H Foundation for sponsoring FIRST LEGO League, including awards, audiovisual equipment and operation, volunteer hospitality, and volunteers.

We also thank all judges, referees, coaches, and adult volunteers. You make FLL possible for Nebraska!



2018 FIRST LEGO League Teams

Number	Team Name	Team City
162	League of Lions	Omaha
169	The Chewbacca Bots	Omaha
449	The Thunderstorms	Humboldt
452	Hydromatics	Humboldt
1809	Mythical Creatures	Mound City, MO
1971	Data Dragons*	Omaha
3775	Mindstormers: Neon Edition	Lyons
5105	Aquavarks	Lincoln
5553	A'ROR'N Bots	Aurora
5659	Techno Huskers	Haysprings
6637	Water Warriors	South Sioux City
7411	Papillion Middle School	Papillion
7690	FAF Tigerbots	Brainard
7691	Grey to Green Tigerbots	Brainard
7693	Super Scouts Purple	Bellevue
8657	A Splash Of Technology	Council Bluffs, IA
8664	H2O Bots	Council Bluffs, IA
9108	League of LEGOs 2.0	Omaha
10381	Rogue Robbie's Dream Team	Sidney
10988	Building Bulldogs*	Louisville
12802	Mario Makers	Lincoln
13433	KCHS Gold 2	Kearney
13813	Pioneer Bots Purple	Nebraska City
14117	Spartabots I	Grant

Number	Team Name	Team City
14206	Super Scouts White*	Bellevue
15021	Nerdy Ninjas	Bellevue
15458	Central Sandhills MechTechs*	Mullen
15990	The Dog Paddling T-Rexes	Ralston
16160	H2O Comets	Pawnee City
17047	Lightning Ladies 3.0	Bellevue
17809	Water Wizards	Tecumseh
19198	Gear Gators	Albion
20391	Hydrabots	Pawnee City
21543	Nance County 4-H	Fullerton
22288	Robot Fish	Beatrice
22598	Designing Dream Makers*	Louisville
22943	Spartabots II	Grant
24620	NarwhalBots	Omaha
25988	LEGO Ninjas	Columbus
26458	[Insert Team Name Here]*	Wayne
26880	Pioneer Bots Gold*	Nebraska City
27285	Draggy Dragons	Glenwood, IA
28695	Rebel Robotics	Norfolk
29717	Hyd - R.O.A.R. - ics	Red Oak, IA
34234	Blazing Tiger Bot Builders	Mitchell
35749	The Mandroids	Scottsbluff
36105	LEGO Masters	Oakland, IA
36234	The Outsiders	Bellevue

* Global Innovation Award Candidate



Get involved with FIRST LEGO League:

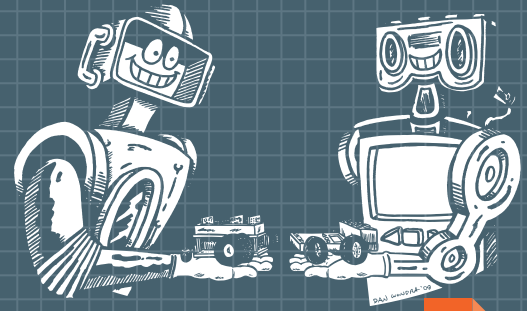
Contact Brandy Wagner
Nebraska FLL Affiliate Partner
4-H Youth Development
University of Nebraska-Lincoln
bwagner5@unl.edu
(402) 472-9023

Or visit 4h.unl.edu/nebraskafirstrobotics

FIRST LEGO League Core Values

- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display gracious professionalism in everything we do.
- We have fun.

Special Thanks:



Our Event Sponsors

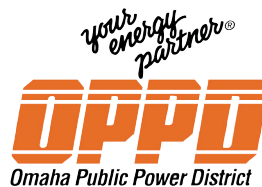
GOLD

(\$2,500 +)



SILVER

(\$1,000 +)



Coordinating Organizations



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