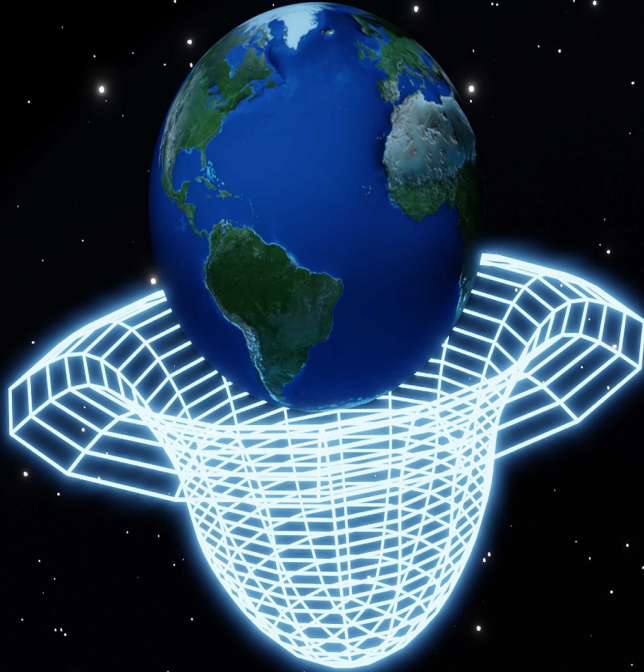


Supercomputing Challenge 2023-2024

Simulating Greatness Since 1990



Designed by Team 13, La Cueva High School

Welcome To the 34th Annual Awards Ceremony



You Took the Challenge!

You Finished the Marathon!



Message from our Executive Director David Kratzer



Los Alamos National Laboratory Welcomes You!

Kathy Keith

Director

Community Partnerships Office



Consult Welcomes You!



Alphabetically by first name

Celia, David, Karen, Patty



**Congratulations to the
2023-2024 Finalists Teams!**



The Finalists

Albuquerque Academy

Water Runoff and Diversion Simulation

Team Member:

Harrison Schiek

Teacher/Mentor:

Jay Garcia

Capital High School

Robotic Gunshot Detection System: SCOOBY

Team Members:

Raul Alvarado Villalobos, Craig Andree Abajo,
Jesse Burch, Haize Christiansen, Jordan Lam,
Britny Marquez, Edward Scott

Teacher::

Barbara Teterycz

Mentor:

David Ritter

The Finalists

Early College Academy/Justice Code Implementing Artificial Intelligence for Bioinformatics and Rapid Analysis of Cancer, CKD, and Heavy Metals in NHANES Datasets by Novice Programmers

Team Member: Aileen Ukwuoma

Teacher: Becky Campbell

Mentors: Robert Taylor, Justin Baca

La Cueva High School CARE: Care and Radiation Education

Team Members: Hadwyn Link, Simena Serna, Iorwen Wuyang,
Isaac Chen

Teacher: Jeremy Jensen

Mentor: Mario Serna

The Finalists

Los Alamos High School

Magnetic Reconnection

Team Member:

Tate D. Plohr

Mentor:

Dr. Mark Peterson

Santa Fe Preparatory School

Computational Hydrodynamic

Analysis for Speed Maximization (CHASM)

Team Members:

Luke Rand, Greta Swanson, Nandita Ganesan

Teacher:

Jocelyn Comstock

Santa Fe Preparatory School

A Systems Approach to

Understanding Artificial Night at Light

Team Members:

Camila Carreon

Teacher:

Jocelyn Comstock

The Finalists

V Sue Cleveland High A Realtime Camera Fusion 3D Model with a Novel Feature-Matching and Star Identification-Based Calibration for Tracking Smoke Plumes

Team Member: Gene Huntley

Teachers: Ashli Knoell and Leah Felty

Mentor: Stephen Guerin

Welch Home School Detecting Exoplanets Through Transits

Team Member: Kalliope Luna Welch

Teacher: Cindy Welch

Mentor: Paul Welch

Innovative Data Science Award

John Engen

**New Mexico
Consortium**

CEO



Innovative Data Science Award

Team: Early College Academy/Justice Code AI

Implementing AI for Bioinformatics and Rapid Analysis of Cancer, CKD, and Heavy Metals in NHANES Datasets by Novice Programmers

Team Members: Aileen Ukwuoma

Sponsor: Rebecca Campbell

Mentors: Robert Taylor, Ph.D, Justice Baca MD, Ph.D



STEAM Award



STEAM Award

TEAM: Welch Homeschool

Virtually Reconstructing and Ancient Musical Instrument

TEAM MEMBERS: Helena Welch

SPONSOR: Cindy Welch

MENTOR: Paul Welch



Presented by Tom Bowles Board Member



Professional Presentation Award

Matthew Curry

Former Board President

Sandia National Labs



Most Professional Presentation

TEAM: Justice Code

A Computational Exploration of COPD Medication Adherence

TEAM MEMBERS: Samuel Campen, Alexandrina Ukwuoma, Aileen Ukwuoma

SPONSOR: Rebecca Campbell



Technical Writing Award



Technical Writing Award

Team: Early College Academy/Justice Code AI

Implementing AI for Bioinformatics and Rapid Analysis of Cancer, CKD, and Heavy Metals in NHANES Datasets by Novice Programmers

Team Members: Aileen Ukwuoma

Sponsor: Rebecca Campbell

Mentors: Robert Taylor, Ph.D, Justice Baca MD, Ph.D

Get out your badge number for a random prize drawing for finishing this marathon!



The Winner Is

Sponsored by NM Technology in Education, CHECS



High Performance Computing



High Performance Computing

Team: La Cueva High School

AI Calling BS

Team Member: Victoria Outkin

Sponsor: Jeremy Jensen

Presented by Ron Davis



Human Computer Interaction

Sponsored by

Stephen Guerin, SimTable



Human Computer Interaction

TEAM: V. Sue Cleveland High School

MOCHA

TEAM MEMBERS: Clark Kardian, Andrew Boggan

SPONSOR: Ashli Knoell

Presented by Stephen Guerin



Head Judges

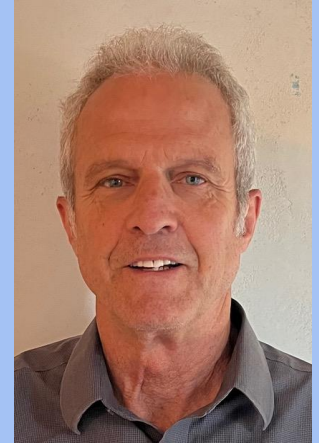
Michael Trahan



Nick Bennett



Richard Barrett



Recognition of Expo Judges

Hats off to our 33 Expo and Finalist Judges from Challenge Alums, Grad Students, National Labs, Nonprofits, Small and Large Businesses.

Please stand up and take a bow.



Recognition of Expo Judges

Edward Angel

Charlene Arias

Genevieve Barrett

Richard Barrett

Nicole Baty

Nick Bennett

Thomas Bowles

Vicente Bravo-Valencia

Alan Daugherty

Rusty Davis

Phil Jones

Carene Larmat

Scott Levy

Monique Morin

Joseph Olonia

James Overfelt

Mark Petersen

Paige Prescott

Lonnie Rednour

Timothy Thomas

Geoff Valdez

Blaine Vigil

Anneliese Ward

Rachel Washington



Finalist Judges

Matthew Curry - Sandia Labs

Mike Davis - Hewlett Packard Enterprise

Sharon DeLand - Retired Sandia Labs

Michelle Fairow - UNM

Stephen Guerin - Simtable

David Janecky - Retired LANL

Maureen Psaila-Dombrowski - LANL

Michael Trahan - Head Judge from Sandia Labs



Community Impact Award



Community Impact Award

TEAM: V. Sue Cleveland High School

MOCHA

TEAM MEMBERS: Clark Kardian, Andrew Boggan

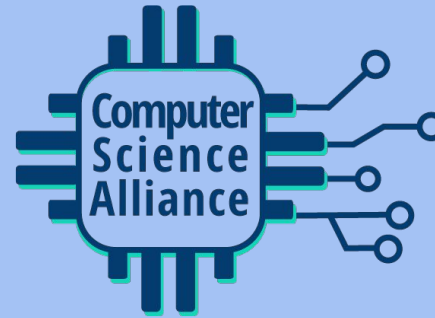
SPONSOR: Ashli Knoell



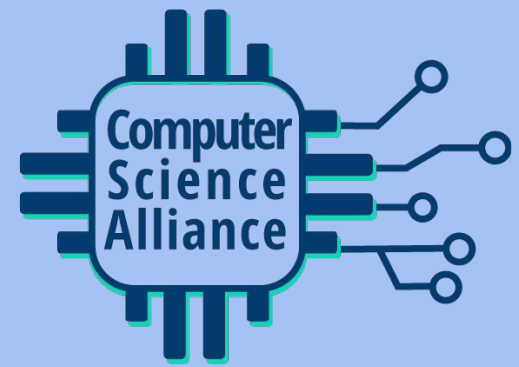
Presented by Stephen Guerin



Middle School Award



Middle School Award



TEAM: St. Thomas Aquinas School

The Impact of Sharks Disappearing in the Great Barrier Reef

TEAM MEMBER: Victoria Reichow

SPONSOR: Eric Vigil

Presented by Karen Glennon



Teacher Appreciation Awards



I touch the future, I teach.

Christa McAuliffe





Teacher Appreciation Award

For the third year in a row,
students have nominated

Barbara Teterycz from Capital High, Santa Fe!

Come on up here,

Mrs. T, Haize, Edward and Jordan.

Listen to some of their [comments](#).





Teacher Appreciation Award

Sarah Rowe - New Mexico School for the Arts

Sarah, Elisea Jackson and Gloria Galassi please come up here!

These are the comments the NMSA team sent in!

VOLUNTEER OF THE YEAR

Richard Barrett

Richard stepped up for teams in need of assistance when he was asked.

He talked with them over zoom at hours they were available and visited their school to offer his help.

One of this year's Head Judges.

Thank you, Richard!



Longevity Award

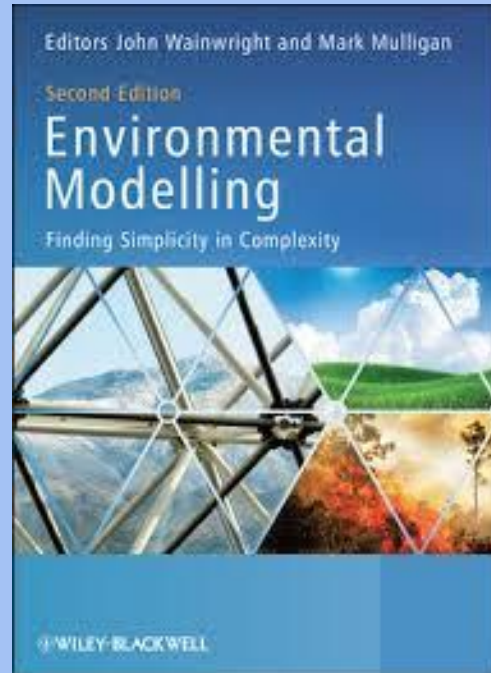
Congratulations to

Andrew Morgan

for being in the Supercomputing Challenge

for 6 years!

Environmental Modeling Award



Environmental Modeling Award

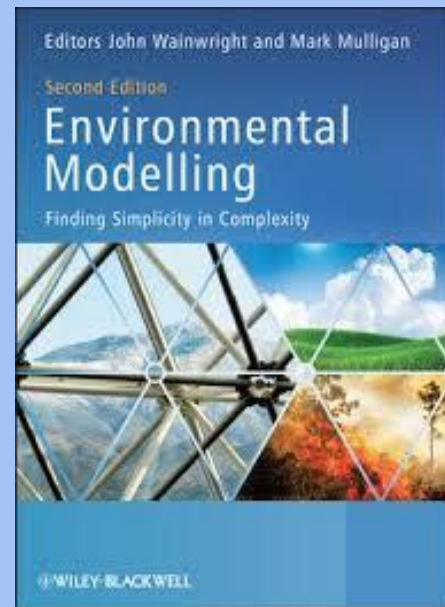
TEAM: Santa Fe Prep

System Approach to Artificial Light at Night (ALAN)

TEAM MEMBERS: Camila Carreon

SPONSOR: Jocelyn Comstock, Gabriella Masoni

Presented by David Janacky, LANL retired



Climate Award



Climate Award

Team: Albuquerque Academy

Single-Family Residential Thermal Energy Storage

Team Members: Nicholas Allan

Sponsor: Jay Garcia

Teamwork Award

Eric Chavez, Field Representative

Representing U.S. Senator Ben Ray Luján



Teamwork Award

TEAM: Tucumcari High School
Color Detection

TEAM MEMBERS: Sariah Mardo, Rachel Mardo

SPONSOR: Thomas Evans



Research Award



Sponsored by NM Technology in Education, CHECS



Research Award

TEAM: Monte del Sol Charter School

SCRAM

TEAM MEMBERS: Gabriella Armijo, Adelina Baca, Emlee Taylor-Bowlin

SPONSOR: Rhonda Crespo



Presented by Alan Daugherty Melrose District



Computational Science Award



Computational Science Award

Team: Welch Homeschool

Virtually Reconstruction an Ancient Musical Instrument

Team Member: Helena Welch

Sponsor: Cindy Welch

Mentor: Paul Welch

Creativity and Innovation Award



Creativity and Innovation Award

87507



NUMBERS PLEASE!



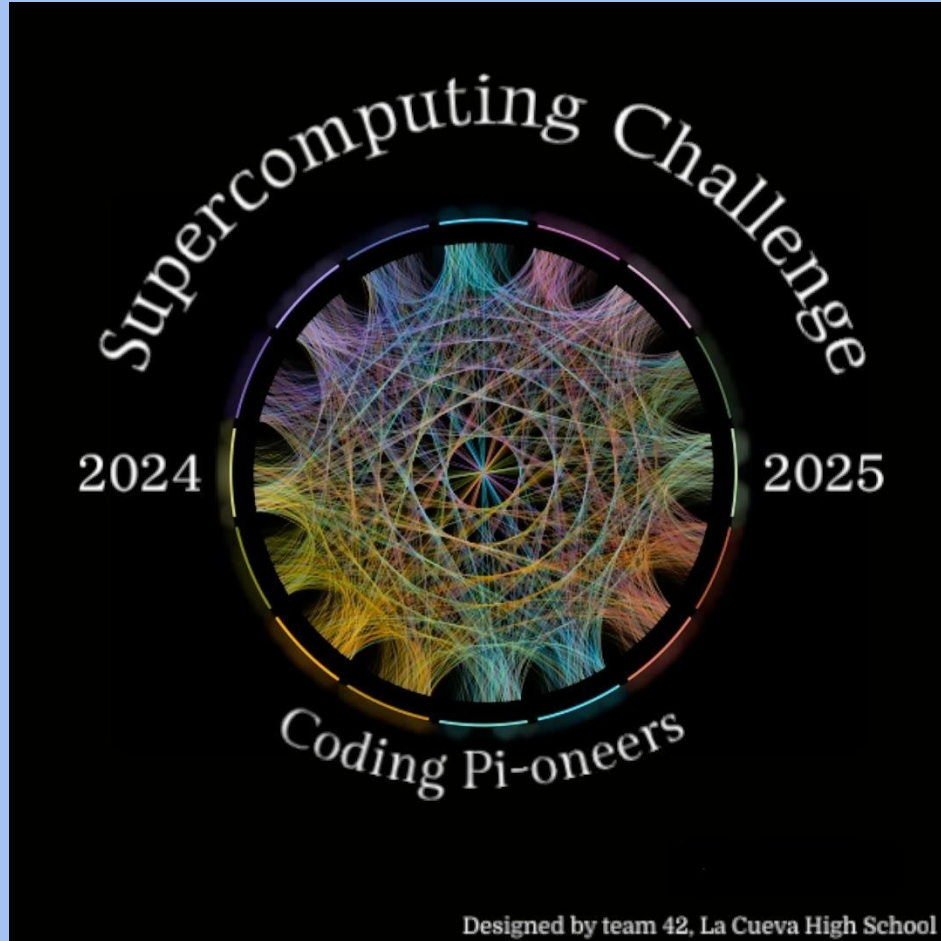
LOGO for Next Year! 2024-2025

Presented by Nick Bennett CNM

And the Logo is



LOGO for Year 2024-2025



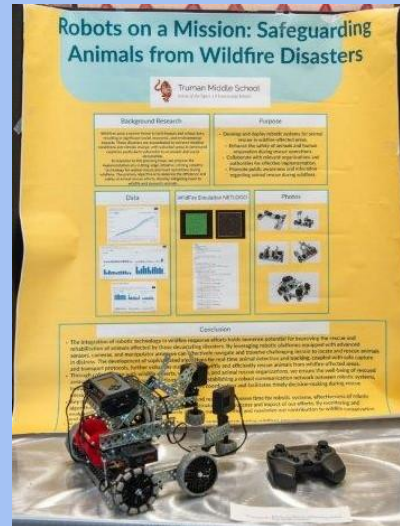
Technical Poster Award

TEAM: Truman Middle School

Robots on a Mission: Safeguarding Animals from Wildfire Disasters

TEAM MEMBERS: Vincent Nuanes, Josue Ochoa, Ayla Alaya

SPONSOR: Natali Bareto Baca



Crowd Favorite



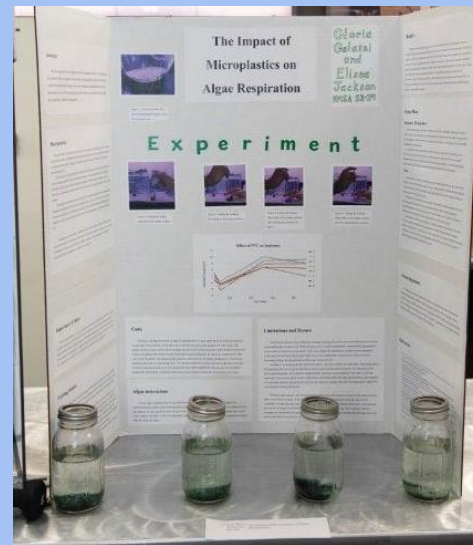
Crowd Favorite Award

TEAM: #27 New Mexico School for the Arts

The Impact of Microplastics on Algae
(Respiration)

TEAM MEMBERS: Gloria Galassi, Elisea Jackson

SPONSOR: Sarah Rowe



Presented by Char Arias, Retired Sandia Labs & Board member



New Mexico Network for Women in Science and Engineering



New Mexico Network for Women in Science and Engineering

TEAM: New Mexico School for the Arts

The Impact of Microplastics on Algae (Respiration)

TEAM MEMBERS: Gloria Galassi, Elisea Jackson

SPONSOR: Sarah Rowe



Presented by Cheri Burch



Magellan Award

An Explorer and a Risk Taker

Sponsored by Daniel and Mel Fuka, Challenge Advocates



Magellan Award

TEAM: Harrison Middle School
Farming the Unfarmable

TEAM MEMBERS: Leland Martinez, Anthony Tapia,
Anthony Amaya

SPONSOR: Becky Campbell

MENTOR: Michelle Fairow



Judges' Special Awards



Expo Judges' Special Award

User Interface Award

TEAM: Los Alamos Middle School

Duonumero: Multilingualism in Math

TEAM MEMBERS: Linus Plohr



Expo Judges' Special Award

Growing New Mexico Roots

TEAM: New Mexico Academy for the Media Arts
The Wood-Wide Web's Impact on Plant Health in Arid Areas

TEAM MEMBERS: Eduardo Dorado, Ana Sofia Rodriguez, Elijah Nasser-Sparks, Wyatt Wade

SPONSOR: Tanya Mueller



Expo Judges' Special Award

Perservance

TEAM: McKinley Middle School

Mushrooms as Reducers of Trash

TEAM MEMBERS: Lennon Martinez, Elias Villa, Alexandria Braden

SPONSOR: Sharee Lunsford

MENTORS: Karen Glennon, Patty Meyer



Finalists' Judges Special Award

Computational Engineering

TEAM: Capital High School

Robotic Gunshot Detection System - SCOOBY

TEAM MEMBERS: Raul Alvarado Villalobos, Craig Andree, Abajo, Jesse Burch, Haize Christiansen, Jordan Lam, Britny Marquez, Edward Scott

SPONSOR: Barbara Teterycz

MENTOR: David Ritter



Finalists' Judges Special Award

Future On Fire

Team: V. Sue Cleveland High School

A Realtime Camera Fusion 3D Model with a Novel Feature-Matching and Star Identification-Based Calibration for Tracking Smoke Plumes

Team Member: Gene Huntley

Sponsors: Ashli Knoell, Leah Felty

Mentor: Stephen Guerin

Finalists' Standing on the Shoulders of Giants Judges' Special Award

Team: La Cueva High School

CARE: Cancer and Radiation Education

Team Members: Hadwyn Link, Ximena Serna, Iorwen Ouyang, Isaac Chen

Sponsor: Jeremy Jensen

Mentor: Mario Serna

Finalists' Judges Special Award

Excellence in Complexity Analytics “Let there be darkness”

Team: Santa Fe Preparatory School

A Systems Approach to Understanding Artificial Night at Light

Team Members: Camila Carreon

Sponsor: Jocelyn Comstock, Gabriella Masoni

Mentor: Mark Galassi

Finalists' Judges Special Award

Excellence in Computational Astronomy

Team: Welch Homeschool

Detecting Exoplanets Through Transits

Team Member: Kalliope Luna Welch

Sponsor: Cindy Welch

Mentor: Paul Welch

Sponsor Recognition

Kudos for our sponsors!!

**The people in these businesses
and companies helped us
reach the Finish Line!!**



Primary Partners

- Los Alamos National Laboratory
- Triad National Security, LLC

Gold Partners

- New Mexico Consortium



Silver Partners

- Gulfstream Group and bigbyte.cc
- Microsoft
- N3B
- PNM
- Westwind

Bronze Partners

- Holmans
- New Mexico Technology In Education (NMTIE)
- Simtable/Redfish Group



Educational Partners

- The Center for Connected Learning (CCL) and Computer-Based Modeling/NetLogo
- CNM Ingenuity, Inc
- Eastern New Mexico University
- New Mexico Highlands University



Educational Partners Continued

- New Mexico Tech
- New Mexico State University
- Northern New Mexico College
- San Juan College
- Santa Fe Community College
- University of New Mexico UNM CARC
- UNM CARC, Center for Advanced Research Computing



Friends of the Challenge

- Hugo Rivera Calzadillas
- Computer Science Alliance, Paige Prescott
- Dr. Shaun Cooper, NMSU
- Creighton Edington
- Daniel and Mel Fuka
- Clint Hubbard
- David Janecky



Friends of the Challenge (continued)

- Irene Lee/Roger Critchlow
- Maximo Lazo
- NM Network for Women in Science and Engineering
- Jen Phifer
- Micah Sulich
- Windspirit Therapeutic Massage



You, too, can be a Challenge Sponsor!!



Support the Supercomputing Challenge when you shop!

Visit <http://www.smithsfoodanddrug.com/inspire>. Search for Supercomputing Challenge either by name or MY603 and then click Enroll.

New users need to create an account requiring some basic information, a valid email address and a *rewards* card.



Scholarship Recipients



Scholarship Committee

Hope Cahill, Creighton Edington,

and **Dana Roberson**



Scholarship Recipients

Presented by **Patty Meyer**

<u>Name</u>	<u>High School</u>	<u>College</u>
Julia Alameida	Capital HS	NMSU
Gabriella Armijo	Monte Del Sol	NMT
Jordan Lam	Capital HS	Seattle CC
Britny Marquez	Capital HS	NMSU
Guadalupe Rojo	Capital HS	NMSU
Emlee Taylor	Monte Del Sol	Cal State
Henry Tischler	Academy for Technology and the Classics	U of Denver
Aileen Ukwuoma	Early College Academy	UNM



Scholarship Donors

Dave Ritter and Family

Fred Hamilton



**27 Donations to the Betsy Frederick
Memorial Scholarship Fund**



**And the moment we
have ALL been
waiting for**

**Another
Drum roll,
please!**



But First Another...



For real this time

Our Third Place Winner is.....



**Another
Drum roll,
please!**

THIRD PLACE

TEAM: Santa Fe Preparatory School

Computational Hydrodynamic Analysis for Speed Maximization (CHASM)

TEAM MEMBERS: Luke Rand, Greta Swanson, Nandita Ganesan

SPONSOR: Jocelyn Comstock

CONGRATULATIONS!



Our Second Place Winner is.....

DRUM ROLL



SECOND PLACE

TEAM: Albuquerque Academy

Water Runoff and Diversion Simulation

TEAM MEMBERS: Harrison Schiek

SPONSOR: Jay Garcia

GOOD WORK!!



The moment we've all been waiting for!

Our First Place Winner is.....



FIRST PLACE

TEAM: Los Alamos High School

Magnetic Reconnection

TEAM MEMBERS: Tate D. Plohr

MENTOR: Mark Peterson

WELL DONE!



FIRST PLACE WINNERS

Brief overview of their project...

Go for it!



**We'll see you next year!!
It will be our 35th year!**

Congratulations Seniors!

We look forward to your coming back to be an alumni supporter!



