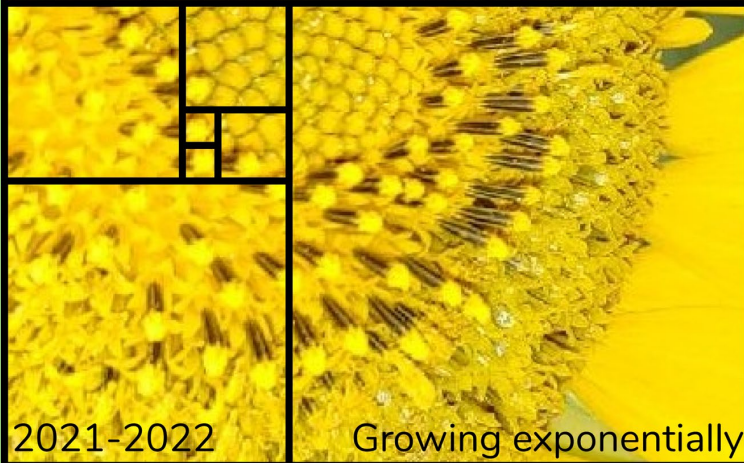Team 3
Manzano & Eldorado HS

Supercomputing
Challenge

2021-2022

Growing exponentially

WELCOME TO THE 32ⁿᵈ ANNUAL AWARDS CEREMONY

You Took The Challenge!
You Finished the Marathon!

Message from our Executive Director David Kratzer

Los Alamos National Laboratory Welcomes You!

A Word from John Sarrao

Deputy Director:

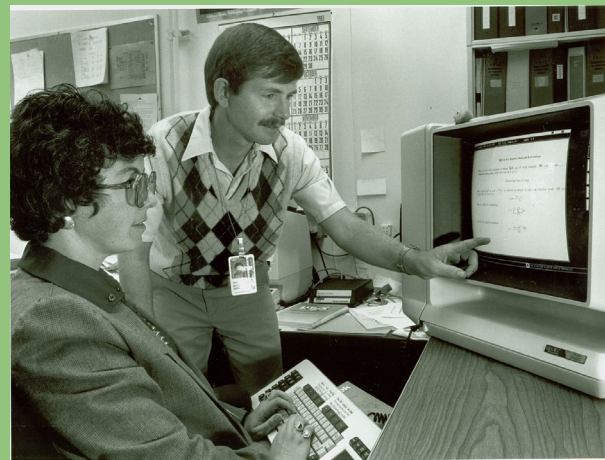Science, Technology, and Engineering

New Mexico Consortium

Thanks to Steve Buelow, CEO

NM Consortium, and his staff

for all their continued support!

Consult Welcomes You!!

A comment from our director:

Alphabetically by first name:

Celia, David, Karen, Patty

New School to the Challenge This Year

Pizza Party!

The Finalists

Team #12   Measuring, Analyzing, Predicting and Improving the Quality of Air

School   **Capital High**
Members   **Joshua Tamarra, Zachariah Burch,**
                                      Britny Marquez, Isel Aragon

Teacher/Sponsor   **Barbara Teterycz**

Team #15 EL HEAVN (The Hearing, Exploring and Visualizing of Nubes)

School   **New Mexico School for the Arts**
Members   **Madelyn Kingston, Django Beaudoin,**
                                      Lexington Smith, Elisea Jackson

Teacher/Sponsor   **Acacia McCombs**

The Finalists

Team #21 A Ray of Hope

School   **Los Alamos High**

Member   **Andrew Morgan**

Teacher/Sponsor   **Nathaniel Morgan**

Team #24 Effects of Combinations of Halogen Additions to Molecules on Absorption/Emission Wavelengths.

School   **La Cueva High**

Member   **Melody Yeh**

Teacher/Sponsor   **Creighton Edington**

The Finalists

Team #27   Designing Proteins with Quantum and Neuromorphic Computing

School   **Los Alamos High**

Member   **Robert Strauss**

Sponsor   **Vikram Mulligan, Garrett Kenyon**

Team #30   Classifying Mushroom Edibility

School   **La Cueva High**

Member   **Yana Outkin**

Teacher/Sponsor   **Yolanda Lozano**

The Finalists

Team #34 Machine Learning - DNA Methylation and Alzheimer's Disease

School   **La Cueva High**

Members   **Aditya Koushik, Abitpal Gyawali**

Teacher/Sponsor   **Yolanda Lozano**

Team #47 Developing a Control Algorithm and Simulation for Thrust-Vector-Controlled Rockets

School   **Los Alamos High**

Members   **Daniel Kim, Andres Iturregui**

Innovative Data Science Award

CNM Ingenuity, Inc.

Innovative Data Science Award

Team #30   Classifying Mushroom Edibility

School   **La Cueva High School**

Team Member   **Yana Outkin**

Teacher/Mentor   **Yolanda Lozano**

CNM Ingenuity, Inc.

Supercomputing Challenge

Innovative Machine Learning Award

Innovative Machine Learning Award

Team #34   Machine Learning - DNA and Methylation & Alzheimer's Disease

School   **La Cueva High School**

Members   **Aditya Koushik, Abitpal Gyawali**

Teacher/Sponsor   **Yolanda Lozano**

Award for Agent-based Modeling Using

NetLogo

Sponsored by

Uri Wilensky

Inventor of NetLogo

Chosen by

Nick Bennett, Stephen Guerin, and Uri Wilensky

Agent-based Model using NetLogo Award

Team #56 Understanding Sweetness

School   **St. Thomas Aquinas**

Team Member   **Julianna Matthews**

Teacher/Sponsor   **Eric Vigil**

NetLogo

Supercomputing Challenge
Computational Modeling

Award for Agent-based Modeling Using StarLogo-Nova

Sponsored by

Eric Klopfer, MIT STEP Lab

Developers of StarLogo-Nova

Award for Agent-based Modeling Using StarLogo-Nova

School   **Truman Middle School**

Team #28   Relationship Between Deforestation and Climate Change

Team Members   **Sebastina Puentes, Yahir Prieto,**
                          Camila Hernandez Delgado

Team #29   Amazon Deforestation

Team Members   **Briana Anaya, Sade Garcia, Yaritzel Castro**

Teacher/Sponsor   **Natali Barreto Baca**

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

And the winner is ………..

The prize will be sent to

you shortly!

Technical Writing Award

Technical Writing Award

Team #15 El HEAVN (The Hearing, Exploring and Visualizing of Nubes)

School   **New Mexico School for the Arts**

Team Members   **Django Beaudoin, Elisea Jackson,**
                                        Madelyn Kingston, Lexington Smith

Teacher/Sponsor   **Acacia McCombs**

Head Judges

Michael Trahan

Richard Barrett

Kaley Woelfel

Recognition of Expo Judges

Ed Angel

Richard Barrett

Jon Brown

Ranjana Damle

Mohit Dubey

Daniel Fuka

Susan Gibbs

Clint Hubbard

Cole Kendrick

Nicholas Kutac

Peter Lamborn

Max Lazo

Joan Lucas

Sam McGuinn

Monique Morin

James Overfelt

Veena Parboteeah

Dave Price

Dorian Sims

David Torres

Rachel Washington

James Wernicke

Kaley Woelfel

Phil Wolfram

Geoff Valdez

Supercomputing Challenge

Finalists Judges

Mike Davis

Sharon Deland

Joan Goldsworthy Appel

Stephen Guerin

David Janecky

Amy Knowles

Tom Robey

Michael Trahan

Shout Out to
Alan Daugherty, Mary Sagartz, Harry Henderson

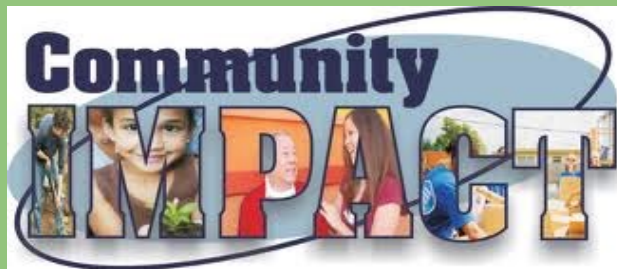## **Code Break Team**
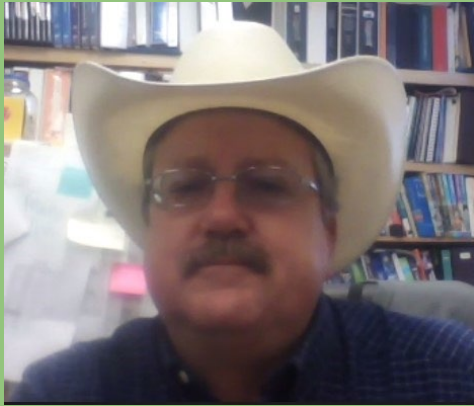
Community Impact Award

Community Impact Award

Team #56   Understanding Sweetness

School   **St. Thomas Aquinas**

Team Member   **Julianna Matthews**

Sponsor   **Eric Vigil**

High Performance Computing Award

Sponsored by

Supercomputing Challenge

High Performance Computing Award

Team #27   Designing Proteins with Quantum Neuromorphic Computing

School   **Los Alamos High**

Team Member   **Robert Strauss**

Middle School Award

Middle School Award

School   **Truman Middle School**

Team #28   Relationship Between Deforestation and Climate Change

Team Members   **Sebastina Puentes, Yahir Prieto,**
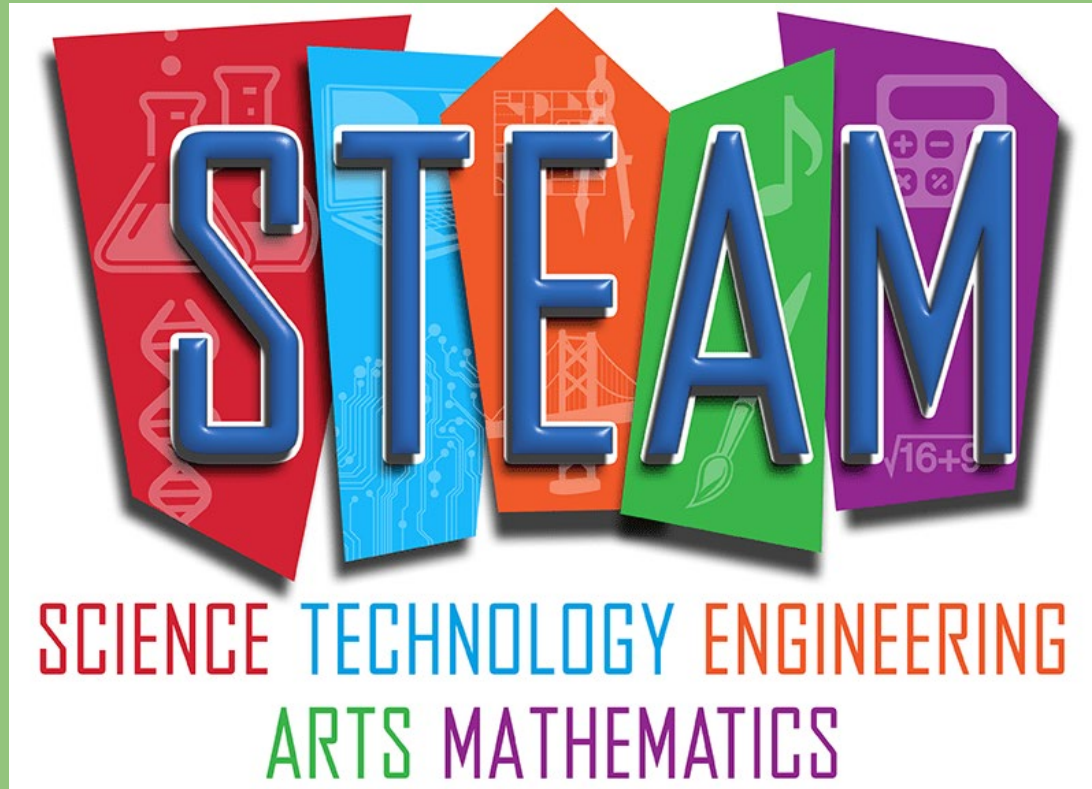**Camila Hernandez Delgado**

Team #29   Amazon Deforestation

Team Members   **Briana Anaya, Sade Garcia, Yaritzel Castro**

Teacher/Sponsor   **Natali Barreto Baca**

STEAM Award

SCIENCE TECHNOLOGY ENGINEERING
ARTS MATHEMATICS

Supercomputing Challenge

STEAM Award

Team #53   Art with Tech

School   **La Cueva High**

Team Member   **Victoria Outkin**

Sponsor   **Yolanda Lozano**

STEAM
SCIENCE TECHNOLOGY ENGINEERING
ARTS MATHEMATICS

Supercomputing Challenge
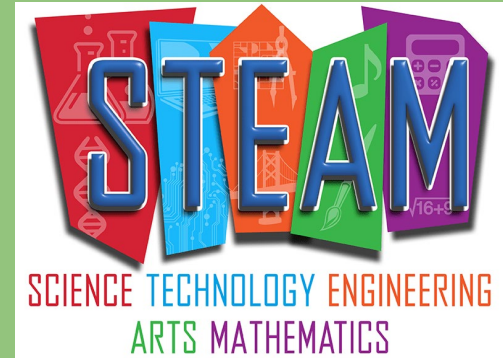
Teacher Appreciation Award

Teacher Appreciation Award

Capital High Teacher: **Barbara Teterycz**

Teacher Appreciation Award

Jackson Mid Teacher: **Sharee Lunsford**

Teacher Appreciation Award

Harrison Mid and Justice Code Teachers:

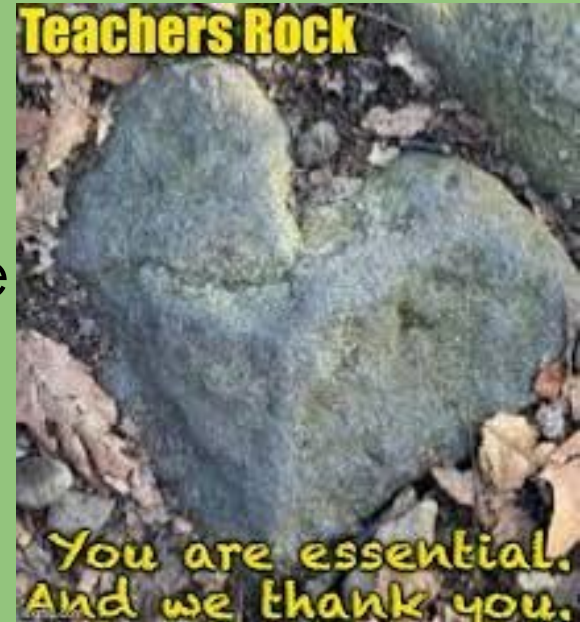**Caia Brown**, **Becky Campbell** and **Ryan Palmer**

Teacher Appreciation Award

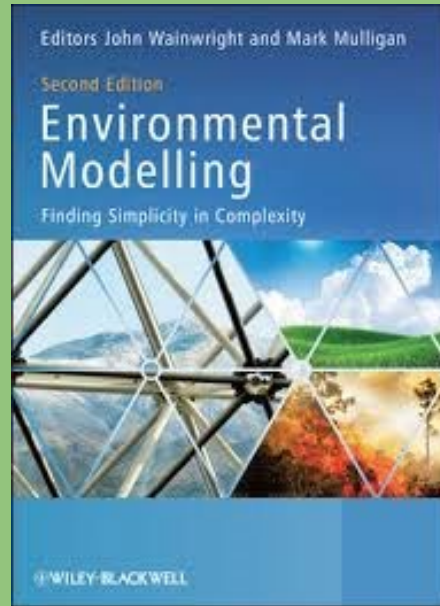Truman Middle School Recognizes **Creighton Edington**

Teacher Sponsors

All our teachers & sponsors are awesome. This year we are able to give them a "Thank You Very Much!" surprise stipend.
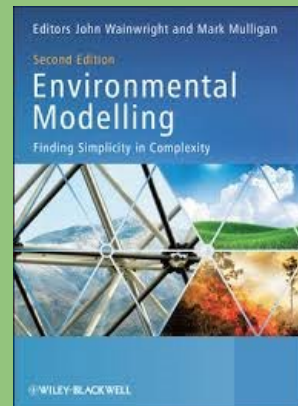
Environmental Modeling Award

Environmental Modeling Award

Team #4 Optimizing the Geographic Location of Renewable Energy Sources

School   **Capital High, Santa Fe High, Santa Fe Prep**

Team Members   **Lucas Blakeslee, Ian Olson, Valentin Ornelas, Shrey Poshiya**

Sponsors   **Irina Cislaru, Jocelyn Comstock**

NMTIE Teamwork Award

NMTIE - Furthering Education Through Technology

NMTIE Teamwork Award

NMTIE - Furthering Education Through Technology

Team #23 Maze Project

School   **Justice Code/International/Harrison**

Team Members   **Mekhi Bradford, Kingsley Walker, Wellbeing Ogunsanwo, Hero Okhaifoh, Nkemjika Aluka, Kamsi Anyanwu**

Sponsor   **Caia Brown, Rebecca Campbell**

Creativity & Innovation Award
Sponsored by Sandia National Laboratories

Sandia National Laboratories

Team #45 Entropy in Chess

School   **Santa Fe High**

Team Members   **Armando Martinez-Brito, Aengus McGuinness,**
                                    William Barral, Roman Nappi

Sponsor   **Brian Smith**

Supercomputing Challenge

Equity & Access Award

Sponsored by

Equity and Access Award

Team #10 Datacasting, An Opportunity in Education Equity

School   **Taos High School**
Team Members   **Athanasios Bertin, Gracie Goler,**
                               Carlos Miller, Lola Shropshire, Lakai Tucker

Sponsor   **Tracy Galligan**

Numbers Please!

Logo for Next Year
2022 - 23

And the Logo is

-
-
-

Logo for Next Year
2022 - 23

CREATING A LOGO FOR NEXT YEAR IS WORTH

$200 TO YOU.

WE'LL LOOK FOR SUBMISSIONS UNTIL JUNE 1, 2022.

Send your submission to logo@supercomputingchallenge.org

A Tribute to Shaun Cooper

Retired Master of Ceremonies, teacher sponsor, mentor, board of directors, and judge.

Challenge Advocate from 1991 - 2021

Message from Marisol Gamboa,

Challenge Alum

Supercomputing Challenge

Shaun Cooper Participation Award

Kyreen White

Manzano High School

7 years of participation

Perseverance!

Supercomputing Challenge

New Mexico Network
For
Women in Science
And Engineering

New Mexico Network for Women in Science and Engineering

Team #16 A-maz-ing Algorithms

School   **Cottonwood Classical/Del Norte High**

Team Members   **Ayvree Urrea, Kiara Onomoto, Violet Kelly**

Sponsor   **Karen Glennon**

Presented by Cheri Burch

Human Computer Interaction

Sponsored by

Stephen Guerin, SimTable

Human Computer Interaction

Team #47 Developing a Control Algorithm and Simulation for Thrust-Vector-Controlled Rockets

School   **Los Alamos High**

Team Members   **Daniel Kim, Andres Iturregui**

Judges'

Expo Judges' Special Award
Waste Not, Want Not

Team #13 Management of Waste and Reduction of Hydrocarbon Emissions

School   **Taos High School**
Team Members   **Flynn Basehart, Brian Hoang,**
                                Izaiah Gonzales, Chris Rivera

Teacher/Sponsor   **Tracy Galligan**

Expo Judges' Special Award
Distribution of Power

Team #3 How Climate Change Affects Power Outage and the Distribution of Power

Schools   **Manzano High & Eldorado High**

Team Members   **Nancy Avila Do, Candis Canaday, Gwenevere Caouette, Kyreen White**

Sponsor   **Sharee Lunsford/Karen Glennon**

Supercomputing Challenge

Finalist Judges' Special Award
Exploration Award

Team #12   Measuring, Analyzing, Prediction and Improving the Quality of Air

School   **Capital High**
Team Members   **Isel Aragon, Zachariah Burch,**
                               Britny Marquez, Joshua Tamarra

Sponsor   **Barbara Teterycz**

Finalist Judges' Special Award
Spectroscopic Modeling

Team #24 Effects of Combinations of Halogen Additions to Molecules on Absorption/Emission Wavelengths

School   **La Cueva High**

Team Members   **Melody Yeh**

Sponsor   **Creighton Edington**

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
- New Mexico Consortium
- Triad National Security, LLC

Platinum Partners

- Sandia National Laboratories

Gold Partners

- Cray, a Hewlett Packard Enterprise company
- Westwind

Supercomputing Challenge

Silver Partners

- Gulfstream Group and bigbyte.cc
- PNM

Bronze Partners

- Air Force Research Lab, Kirtland
- ABQ-IT, a division of Albuquerque Computer and Electronics Recycling Center
- Descartes Labs
- Intel
- Los Alamos National Laboratory Foundation
- 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
- MIT Starlogo-Nova
- New Mexico EPSCoR, Experimental Program to Stimulate Competitive Research
- New Mexico Highlands University

More Educational Partners

- New Mexico Institute of Mining and Technology
- New Mexico Public Education Department
- New Mexico State University
- Northern New Mexico College
- San Juan College
- Santa Fe Community College
- University of New Mexico
- UNM - Center for Advanced Research Computing

Friends of the Challenge

- Computer Science Alliance, Paige Prescott
- Dr. Shaun Cooper, NMSU
- Matthew Curry, Sandia National Labs
- Daniel and Mel Fuka
- INTERA - Geoscience and Engineering Solutions
- NM Network for Women in Science and Engineering
- Fred J Voss
- Windspirit Therapeutic Massage

Scholarship Recipients

Scholarship Committee

Hope Cahill, **Creighton Edington**

and **Dana Roberson**

Scholarship Recipients

	<u>High School</u>	<u>University</u>
Nancy Avila	**APS Eldorado**	**New Mexico Tech**
Candis Canaday	**APS Manzano**	**New Mexico Tech**
Gwenevere Caouette	**APS Manzano**	**New Mexico Tech**
Juan de la Riva	**Capital High**	**New Mexico Tech**
McLight Emma-Asonye	**Justice Code**	**CNM**
Madelyn Kingston	**NM School for the Arts**	**Carleton College**
Mariah Rivera	**Capital High**	**University of Denver**
Jack Sparrow	**Monte del Sol**	**UNM**
Joshua Tamarra	**Capital High**	**CNM**
Angel Velasquez	**Monte del Sol**	**UNM**
Kyreen White	**APS Manzano**	**UNM**

Supercomputing Challenge

Scholarship Donors
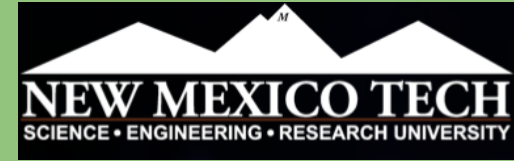
But First Another…

Third Place

Team #34 Machine Learning - DNA Methylation & Alzheimer's Disease

School   **La Cueva High**

Members   **Aditya Koushik, Abitpal Gyawali**

Teacher/Sponsor   **Yolanda Lozano**

Aditya Koushik

CONGRATULATIONS!

Second Place

Team #15 EL HAVEN (The Hearing, Exploring and Visualizing of Nubes)

School   **New Mexico School for the Arts**

Team Members   **Django Beaudoin, Elisea Jackson,**
                                Madelyn Kingston, Lexington Smith

Teacher/Sponsor   **Acacia McCombs**

First Place

Team #47 Developing a Control Algorithm and Simulation for Thrust Vector Controlled Rockets

School   **Los Alamos High**
Team Members **Daniel Kim,**
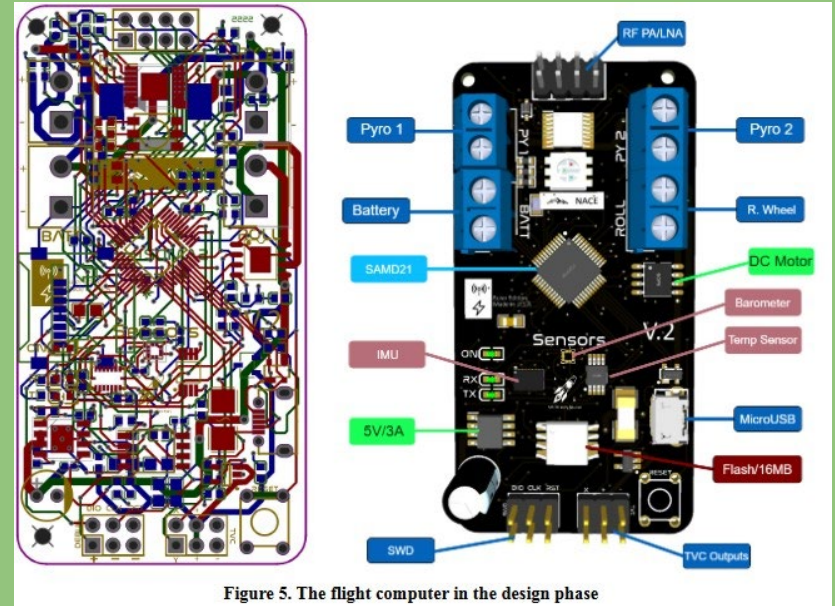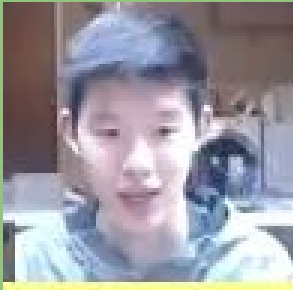   **Andres Iturregui**

Figure 5. The flight computer in the design phase

WONDERFUL ACHIEVEMENT!

First Place Winners

Brief overview of their project…

Go for it Daniel and Andres!

We'll see you next year!!!
It will be our 33rd year!

Congratulations Seniors!

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