

The winners in the 24<sup>th</sup> Annual Supercomputing Challenge include:

A dynamic duo, Eli Echt-Wilson and Albert Zuo from La Cueva High in Albuquerque, proposed a unique model that simulates deciduous tree growth at the level of individual branches and leaves based on underlying biological processes. Their project is called *Modeling Tree Growth and Resource Use with Applications*.

Second place winner and four-time finalist winner, Cole Kendrick, from Los Alamos High, developed a computer model to investigate the formation and life cycle of classical novae. His project is called *3D Hydrodynamic Simulation of Classical Nova Explosions*.

Third place winners Ian Rankin, Ahmed Muhyi and Sophia Sanchez-Maes a trio from Las Cruces YWiC (Young Women in Computing), created a computational model of the growth dynamics and neutral lipid synthesis of green microalgae. Their project is entitled *Maximize lipid output and biomass production of algae in open pond batch systems for biofuel synthesis*.

Shaun Cooper from New Mexico State University was the Master of Ceremonies and John Sarrao, the Associate Director for Theory, Simulation, and Computation at Los Alamos National Laboratory welcomed the participants.

John Paul Gonzales of the Santa Fe Institute acknowledged schools participating in the Challenge for the first year. Those schools were Taos Charter School and White Sands Elementary. Las Cruces High and Sierra Middle school have returned to Challenge participation after not participating for several years.

The [finalist teams](#) were recognized.

The most professional presentation went to Team 58, La Cueva High School, Modeling Tree Growth and Resource Use with Applications, Team Members: Albert Zuo, Eli Echt--Wilson, Sponsor: Jason DeWitte.

The Best Agent-based Model using NetLogo was presented to Team 101, NM School for the Arts, Getting Down on Dengue, Team Members: Kendra Carmona, Mohit Dubey, Erin Ice-Johnson, Lauren Sarkissian, Lila, Faust, Sponsor: Ms. Acacia McCombs, Mentor: Stephen Guerin.

The Parallel Processing Award, Presented by Teri Roberts, LANL, Sponsored by Lorie Liebrock, NMT, went to Team 66, Los Alamos High School, 3D Hydrodynamic Simulation of Classical Nova Explosions, Team Member: Cole Kendrick, Sponsor: Brian Kendrick.

The Best Visualization Award, Presented by Teri Roberts, LANL, Sponsored by Lorie Liebrock, went to Team 58 La Cueva High School, Modeling Tree Growth and Resource Use with Applications, Team Members: Albert Zuo, Eli Echt-Wilson, Sponsor: Jason DeWitte.

The Los Alamos National Laboratory Environmental Modeling Award, presented by David Janecky, LANL, went to Team 151 Taos Middle School, Photosynthesis: The Reversal of Pollution, Team Members: Delaney E. Galligan, Lena S. Schulze, Sponsor: Tracy L. Galligan.

The Best Computational Science Topic Award, presented by Betsy Frederick, went to Team 101 NM School for the Arts, Getting Down on Dengue, Team Members: Kendra Carmona, Mohit Dubey, Erin Ice-Johnson, Lauren Sarkissian, Lila Faust, Sponsor: Ms. Acacia McCombs, Mentor: Stephen Guerin.

The New Mexico EPSCoR Research Award, Presented by Mary Jo Daniel and Natalie Willoughby, went to Team 51 Edgewood Middle School, Heavy Water, Team Member: Pete Talamante, Sponsor: Janice Portillo.

The Best Human-Computer Interaction Model, presented by Stephen Guerin, Simtable, went to Team 1 Academy for Technology and the Classics/Santa Fe High, ASL Detection for Practical Implementation, Team Members: Noah Caulfield, Dmitri Malygin-Voorhees, Sponsor: Brady Gotcher.

The Best Written Report, Presented by Sue King, LANL, went to Team 58 La Cueva High School, Modeling Tree Growth and Resource Use with Applications, Team Members: Albert Zuo, Eli Echt--Wilson, Sponsor: Jason DeWitte.

The 39 Expo judges and the 11 Finalist judges were recognized by Michael Trahan, Sandia National Laboratories, and Eleanor Walther, Sandia National Laboratories, Retired.

The Community Impact Award, presented by Ron Davis, ABBA, went to Team 97 Miyamura High School, The Spread of Gang Activity in a Typical High School, Team Members: TyNolan Martinez, Aaron Wilson, Jeremy Cadman, Andres Escamilla, Sean Campos-Jaramillo, Sponsors: Ms. Dolino, Mentor: Nick Bennett.

The Crowd Favorite Award, Presented by Tim Thomas, UNM Physics, on behalf of the NM Tech Council when to Team 58 La Cueva High School, Modeling Tree Growth and Resource Use with Applications, Team Members: Albert Zuo, Eli Echt--Wilson, Sponsor: Jason DeWitte.

The Newcomer Award, Presented by Peggy and Bob Robey, went to Team 60 Las Cruces YWiC, Maximize lipid output and biomass production of algae in open pond batch systems for biofuel synthesis, Team Members: Ian Rankin, Ahmed Muhyi, Sophia Sanchez- Maes, Sponsor: Rebecca Galves, Mentor: Noor Muhyi.

The Magellan Award, Presented by Peggy and Bob Robey, went to Team 97 Miyamura High School, The Spread of Gang Activity in a Typical High School, Team Members: TyNolan Martinez, Aaron Wilson, Jeremy Cadman, Andres Escamilla, Sean Campos-Jaramillo, Sponsors: Ms. Dolino, Mentor: Nick Bennett.

The Best Web Presentation of Final Report, Presented by Michele Jacquez-Ortiz, Senator Udall's staff, went to Team 74 Los Alamos Middle School, BLE: The Future of Bluetooth Low Energy, Team Members: Alex Ionkov, Ethan Aulwes, Sponsor: Pauline Stephens, Mentors: Latchesar Ionkov, Rob Aulwes.

The Senator Martin Heinrich's Middle School Award, Presented by Katie Richardson, Field Representative for U.S. Senator Martin Heinrich, went to Team 90 Melrose Middle School, It's a Bird, It's a Plane, It's Super Silage!!!, Team Members: Maggie Martin, Maryelle Dickerman, Hannah Wofford, Rebecca Rush, Sponsor: Alan Daugherty, Mentor: Keith "Taz" McAlister.

The Cray High Performance Award, Presented by Mike Davis and Victor Kuhns, Cray Inc., went to Team 66 Los Alamos High School, 3D Hydrodynamic Simulation of Classical Nova Explosions, Team Member: Coleman Kendrick, Sponsor: Brian Kendrick.

The CHECS Research Award, Presented by Shaun Cooper, IT Consultant, Retired NMSU Chief Operating Officer, went to Team 101 NM School for the Arts, Getting Down on Dengue, Team Members: Kendra Carmona, Mohit Dubey, Erin Ice-Johnson, Lauren Sarkissian, Lila Faust, Sponsor: Ms. Acacia McCombs, Mentor: Stephen Guerin.

The CHECS Teamwork Award, Presented by Shaun Cooper, IT Consultant, Retired NMSU, Chief Operating Officer, went to Team 6 Annunciation Catholic School, Bone Stimulators and Their Use in Horses and People, Team Members: Evan Donnelly, Moira Donnelly, Andreana Nourie, Megan Thomas, Sponsor: Mary Sagartz, Mentor: Tim Thomas.

The Teacher Appreciation Award was introduced by Melody Hagaman, 2014 NCWIT Educator, Centennial High School, 2012 Winner, whose students wrote "We know that when we get to a rough spot, we can count on her. Ms. H does not give us the answer, but guides us as we work at it. She donates not only her time but her money as well. Ms. H always has time for students; she even opens up her room anytime we need help. Personally, we do not know how she does it. We admire her dedication and wish to follow her example." Natasha Cordova, Moriarty High School, Presented the award to Jennifer Cordova, Edgewood Elementary School, Moriarty High School Sponsor, and Elena Martinez, Los Lunas High School, Presented the award to Anne Loveless, Los Lunas High School.

The Supercomputing Challenge Technical Poster Award, Presented by Jerry Eichel of bigbyte.cc, went to Team 66 Los Alamos High School, 3D Hydrodynamic Simulation of Classical Nova Explosions, Team Member: Cole Kendrick, Sponsor: Brian Kendrick.

The Graphical Poster Award, Supercomputing Challenge Logo for 2013-2014, Presented by Shaun Cooper, IT Consultant, Retired NMSU Chief Operating Officer, went to Team 1 Academy for Technology and the Classics/Santa Fe High, ASL Detection for Practical Implementation, Team Members: Noah Caulfield, Dmitri Malygin-Voorhees, Sponsor: Brady Gotcher.

The Sandia National Laboratories Creativity and Innovation Award, Presented by Matthew Curry, Sandia National Labs, went to Team 144 School of Dreams Academy, Pathogen RPS, Team Members: Denton Shaver, James Edington, Sponsor: Creighton Edington, Mentor: Talysa Ogas.

The New Mexico Network for Women in Science and Engineering Award, Presented by Eleanor Walther, Sandia National Labs (Retired), went to Team 90 Melrose Middle School, It's a Bird, It's a Plane, It's Super Silage!!!, Team Members: Maggie Martin, Maryelle Dickerman, Hannah Wofford, Rebecca Rush, Sponsor: Alan Daugherty, Mentor: Keith "Taz" McAlister.

The Programming Innovation Award in Python, Presented by Drew Einhorn, Friend of the Challenge, Sponsored by Fourth Watch Business Continuity Services LC, went to Team 1 Academy for Technology and the Classics/Santa Fe High, ASL Detection for Practical Implementation, Team Members: Noah Caulfield, Dmitri Malygin-Voorhees, Sponsor: Brady Gotcher.

The Science Rocks Awards, Presented by Tom Laub, Sandia National Labs, went to Team 141 School of Dreams Academy, Analyzing the Driving Distance of a Golfer, Team Member: Jose Montoya, Sponsor: Creighton Edington, and Team 142 School of Dreams Academy, The Effects of Hypergravity on *Aliivibrio fischeri*, Team Members: Maria Troyer, Victoria Troyer, Kaleb Brown, Sponsor: Creighton Edington.

The Judges' Special Award in Social Science, Presented by Eleanor Walther and Mike Trahan, went to Team 123 Red Mountain Middle School, Depression In Nursing Homes, Team Member: Sammy Homsy, Sponsor: Mrs. Miller.

The Judges' Special Award in Ursa Major went to Team 56 Jackson Middle School, Too Many Or Not Enough, Team Members: Katrina Keller, Hannah Montoya, Sponsor: Karen Glennon Mentors: Patty Meyer, Nick Bennett.

The Judges' Special Award for the Best Use of the Cloud, went to Team 63 Los Alamos High School, Linguistic Analysis of Twitter, Team Members: Sudeep Dasari, Colin Redman, Sponsor: Lee Goodwin, Mentors: Dr. Reid Priedhorsky, Venkat Dasari.

A big round of applause was given to all the [sponsors](#). The people in these businesses and companies helped us Take the Challenge!

The Outstanding Service Award, Presented by Mohit Dubey, Stephen Guerin, Mentor Extraordinaire.

The Scholarship Winners, Presented by Janeen Anderson, Acaji, Inc. went to: Albert Reed from SODA to attend NMT, Chris Nguyen from Centennial to attend NMSU, Cristian Barrera from Centennial to attend NMSU, Danielle Garcia from SODA who is undecided, Eneyda Ramos from Deming to attend UNM or NMSU, Ian Wesselkamper from Manzano to attend UNM or NMTech, Jessica Maldonado from Centennial to attend NMSU, Maria Troyer from SODA to attend CU Boulder or NMT or NMSU, Mohit Dubey from NM School for the Arts to attend Oberlin, and Noah Caulfield from ATC to attend CU Boulder. Jed Crandall, Assistant Professor of Computer Science, UNM, presented the UNM scholarships. These seniors shared the \$40,700 in scholarship money. The Computer, Computational, and Statistical Sciences Division of Los Alamos National Laboratory donated \$20,000 in royalty monies to the Challenge scholarship fund.

Several Supercomputing Challenge participants were National Council of Women in Information Technology Aspiration Award Winners, they include: Analyssa Martinez, Centennial HS, Team #15, Maria and Victoria Troyer, SODA, Team #142, Chloe Grubb, SODA, Team #143, Taylor and Paige Torres, SODA, Team #146, Danielle Garcia, SODA, Team #145.

Rachel Washington, Saturday Science and Math Academy, Team 140 and Taylor Torres, SODA, Team 146, were NCWIT National Aspiration Winners.

John Sarrao, LANL Associate Director for Theory, Simulation, and Computation (ADTSC) and Congressman Ben Ray Lujan were on hand to present the top awards.

After the first place team was announced, they shared an overview of their project.

Five attendees receive \$100 bills as random door prizes.

Many items were distributed throughout the audience during the two and a half hour ceremony making it a very lively awards ceremony.

Participants enjoyed a burrito lunch before departing to their respective schools, in anticipation of participating in the Supercomputing Challenge next year.