Booklet of Awards & Schedule of Events

Central New Mexico STEM Research Challenge

March 23-26, 2022
The 2022 Central New STEM Research Challenge is dedicated to Dr. Richard Bild

Research Challenge recently lost one of its longest standing volunteer leaders, Dr. Richard “Dick” Bild. We knew immediately that we wanted to honor Richard’s memory by dedicating the 2022 Central NM STEM Research Challenge to his memory. You will also notice that there are several Richard Wayne Bild Research Challenge Awards this year that are a tribute to Richard’s passionate commitment to all of you, our student researchers!

Richard passed away peacefully at home on August 26, 2021 after a 2 ½ year battle with pancreatic cancer. He was born on June 17, 1946 in Washington, DC and moved with his family to Albuquerque, NM, in 1951. He is survived by his wife of 47 years, Karen Robinson (also a long-serving volunteer RC Category Judge Chair) as well as son David & his family along with many other family and friends.

Richard attended Montezuma Elementary, Jefferson Junior High, and Highland High School in Albuquerque, graduating in 1964. He earned a BS in Chemistry from Caltech in 1968 and a PhD in Chemistry from UCLA in 1976 where he studied the composition of primitive and unusual meteorites. After postdoctoral fellowships at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany, and the Lunar and Planetary Laboratory at the University of Arizona, he returned to Albuquerque in 1978 to work at Sandia National Labs, retiring in 2008 as a Principal Member of Technical Staff following a 30-year career as an analytical and geochemist, manager of the radioactive hot cell facility for many years, and quality auditor for executive management.

Richard was active in the Albuquerque community, sharing with others his passions for the great outdoors and natural sciences. As a boy, he was a Cub Scout, Boy Scout, and Explorer and as an adult was an active Scouter for 28 years with Pack 498, Troop 444 and Sandia District (district committee, adult leader training). He received the Silver Beaver award for distinguished service to Great Southwest Council and was a Vigil Honor member of the Order of the Arrow.

Richard won science fair awards at the school, regional, and state science fairs for 4 years as a student and was a competitor in the 1st Regional Science Fair here. After returning to Albuquerque he judged at what was then called the NWNM Regional Science & Engineering Fair and now is the Central NM STEM Research Challenge for 43 years including 1 year as a Category Judge, a Category Judge Chair for 24 years, and one of our esteemed Master Judge Chairs for the last 14 years. Richard was also a Category Judge Chair at ISEF when it was in Albuquerque in 1983 and 2007.

Dick, you are sorely missed, but we will work to carry on your legacy of selfless service, compassionate leadership, and enduring commitment to encouraging students to pursue STEM careers...or at least to be STEM-literate world citizens who are well-rounded and interested in a wide variety of things in and outside of their career roles.
Thank you to the many donors and sponsors who not only make Research Challenge possible but also support the STEM-H Center and all of its endeavors year-round.

2022 Plutonium Sponsors

Gold Sponsors
(Monetary and in-kind sponsors of $20,000-$29,000)
UNM HSC Office for Diversity, Equity & Inclusion

Silver Sponsors
(Monetary and in-kind sponsors of $10,000-$14,999)
Sandia National Labs
General Mills Foundation
National Science Teaching Association

Zinc Sponsors
(Monetary and in-kind sponsors of $5,000-$9,999)
Albuquerque Journal
Kupono Govn’t Services/Alka’ina Foundation
Peraton
UNM School of Engineering

Copper Sponsors
(Monetary and in-kind sponsors of $2,500-$4,999)
The Boeing Company
NM Oil & Gas Association
PNM
UNM Alumni Association
UNM School of Medicine

Aluminum Sponsors
(Monetary and in-kind sponsors of $1,000-$2,499)
The Aerospace Corporation
Air Force Research Labs NM
KOAT-TV Channel 7 & Byron Morton

Hydrogen Sponsors
(Monetary and in-kind sponsors of $5-$249)
Albuquerque Isotopes
APS Engineering the Future
Be Greater Than Average/R4Creating
¡Explora!
NMPBS
Sandia Mountain Natural History Center
STEAMatWORK4kids
Tricore Reference Laboratories
UNM American Indian Student Services

Curie Donors
(Individual cash & in-kind donations of $1500-$2499)
Patricia & Leonard Duda

Darwin Donors
(Individual cash & in-kind donations of $1000-$1499)
Mary Louise Martignoni Trust

Carver Donors
(Individual cash & in-kind donations of $250-$499)
Van Pham & Khe Tang

Newton Donors
(Individual cash & in-kind donations of $250-$499)
Lorine & Joe De Rusha
Karen Robinson

Ochoa Donors
(Individual cash & in-kind donations of $100-$249)
Patrick Burton
Selena Connealy
Berlinda & Kenneth Eras
Karen Kinsman & Holly Lowe

The MANY judges who donate their time and expertise to interviewing students and evaluating projects.

THANK YOU!
Lynne Anderson
NAIOP-NM
President

Connie Beimer
University of New Mexico
Interim VP, UNM Alumni Relations

Reginald Bourgeois
U.S. Army Corps of Engineers
Chief, Strategic Initiatives Group

Dr. Mary Jo Daniel
UNM Office of Research
Associate Vice President

Robert DeBlassie
Sandia National Laboratories
Senior Technical Staff

Dr. Leonard Duda
Sandia National Laboratories (retired)
Systems Engineer

John Gallegos
NAIOP-NM
Vice-President

Deborah Green
St. Pius X High School
Science Teacher

Franz Joachim
NM PBS
General Manager

Ray Nance
Retired STEM Educator
UNM College of Education, PhD Candidate

Jennifer Nilvo
School of Dreams Academy
K-12 STEM Educator

Deb Novak
NM Museum of Natural History & Science
Director of Education

Heather Pratt-Chavez
UNM HSC Department of Pediatrics
Associate Professor, Pediatrics Reviewer

Michael Rogers
Northrop Grumman
Engineer

Dr. Valerie Romero-Leggott
UNM HSC Office for Diversity
Vice-Chancellor

Gail Vavruska Marcum
Sandia National Labs
Senior Manager of Compensation

James Vigerust
Aptim Federal Services
Corporate Safety Officer

Student Members
Sofia Chavez
Gianna Nilvo
SCHEDULE OF EVENTS

Visit the RESEARCH CHALLENGE VIRTUAL LOBBY for instant access to virtual Research Challenge events!

Link to the lobby will be emailed to participants and posted on our website no later than 3/21/22.

March 21 – 26 ~ Virtual Lobby Open~ visit at your convenience!

PROJECT SHOWCASE – browse all student research projects competing in Research Challenge

STEM HALL – visit profiles and interactive exhibits from our sponsors and community partners

SPEAKERS & PANELS – view engaging discussions with STEM professionals including:
- STEM Careers in Aerospace
- STEM Careers in Media & Television

SCAVENGER HUNT – Participating students, complete our Scavenger Hunt as you explore Virtual Research Challenge for a chance to win one of nearly 40 prizes!

Tuesday, March 22

6:30 pm – 7:30 pm  Judging Workshop – Live on Zoom
Students, prepare for judging day with long-time Research Challenge Master Judge Chairs Len Duda and Robert Deblassie as they provide tips to prepare for judging interviews and answer your questions.
https://hsc-unm.zoom.us/j/95797331039

Wednesday, March 23

3:00 pm – 7:00 pm  Project Set Up – EXPO NM, Manual Lujan Building
ALL student exhibitors must register and set up their project displays during this time. Doors will close promptly at 7:00 pm!
## Thursday, March 24

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
</table>
| 9:45 am – 12:00 pm | **Junior Division Category Judge Interviews** – *Manuel Lujan Bldg, Hall A*  
STUDENTS AND JUDGES ONLY ON EXHIBIT FLOOR! Doors open at 9:30am. 9:45 is the required start time for ALL students. |
| 12:00 pm – 1:15 pm | **Lunch Break** —NOT PROVIDED—Food truck will be on site.  
EXHIBIT HALL CLEARED OF ALL STUDENTS. |
| 1:30 pm – 3:15 pm | **Junior Division Special Award Interviews** – *Manuel Lujan Bldg, Hall A*  
STUDENTS AND JUDGES ONLY ON THE EXHIBIT FLOOR!  
Exhibitors must take project board and all other materials with them when they leave at the end of the day! |

## Friday, March 25

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 am – 12:00 pm</td>
<td><strong>Hands on activities with Air Force Research Labs and ¡Explora!</strong> (for participating 4th &amp; 5th grade students) – <em>Manuel Lujan Bldg, Hall A</em></td>
</tr>
</tbody>
</table>
| 9:45 am – 12:00 pm | **Senior Division Category Judge Interviews** – *Manuel Lujan Bldg, Hall B*  
STUDENTS AND JUDGES ONLY ON EXHIBIT FLOOR! Doors open at 9:30am. 9:45 is the required start time for ALL students. |
| 12:00 pm – 1:15 pm | **Lunch Break** —NOT PROVIDED—Food truck will be on site.  
EXHIBIT HALL CLEARED OF ALL STUDENTS. |
| 1:30 pm – 3:15 pm | **Elementary Division Judging Interviews** – *Manuel Lujan Bldg, Hall B*  
STUDENTS AND JUDGES ONLY ON THE EXHIBIT FLOOR!  
Note: elementary students will be interviewed by both category and special award judges during this time. |
| 1:30 pm – 3:15 pm | **Senior Division Special Award Interviews** – *Manuel Lujan Bldg, Hall B*  
STUDENTS AND JUDGES ONLY ON THE EXHIBIT FLOOR!  
Exhibitors must take project board and all other materials with them when they leave at the end of the day! |

## Saturday, March 26

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 pm</td>
<td><strong>Grand Awards Ceremony</strong> – <em>Live on Zoom and streaming on Facebook Live</em></td>
</tr>
</tbody>
</table>

Note:  
Senior Division ~ high school  
Junior Division ~ middle school  
Elementary Division ~ 4th & 5th Grade
2022 Grand Awards Ceremony
Central New Mexico STEM Research Challenge
Saturday, March 26

Terrence Turner
Molecular Biologist, Senior R&D Specialist, Regeneron Pharmaceuticals

Keynote Speaker
Terrence Turner is a Senior Research and Development Specialist at Regeneron Pharmaceuticals where he uses cutting edge molecular biology techniques to develop genetic constructs for disease modeling. He has a growing mastery in the field of genetic sequencing with his work using 3rd generation sequencing platforms. In November 2020, Terrence was awarded a prestigious R&D Associate Award for innovation by the Regeneron research community for introducing a potential novel way to improve current processes in the company’s research (proprietary). Terrence was also involved in early research on the REGN-COV2 antibody cocktail for treatment of COVID19 and performed studies during the lockdown in April 2020.

Terrence actively contributes to corporate Diversity, Equity and Inclusion work at Regeneron. He is active in STEM educational outreach as a judge at both the Regeneron Westchester Science (WESEF) and Engineering Fair and the Regeneron International Science and Engineering Fair (ISEF).

Terrence was born and raised in East Flatbush Brooklyn NY. He attended Marist College on a partial football scholarship where he was a double major in Biomedical Sciences and Chemistry. As a two time team captain, he was also named first team academic All-District in college in 2010.

Terrence resides in the Bronx, with his wife Carrie and his son Zephaniah.

Byron Morton
Broadcast Meteorologist, KOAT

Master of Ceremonies
Byron graduated with a Bachelor of Science degree from the College of Geosciences at the University of Oklahoma in 1996.

Before joining the KOAT Action 7 News team in December 2001, Byron was chief meteorologist at WMSN-TV in Madison, WI, and fill-in meteorologist at its sister station, WKOW-TV. Byron has also held on-air positions at WOI-TV in Des Moines and WAOW-TV in Wausau, WI, and served as weather producer for Good Morning America, The LA Times, and Televisa Mexico.

Byron is the second forecaster in the state to earn the prestigious designation of "Certified Broadcast Meteorologist" from the American Meteorological Society (AMS), and he holds a seal of approval from the National Weather Association (NWA).

When he’s not keeping an eye on the sky, Byron enjoys weight-lifting, tennis, hiking, running, and just about anything else outdoors…and of course joining us every year at Research Challenge!
Broadcom Masters
Awarded to the 1st and 2nd place winners of EACH category in the Junior Division.

Junior Division  First & Second Place: Certificate and an invitation to submit project to national competition

Regional Research Challenge ~ Top-of-Category Awards
Un-sponsored category awards are sponsored by operational funds donated by various companies.

First Place: $100, gold medallion and certificate
Second Place: $75, silver medallion and certificate
Third Place: $50, bronze medallion and certificate
Honorable Mention: Medallion and certificate

2022 Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Sponsor</th>
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<tbody>
<tr>
<td>Elementary Chemistry</td>
<td></td>
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<tr>
<td>Elementary Engineering/Energy</td>
<td></td>
</tr>
<tr>
<td>Elementary Life Sciences</td>
<td></td>
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<tr>
<td>Elementary Physical Science</td>
<td></td>
</tr>
<tr>
<td>Junior Behavioral &amp; Social Sciences</td>
<td>Albuquerque Journal</td>
</tr>
<tr>
<td>Junior Biology &amp; Microbiology</td>
<td>UNM School of Medicine/Health Sciences Center</td>
</tr>
<tr>
<td>Junior Chemistry</td>
<td>Sandia National Laboratories</td>
</tr>
<tr>
<td>Junior Earth &amp; Environmental Sciences</td>
<td>PNM</td>
</tr>
<tr>
<td>Junior Energy &amp; Transportation</td>
<td>Peraton</td>
</tr>
<tr>
<td>Junior Engineering</td>
<td>UNM School of Engineering</td>
</tr>
<tr>
<td>Junior Materials Science</td>
<td>NM Oil &amp; Gas Association</td>
</tr>
<tr>
<td>Junior Medicine &amp; Health</td>
<td>UNM School of Medicine/Health Sciences Center</td>
</tr>
<tr>
<td>Junior Physics &amp; Astronomy</td>
<td>The Boeing Company</td>
</tr>
<tr>
<td>Junior Plant Science</td>
<td></td>
</tr>
<tr>
<td>Junior Robotics &amp; Intelligent Machines</td>
<td>NM Oil &amp; Gas Association</td>
</tr>
<tr>
<td>Senior Behavioral &amp; Social Sciences</td>
<td>Albuquerque Journal</td>
</tr>
<tr>
<td>Senior Biology &amp; Microbiology</td>
<td>UNM School of Medicine/Health Sciences Center</td>
</tr>
<tr>
<td>Senior Chemistry</td>
<td>Sandia National Laboratories</td>
</tr>
<tr>
<td>Senior Computer &amp; Mathematical Sciences</td>
<td>Peraton</td>
</tr>
<tr>
<td>Senior Earth &amp; Environmental Sciences</td>
<td>PNM</td>
</tr>
<tr>
<td>Senior Engineering</td>
<td>UNM School of Engineering</td>
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<td>The Boeing Company</td>
</tr>
<tr>
<td>Senior Plant Science</td>
<td></td>
</tr>
</tbody>
</table>

Regional Research Challenge ~ Top Junior Division Winner Award
Recognition of the top Junior Division exhibitors.

Junior Division  Physical Sciences: First Place: $250  Second Place: $200  Third Place: $150
Life Sciences: First Place: $250  Second Place: $200  Third Place: $150

Regional Representatives to the International Science and Engineering Fair (ISEF)
Top projects will be named ISEF Finalists and compete at ISEF in May, 2022.

Senior Division  Excellence Award: Expense paid trip to Atlanta, GA to compete in ISEF.

ISEF Finalist Awards sponsored by Avangrid & PNM
Awarded to each regional ISEF qualifier (funds will be split evenly among team members for any team projects that qualify.

Senior Division  Excellence Award: $1000
### Aerospace Corporation Award
For technical excellence in projects related to the space and nuclear enterprises.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
<th>Second Place</th>
<th>Third Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$75</td>
<td>$50</td>
<td>$25</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$75</td>
<td>$50</td>
<td>$25</td>
</tr>
</tbody>
</table>

### AIC General Contractors Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Division</td>
<td>$250</td>
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</tbody>
</table>

### Albert M. Kudo Memorial Award
For an excellent project in any category in memory of Dr. Albert M. Kudo.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior or Senior Division</td>
<td>$100</td>
</tr>
</tbody>
</table>

### Albuquerque African Violet Club Award
For projects which best convey information on culture, hybridizing, pest control, or other aspects relating to African Violets or other gesneriads.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
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</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$50</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$50</td>
</tr>
</tbody>
</table>

### Albuquerque Astronomical Society Award
For the best Astronomy related projects. Winners invited to exhibit projects at Astronomy Day. Prizes include 1-year membership in the Albuquerque Astronomical Society.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
<th>Second Place</th>
<th>Third Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$150</td>
<td>$75</td>
<td>$50</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$150</td>
<td>$75</td>
<td>$50</td>
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</tbody>
</table>

### Albuquerque Radio Control Club Award
For outstanding exhibits in the field of aviation science. Prizes include membership to the Academy of Model Aeronautics and the Albuquerque Radio Control Club.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$50, free model aircraft flight lesson</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$100, free model aircraft flight lesson</td>
</tr>
</tbody>
</table>

### Albuquerque Rocket Society Award in Memory of Kyle Foster
For excellent projects related to rocketry or the field of aeronautics.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$100</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$100</td>
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</tbody>
</table>

### Allen Sigmon Real Estate Group Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Division</td>
<td>$250</td>
</tr>
</tbody>
</table>

### American Association of University Women Young Scientist Award
For excellent projects by female exhibitors in the categories of Physics, Computer Science, or Engineering.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place (up to 20 prizes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Division</td>
<td>$25</td>
</tr>
<tr>
<td>Junior Division</td>
<td>$30</td>
</tr>
</tbody>
</table>

### American Chemical Society Awards, Central New Mexico Section
For the projects that best demonstrate a thorough and logical approach to the investigation and observation of a chemical phenomena or property using the principles of the scientific method.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
<th>Honorable Mention (up to 20 prizes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$150</td>
<td>$25</td>
</tr>
<tr>
<td>Senior Division</td>
<td>$150</td>
<td></td>
</tr>
<tr>
<td>Junior or Senior Division</td>
<td>$150</td>
<td></td>
</tr>
</tbody>
</table>

### American Institute of Aeronautics and Astronautics Award
For projects relating to the fields of Aeronautics and Astronautics.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place (x2)</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Division</td>
<td>$125 &amp; certificate. Membership in AIAA.</td>
<td></td>
</tr>
<tr>
<td>Senior Division</td>
<td>$125 &amp; certificate. Membership in AIAA.</td>
<td></td>
</tr>
</tbody>
</table>

### American Meteorological Society Award
For creative scientific endeavor in atmospheric and related oceanic and hydrologic sciences.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place (x2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior or Senior Division</td>
<td>Certificate</td>
</tr>
</tbody>
</table>

### American Psychological Association Award
For an exhibit recognizing outstanding research in psychology in the category of behavioral and social sciences.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior or Senior Division</td>
<td>Certificate</td>
</tr>
</tbody>
</table>

### American Society of Safety Professionals Award, New Mexico Chapter
For projects related to environmental or industrial safety.

<table>
<thead>
<tr>
<th>Division</th>
<th>First Place</th>
<th>Teacher Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Division</td>
<td>$100</td>
<td>$50</td>
</tr>
<tr>
<td>Junior Division</td>
<td>$100</td>
<td>$50</td>
</tr>
</tbody>
</table>
Argus Investment Realty, Inc. Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place(x2): $250

ASM Materials Education Foundation Award
For the best materials engineering project that demonstrates use of materials-related concepts, some aspect of the materials paradigm, clarity in presentation, and a clear understanding of the scientific method.
Junior or Senior Division First Place: Certificate

Association for Women Geoscientists Award
For a female student whose project best exemplifies high standards of innovativeness and scientific excellence in the geosciences.
Junior or Senior Division First Place: Certificate

Association of Old Crows Award
For a project in the Elementary Division related to electromagnetic spectrometry or information operations.
Elementary Division First Place: $100

Baca & Howard P.C. Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place(x2): $250

Bank of Albuquerque Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $300

Benjamin Gardner, AIA, LEED, AP Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $100

BlueHalo CASE (Creative Application of Science & Engineering) Award
For a project that displays excellence and creativity in the application of Mathematics, Science, and Engineering.
Junior Division First Place: $150 Second Place: $100 Third Place (x3): $50

Bohannan Huston Award
For outstanding Engineering projects.
Any Division First Place(x2): $250

Bridgers & Paxton Consulting Engineers Award
For an excellent project relating to energy efficiency and engineering that demonstrates energy conservation through analysis of existing technology or exploration of alternative technology associated with the building infrastructure, architectural systems, or the construction industry.
Any Division First Place(x2): $250

Broadcom Coding with Commitment Award
For a project in any category that combines STEM Knowledge and Computation/Coding in the project’s research, design, or development that expresses passion for helping or improving one’s community.
Junior Division First Place: $250 gift card & Raspberry Pi Official RP Personal Computer Kit

Cauwels & Stuve Realty Development Advisors, LLC Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place(x2): $250

CBRE Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $100

Center for Water & the Environment Excellence Award (UNM School of Engineering)
For a project that shows excellence and interest in water science, water resources, or water engineering.
Senior Division First Place: A paid summer internship (2022) in CWE’s environmental engineering and water resources laboratories working in-person with CWE faculty.

Century Sign Builders Award
For an excellent project related to information technologies (“IT”).
Any Division First Place: $250

Chalmers Ford Award
For an excellent project in any category.
Elementary Division First Place: $150
Junior or Senior Division First Place: $150
Climate Change Award
Presented to the project that demonstrates the greatest insight into climate change using the scientific method.
Elementary Division  First Place: $75
Junior Division  First Place: $75
Senior Division  First Place: $75

Consensus Planning Award
For a project that shows excellence in furthering sustainability through landscape architecture.
Any Division  First Place: $350

CREW NM (Commercial Real Estate Women) Award
For an excellent project by a female student related to real estate including architecture, civil engineering, or environmental issues.
Any Division  First Place(x2): $250

Dave and Rhonda Hill Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division  First Place: $200

David Leith, CPA Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division  First Place: $250

Directed Energy Profession Society Award
For projects that display the best use of electromagnetic spectrum to solve or diagnose a modern problem or create a new application or capability.
Junior Division  First Place: $250  Second Place: $150  Honorable Mention: $50
Teacher Award: $100
Senior Division  First Place: $250  Second Place: $150  Honorable Mention: $50
Teacher Award: $100

DoD STEM Leadership Prize
For a student who demonstrates excellence in STEM knowledge, technical and problem solving skills, communication skills, creative thinking and determination to overcome challenges throughout the research project.
Junior Division  First Place: $100

Don’t Stop Now Award
For projects in any category that show enthusiasm and promise for continued learning.
Junior or Senior Division  First Place (x6): $50

Dr. Donald Partridge Memorial Neuroscience Award
In memory of Dr. Donald Partridge for a project which best demonstrates and tests principles of neural science.
Junior Division  First Place: $100  Second Place: $50
Senior Division  First Place: $100  Second Place: $50

Dr. John K. Prentice “Coolness” Award
Sponsored by Randi Buck. For especially novel and ingenious projects in any category.
Junior Division  First Place (x2): $100
Senior Division  First Place (x2): $100

Enchanted Lens Camera Club Award
For projects which either advance the state of the art of film/digital photography, or use photography as a key diagnostic in an engineering and/or science project.
Junior Division  First Place: $75
Senior Division  First Place: $75

Engineering Excellence – New Mexico Engineering Foundation
For excellence in Engineering and/or applied topic or research in Engineering, Physics, or Energy & Transportation.
Junior Division  First Place: $100
Senior Division  First Place: $100

ENLACE Statewide Collaborative Excellence Award
For excellent projects in any category.
Elementary Division  First Place (x4): $25 UNM Bookstore Gift Card
Junior Division  First Place (x4): $25 UNM Bookstore Gift Card
Senior Division  First Place (x4): $25 UNM Bookstore Gift Card

Enterprise Builders Award
For an excellent project related to structural engineering or construction.
Any Division  First Place(x2): $250
Explora Science Center and Children’s Museum Award
For excellent projects in Chemistry, Environmental Science, Math, Microbiology or Physics.
Junior Division First Place (x10): $25 plus an invitation to exhibit project virtually at Explora.

FBT Architects Award Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $300

Geltmore, LLC Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $250

Goodman Realty Group Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $250

Greater Albuquerque Association of Realtors Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place (x2): $250

Green Leaf Award
For an excellent project in the Plant Sciences Category.
Elementary Division First Place: $25

Huning, LLC Award
For a Valenica County student with an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place (x2): $250

Installation Service Heating Cooling Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $250

International Test & Evaluation Association Awards, Roadrunner Chapter
For the best application of test and evaluation techniques in an experiment.
Junior Division First Place: $100 Second Place: $50 Third Place: $25
Senior Division First Place: $250 Second Place: $50 Third Place: $25

James Topmiller Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $300

Jaynes Corporation Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place (x3): $250

Jerran Golightly Memorial Award
Awarded to the best project addressing the issues of heart disease and cardiac health, particularly in young people.
Junior or Senior Division First Place (x2): $100

Jim Adams Memorial Award
For an excellent project by a student faced with physical or mental challenges.
Junior or Senior Division First Place: $100

Keith Meyer and Mary Meyer, Ph.D Award
For an excellent projects in the category of social sciences.
Any Division First Place: $200

Kiwanis Club of Coronado Awards
For excellent projects in any category.
Elementary Division First Place: $25
Junior Division First Place: $100 Second Place: $50 Third Place: $50 Fourth Place: $25
Senior Division First Place: $100 Second Place: $50 Third Place: $50 Fourth Place: $25

Klinger Constructors, LLC Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $200

KW Commercial Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $200
Lemelson Early Inventor Prize
For an excellent invention project which demonstrates problem-solving, empathy, and entrepreneurial and environmental-friendly thinking.

**Junior Division**  **First Place**: $100 & certificate

Main Bank Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place(x2)**: $250

mauro4micro Teacher Awards
For creative and insightful science teachers in memory of Dr. Mauro Martignoni.

**Junior or Senior Division**  **Teacher Award(x4)**: $250

Maxine Grossman Award
For an excellent project in the category of Plant Science.

**Junior or Senior Division**  **First Place**: $100

MU Alpha Theta Award
For an individual or group project that demonstrates the most challenging, original, thorough, and creative investigation of a problem involving modern mathematics.

**Senior Division**  **First Place**: Certificate

NAI SunVista Commercial Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place**: $250

Nancy Schmierbach Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place(x2)**: $250

NASA Earth System Science Award
For the project that best demonstrates insight into Earth's interconnected systems. The project should incorporate studies of the different components of Earth systems, their interactions and their evolution over time.

**Junior or Senior Division**  **First Place**: Certificate

National Geographic Award
For an excellent project that seeks solutions to the Earth's most pressing challenges, in particular, around oceans, land, wildlife, human history cultures, and human ingenuity.

**Senior Division**  **First Place**: $100

National Oceanic and Atmospheric Administration Award
For the project whose research emphasizes NOAA's mission to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources.

**Junior or Senior Division**  **First Place**: Certificate

New Mexico Gas Company Awards
For an excellent project related to natural gas, utility efficiency, energy or engineering.

**Any Division**  **First Place (x4)**: $250

New Mexico Trout Award
For a project that supports the goals of New Mexico Trout: the study, conservation and restoration of riparian habitats.

**Junior Division**  **First Place**: $100 and membership  **Teacher Award**: $100

**Senior Division**  **First Place**: $100 and membership  **Teacher Award**: $100

Nusenda Credit Union Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place(x4)**: $250

OE Solar Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place(x2)**: $250

Old Republic National Title Insurance Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place**: $200

Peacock Law, P.C. Award
For an excellent project that includes a novel patentable idea, concept, or device.

**Any Division**  **First Place**: $250

REA Real Estate Advisors Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

**Any Division**  **First Place(x2)**: $250
Regeneron Biomedical Science Award
Awarded to an exceptional student scientist who not only demonstrates an impressive command of biomedical science and research but also embodies Regeneron’s core values and behaviors, known as The Regeneron Way.
Senior Division First Place: $500

Regional Research Challenge Ingenious Research Award
For a project involving the testing and/or use of common materials.
Junior Division First Place (x2): $100

Regional Research Challenge Junior Encouragement Awards
Sponsored by the Foreman Family. For outstanding middle school projects in EACH category.
Junior Division First Place: $35 Second Place: $30 Third Place: $25

Regional Research Challenge Scholarships to UNM
Senior Division First Place: A minimum $750 UNM scholarships to all 12th grade participants who enroll at UNM in the Fall of 2021 (one-time award for Fall 2021)

Richard Bild Memorial Research Challenge Award
For a student or team whose project demonstrates excellence in interdisciplinary research and who demonstrates an ongoing passion for STEM with excellent problem-solving, communication, and leadership skills.
Elementary Division First Place(x2): $25
Junior Division First Place(x2): $100 HM: Certificate
Senior Division First Place(x2): $200 HM: Certificate

Ricoh Regional Sustainable Development Award
For a project whose principles and technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly and socially responsible businesses.
Junior or Senior Division First Place: Certificate

Sandia Laboratory Federal Credit Union Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place(x2): $250

Sandia Peak Tram Company Award
For an excellent project related to structural engineering or construction.
Any Division First Place(x3): $250

Society for In Vitro Biology Award
For the most outstanding 11th grade students exhibiting in the areas of plant or animal in vitro biology or tissue culture.
Senior Division First Place: Certificate

Society of Women Engineers Award, Central New Mexico Section
For an exhibit in Engineering, Physics & Astronomy, Computer Science, Environmental Management or Energy & Transportation.
Junior Division First Place (x2): $100

Springer5 Investments Award
For an excellent project by a Rio Rancho student related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $200

Springhill Suites by Marriott (Journal Center) Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place(x2): $500

Studio Southwest Architects Award
For a project related to architecture.
Any Division First Place: $300

Sun Vista Enterprises, Inc. Award
For a project that displays innovation in energy use for construction and architecture.
Any Division First Place: $250

Sutin, Thayer & Browne Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $150

Thomas Keleher Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $200

Titan Development Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.
Any Division First Place: $250
United States Air Force Awards
Naval Science Awards for excellent individual projects in science and engineering.

Junior or Senior Division  First Place (x4): Certificate & Tangible Award

United States Metric Association Award
For a project that involves a significant amount of quantitative measurement and which best uses the SI Metric System.

Junior or Senior Division  First Place: Certificate of achievement

United States Navy and Marine Corps Awards
Naval Science Awards for excellent individual projects in science and engineering.

Junior Division  First Place: Certificate of achievement
Senior Division  First Place: Certificate of achievement and $50

University of New Mexico College of Pharmacy Awards
For a project related to the Pharmaceutical Sciences which best demonstrates an innovative problem, the scientific approach to the problem, the methodology for solving the problem, and the scientific interpretation of the results.

Elementary Division  First Place: $100
Senior Division  First Place: $200  Teacher Award: $200

University of New Mexico Health Sciences Center Awards
For excellent projects in each of the categories of Medicine & Health, Microbiology and Biochemistry

Junior Division  First Place: $150  Second Place: $100  Third Place: $50
Senior Division  First Place: $150  Second Place: $100  Third Place: $50

U.S. Agency for International Development (USAID) Award
For an exceptional project that has the potential to make an impact on addressing international development challenges.

Junior or Senior Division  First Place: Certificate

U.S. Stockholm Junior Water Prize - Water Environment Federation
For an outstanding project related to water quality, water resource management, water protection, water treatment.

Senior Division  First Place (x3): Certificate and possible advancement to State Stockholm competition.

WaFd Award
For an excellent project related to real estate, including architecture, civil engineering or environmental issues.

Any Division  First Place (x2): $500

Wood Innovation & Sustainability Award
For excellent projects demonstrating innovation and sustainability.

Junior Division  First Place: $100
Senior Division  First Place: $100

Yale Science and Engineering Association, Inc. Award
For an outstanding 11th grade student exhibiting in the area of Computer Science, Engineering, Physics or Chemistry.

Senior Division  First Place: Certificate

Congratulations to all the student participants and winners!
Dear Research Challenge Participants,

I want to take this opportunity to congratulate you on your accomplishments, recognize the hard work it took to get here and wish you the best of luck as you participate in the 62nd Annual Central NM STEM Research Challenge. Thank you for taking on this challenge and please know that I am extremely proud of every one of you.

There is no doubt that this year’s competition will prepare you for your future academic and career path.

Many former participants have ventured on to win international competitions, secure patents and continue their education, as well as pursue careers at prestigious institutions around the world.

Our state is home to world-class scientists and engineers at our universities and national laboratories. I’d like to encourage each of you, the next generation of STEM professionals, to think big and pursue revolutionary innovations that will serve our state and nation, and improve lives everywhere.

I am confident that New Mexicans like you will be at the forefront as America advances the Digital Age, develops strategies to combat climate change, fights dangerous diseases and advances our nation’s space program. Please continue the great work, never stop asking questions, and keep looking for innovative solutions to all the grand challenges we face!

I look forward to hearing about your achievements and I wish you success in your future endeavors.

Best Wishes,

Douglas Ziedonis, MD, MPH
Executive Vice President, UNM Health Sciences
CEO, UNM Health System
March 26, 2022

Dear Central NM STEM Research Challenge Participants,

Congratulations to each one of you on your accomplishments over the course of this competition. The 62nd Annual Central New Mexico STEM Research Challenge is a premier opportunity to gain exposure to the important areas of Science, Technology, Engineering, Mathematics and Health Sciences (STEM-H). I hope this experience has sparked and strengthened your passion for the many career opportunities within these fields.

The hard work you have put into expanding your knowledge is a testament to your drive, creativity and ingenuity. I encourage each of you, our future STEM-H leaders, to continue to innovate and develop revolutionary ideas that will improve the lives of New Mexicans, and the broader national and global community. Dream BIG... I know you can achieve it!

Opportunities like the Research Challenge will help to guide you throughout your educational journey as talented and motivated students and leaders. Today I join you in celebrating this accomplishment. Doing a research or engineering project under normal circumstances is difficult in itself. I am impressed by and proud of the determination you have all shown to navigate these challenging times and complete exceptional projects you can all now share with our community.

Thank you to all who have committed their time to ensuring this event is a resounding success year after year. I look forward to seeing you reach new heights, and feel very fortunate to share in this opportunity with each of you.

Sincerely,

Valerie Romero-Leggott, MD
Vice President
Executive Diversity, Equity & Inclusion Officer
Endowed Professorship for Equity in Health
University of New Mexico Health Sciences Center

Professor of Family and Community Medicine
Executive Director, Combined BA/MD Degree Program
University of New Mexico School of Medicine
March 26, 2022

Dear Research Challenge Participants,

Congratulations on participating in the 62nd Annual Central NM STEM Research Challenge. Your hard work and perseverance in preparing for this event will serve you well in the long run. I am truly impressed with your drive, creativity, and innovative spirit.

As a scientist and researcher, I know that completing a research or engineering project during the best of times is difficult and can present many obstacles that must be overcome. In the face of the continuing challenges of the COVID-19 pandemic, working on your project this year and bringing it to fruition is truly an accomplishment! I applaud your interest in discovery and encourage the curiosity I see in you to explore new territory. Our state is home to world-class scientists and engineers, many of whom started out just like you in their local and regional competitions. I believe many of you will ultimately join their ranks and contribute to the advancement of the digital age, produce solutions to global climate change, develop innovative treatments for a range of health issues, and create new products that improve our daily lives.

I also thank all the parents, teachers, mentors, friends, volunteers, and sponsors who worked tirelessly with you on your projects and the Research Challenge events. Team effort is how NASA and the Navy Seals succeed, and how we will solve the world’s most challenging problems – we are better together!

I hope you take a moment to truly enjoy every aspect of this unique event – continue to ask questions of yourself and the other participants to truly understand more about our amazing world and what we are capable of achieving. I look forward to learning more about your successes in the years to come.

Best of luck in the 2022 Central NM STEM Research Challenge!

Sincerely,

Ellen R. Fisher, Ph.D.
Vice President for Research
Professor of Chemistry
The University of New Mexico

505.277.6128 | Office of the Vice President for Research | MSC05 3480 | Albuquerque, NM
research.unm.edu
March 26, 2022

Dear New Mexico STEM Students,

I commend you for participating in the 62nd Annual Central NM STEM Research Challenge. The hard work you have put into expanding your knowledge within the science, technology, engineering, and/or mathematics fields is a testament to your drive, creativity, and intelligence.

These last two years have been challenging, with all of us learning a lot about Zoom, working and learning remotely, and figuring out how to adjust to living in very different ways than what we were used to before COVID-19. Completing a research or engineering project during normal times is difficult in itself and I cannot imagine the challenges you faced as you worked on your project this year. I am so proud of the hard work, dedication, perseverance, and grit you showed as you figured out how to do things differently, solve issues creatively, and come out with a completed project you are now sharing with our community.

I encourage you to pursue your interest in science, technology, math, engineering, or health professions. STEM-H jobs contribute to society in very important ways - scientists and others are working to find solutions for global warming, cancer, world hunger, disappearing habitats, crumbling infrastructure, the increasing need for complex technologies, and much more. As these careers grow in New Mexico and nationwide, we need more students pursuing STEM-H careers to ensure our state and our country remain competitive and at the forefront of scientific thought and discovery.

I join your family, friends and classmates in applauding all your efforts. I know we will continue to see great things from each of you.

Sincerely,

Kurt Steinhaus

Kurt Steinhaus, Ed.D.
Secretary of Education
March 26, 2022

Dear Research Challenge Participants,

I wish you the best of luck as you participate in this year’s 62nd Annual Central NM STEM Research Challenge. Your participation in this esteemed event is a culmination of your hard work and accomplishments, and I am proud to represent such impressive and motivated young New Mexicans.

It is my hope that each and every one of you participating in this competition takes this opportunity to learn as much as you can, to challenge yourself, and to show us all what the future of STEM and innovative research looks like. In a state with a strong innovation economy, New Mexico is relying on the next generation to continue to find creative solutions to the greatest issues facing our communities.

Over the past two years, you have demonstrated great resiliency and courage in continuing to pursue your passions during the unique challenges presented by the COVID-19 pandemic. You had to be creative as you worked together with your team to complete your project, all while keeping yourselves and your communities healthy and safe. Your dedication and perseverance have now paid off, and I hope that you are proud of your final projects and the hard work they represent, as I am.

I join with your families, communities, teachers, and classmates in celebrating all that you have accomplished. Once again, congratulations for your participation in this prestigious event, and I look forward to hearing about your future successes and accomplishments.

Sincerely,

Ben Ray Luján
United States Senator
You Are Among the Best & Brightest…

You’ll Fit Right In!

The University of New Mexico Health Sciences Center offers graduate degree programs for health professionals in medicine, pharmacy and nursing. Our students graduate with the latest scientific knowledge, complemented by the desire to serve our fellow New Mexicans and the global community.

Our programs and degree opportunities include:

- MS and PhD in Biomedical Sciences
- Combined MD/PhD Program
- MS in Clinical Research
- Combined BA/MD Program
- Dental Hygiene Academy
- Masters of Public Health
- Medical Laboratory Sciences
- Doctor of Medicine
- Occupational Therapy
- Nursing
- Pharmaceutical Sciences
- Physical Therapy
- Physician Assistant
- Radiological Sciences
- Certificates in Translational Science and University Science Teaching
- Undergraduate Pipeline Network

For more information on becoming a student at the UNM Health Sciences Center, visit: http://hsc.unm.edu/students/

http://hsc.unm.edu
Congratulations To All Participants At The 2022 Central NM Science & Engineering Research Challenge!

EMPOWERING OUR LOBOS TO CHANGE THE WORLD

What happens when our students get involved with research? They become part of a team of extraordinary professors and world-renowned partners. They develop skills to help them better understand and explain the world. They tackle problems and find answers to questions that no one had asked before.

At The University of New Mexico, we empower our Lobos to change the world.

Discover more at RESEARCH.UNM.EDU
At the UNM School of Engineering, you can dream even bigger.

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You can apply what you’ve learned in paid internships with engineering firms, high-tech companies, and the national labs while you’re in school.

http://engineering.unm.edu
The Future Starts Here
Congratulations to New Mexico’s scientists, engineers, technologists and mathematicians in the making.

PNM is proud to be a sponsor for the Central New Mexico Science & Engineering Research Challenge.

Inspiration starts young. When we encourage the next generation, there’s no limit to where we can go. Boeing is proud to fuel the minds that will tackle tomorrow’s challenges, today.

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Exceptional service in the national interest

Sandia National Laboratories is dedicated to strengthening education in our communities by encouraging students to pursue science, technology, engineering, and math careers through our K–12 education programs.

Sandia’s CROSSLINKS PROGRAM links our science community with schools to enrich science education for local students.

FAMILY MATH NIGHT provides an evening of hands-on math activities held at local elementary schools.

Our SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) DIVERSITY PROGRAMS engage middle and high school students by linking science to the real world through hands-on science and engineering activities. Students are also provided an opportunity to explore a variety of STEM careers.

The DOE REGIONAL SCIENCE BOWL is an exciting tournament-style academic competition that challenges students’ knowledge of math and science.

To learn about these and other education programs visit us at www.sandia.gov.